



National Agromet Advisory Service Bulletin



Friday 30th September 2016

(For the period 30th September to 4th October 2016)



Issued by

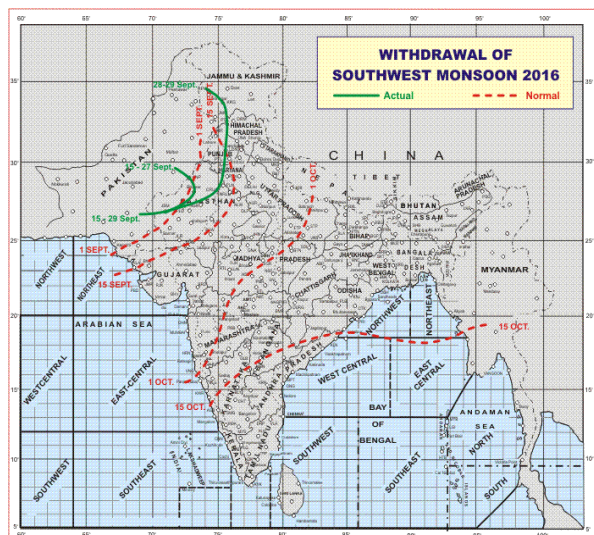
*National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.*

Weblink For

District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

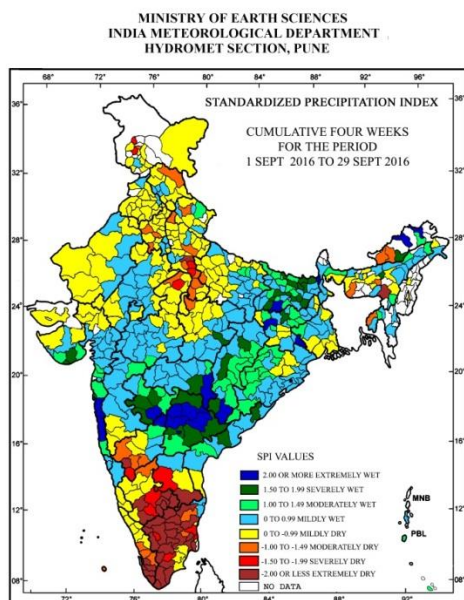
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Monsoon Watch



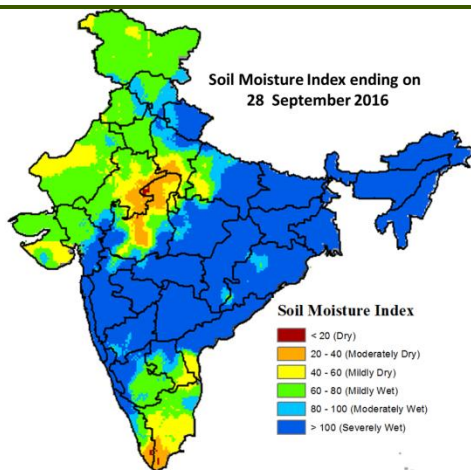
- The withdrawal line of southwest monsoon continues to pass through Kupwara, Kukernag, Ludhiana, Pathankot, Churu, Phalodi and Jaisalmer.
- Based on the 24 hours rainfall data ending at 0830 hours IST of 29 September 2016; southwest monsoon vigorous over Chhattishgarh.
- Heavy rain occurred at isolated places over East Madhya Pradesh, Chhattisgarh and Andaman & Nicobar Islands during past 24 hours ending at 0830 hours IST of today.

Standardised Precipitation Index Four Weekly for the Period 1st September 2016 to 29th September 2016



- Extremely/severely wet conditions experienced in most districts of Telangana; many districts of Konkan; few districts of Arunachal Pradesh; Bihar; Saurashtra & Kutch; Morigaon district of Assam; Hazaribag, East Singbhum, Latehar districts of Jharkhand; Dindori district of Madhya Pradesh; Beed, Osmanabad, Parbhani, Latur, Chandrapur, Gadchiroli districts of Maharashtra; Dantewada, Durg, Korba, Bijapur districts of Chhattisgarh; West Godavari, Vizianagaram districts of Andhra Pradesh; Bidar district of Karnataka.
- Extremely/Severely dry conditions experienced in many districts of TamilNadu; few districts of Karnataka; Jaintia Hills district of Meghalaya; Etah, Etawah, Mainpuri districts of Uttar Pradesh; Badgam, Kupwara districts of Jammu & Kashmir; Gwalior district of Madhya Pradesh; Anantapur, Chittoor districts of Andhra Pradesh; Alapuzha, Kottayam, Kollam, Trivandrum, Pathanamthitta districts of Kerala.
- Moderately dry conditions experienced in few districts of Arunachal Pradesh; Kamrup Metro district of Assam; West Garo Hills district of Meghalaya; West Tripura district of Tripura; Kanpur Dehat, Auraiya, Badaun, Firozabad, Jalaun, Jhansi, Saharanpur districts of Uttar Pradesh; Hisar, Jind, Mahendragarh, Rohtak districts of Haryana; Garhwal Tehri district of Uttarakhand; Sangrur district of Punjab; Lahaul & Spiti district of Himachal Pradesh; Srinagar district of Jammu & Kashmir; Morena, Tikamgarh districts of Madhya Pradesh; Perambalur, Tiruvannamalai districts of TamilNadu; Belgam, Gadag, Koppal, Bellary districts of Karnataka; Ernakulam, Thrissur, Idukki districts of Kerala; Lakshadweep district of Lakshadweep.
- Rest of the country experienced moderately wet mildly dry/mildly wet conditions.

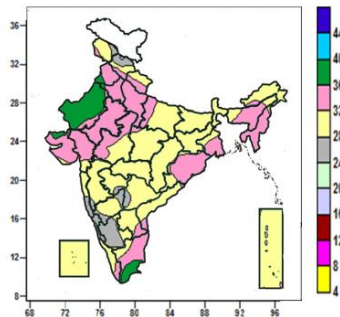
Soil Moisture Index for the week ending on 28th September 2016



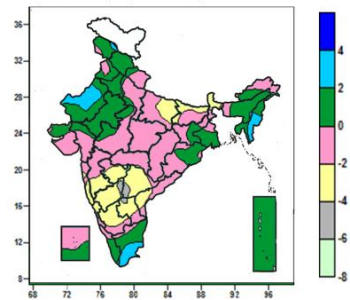
- Soil Moisture Index indicates moderately dry condition in some parts of West Madhya Pradesh, Kerala, and Tamil Nadu. Mildly dry condition in some parts of Madhya Pradesh, Tamil Nadu, Rayalseema, Uttar Pradesh, Gujarat, Jammu & Kashmir and Rajasthan. Mildly Wet condition in many parts of Rajasthan, Gujarat, Haryana, Jammu & Kashmir, Punjab, Himachal Pradesh and some parts of South Karnataka, and Tamil Nadu. Rest of the country shows moderately and severely wet condition.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 28.09.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 28.09.2016

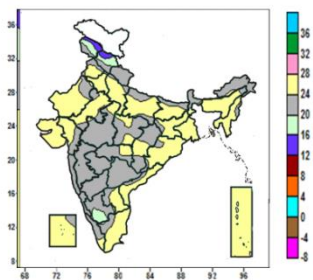


Mean Maximum Temperature (°C) Anomaly in India for the week ending 28.09.2016



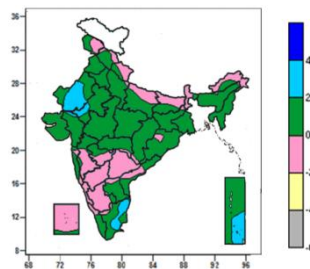
- Mean maximum temperature was between 36 to 40°C over many parts of West Rajasthan, some parts of Tamil Nadu, Punjab and isolated pockets of Haryana & Delhi, East Rajasthan and Gujarat.
- Mean maximum temperature was between 28 to 36°C over rest of the Country except many parts of South Interior Karnataka, Coastal Karnataka, some parts of Jammu & Kashmir, Himachal Pradesh, Konkan & Goa, North Interior Karnataka and isolated pockets of Madhya Maharashtra, Marathwada, Telangana and Karala where it was between 24 to 28°C.
- Mean maximum temperature was above normal by 2 to 4°C over many parts of Manipur, Mizoram, some parts of West Rajasthan, Tamil Nadu and isolated pockets of Meghalaya and Kerala.
- It was normal to near normal over rest of the country except over Sikkim, Telangana, North Interior Karnata, many parts of Konkan & Goa, Marathwada, Coastal Karnataka, South Interior Karnataka, Rayalaseema, some parts of East Uttar Pradesh, Bihar, Madhya Maharashtra, Coastal Andhra Pradesh and isolated pockets of Sub Himalayan West Bengal and Vidarbha where it was below normal by 2 to 6°C.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 28.09.2016



- Mean minimum temperature was between 12 to 16 $^{\circ}\text{C}$ over some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 16 to 20 $^{\circ}\text{C}$ over some parts of Jammu & Kashmir, Himachal Pradesh, South Interior Karnataka and isolated pockets of Tamil Nadu.
- Mean minimum temperature was between 20 to 28 $^{\circ}\text{C}$ over rest of the country.

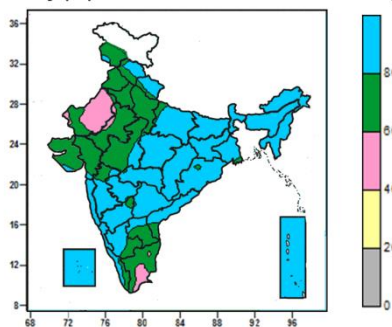
Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 28.09.2016



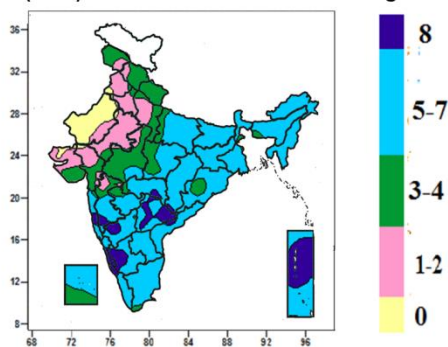
- Mean minimum temperature was above normal by 2 to 4 $^{\circ}\text{C}$ over some parts of Rajasthan, Tamil Nadu, Andaman & Nicobar Islands and isolated pockets of Gujarat Region.
- Mean minimum temperature was normal to near normal over rest of the country.

Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 28.09.2016

Relative Humidity (%) over India for the week ending 28.09.2016

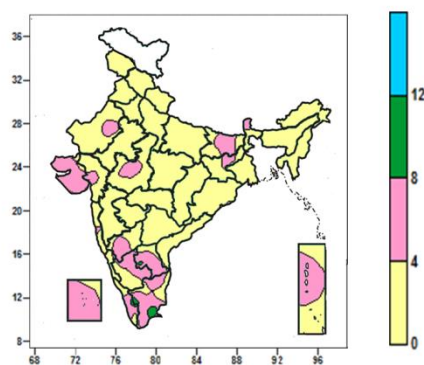


Cloud amount (okta) over India for the week ending 28.09.2016



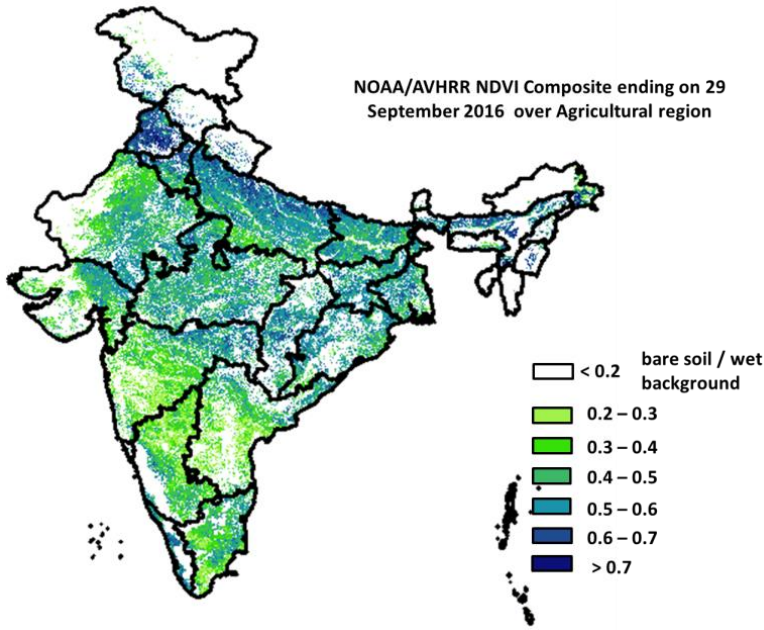
- Mean Relative Humidity was above 80% over Bihar, Jharkhand, Sikkim & Sub Himalayan West Bengal, North East India, Chhattisgarh, Konkan & Goa, Coastal Karnataka, Lakshadweep, Andaman & Nicobar Islands, many parts of Himachal Pradesh, Uttarakhand, East Uttar Pradesh, East Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, Telangana, Interior Karnataka, Coastal Andhra Pradesh, some parts of West Madhya Pradesh, Rayalaseema, Kerala and isolated pockets of Jammu & Kashmir, Gujarat.
- Mean Relative Humidity was between 60 to 80% over rest of the country except many parts of West Rajasthan, some parts of Tamil Nadu and isolated pockets of East Rajasthan where it was between 40 to 60%.
- Sky remained overcast (8 okta) over some parts of Konkan & Goa, Madhya Maharashtra, Telangana, Karnataka, Andaman & Nicobar Islands and isolated pockets of Vidarbha, Chhattisgarh, Coastal Andhra Pradesh and Kerala.
- Sky remained generally cloudy (5-7okta) over rest of the country except Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Uttar Pradesh, many parts of Punjab, Haryana & Delhi, East Rajasthan, West Madhya Pradesh, Gujarat, some parts of East Uttar Pradesh, West Rajasthan, East Madhya Pradesh, Madhya Maharashtra, Marathwada, Odisha, Lakshadweep and isolated pockets of Assam, Sub Himalayan West Bengal, Vidarbha, Konkan & Goa and Tamil Nadu where it was partly cloudy/mainly clear sky (3-4/1-2 okta) and many parts of West Rajasthan and isolated pockets of Punjab, East Rajasthan and Gujarat where it was clear sky(0 okta).

Wind speed (knots) over India for the week ending 28.09.2016



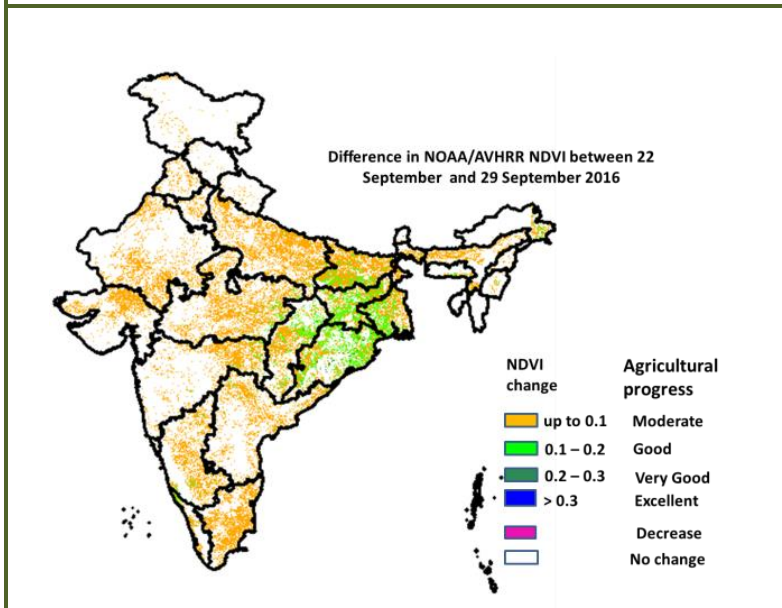
- Mean wind speed was between 8 to 12 knots over isolated pockets of Rayalaseema, Kerala and Tamil Nadu.
- Mean wind speed was between 0 to 4 knots over rest of the country except many parts of Sikkim, Saurashtra & Kutch, Rayalaseema, Tamil Nadu, Lakshadweep, some parts of West Rajasthan, Bihar, Jharknd, Gujarat Region, West Madhya Pradesh, Interior Karnataka, Kerala, Andaman & Nicobar Islands and isolated pockets of East Rajasthan, Konkan & Goa, Coastal Karnataka and Coastal Andhra Pradesh where it was between 4 to 8 knots.

NOAA/AVHRR NDVI composite ending on 29th September 2016 over Agricultural region of India



- Agricultural vigour is very good in Punjab, Haryana, patches in Uttar Pradesh, patches in M.P, Vidharbha region and North-east where NDVI value are > 0.7, Agriculture vigour is good in Kerala, north Tamil Nadu, north Andhra Pradesh, Uttar Pradesh, Haryana, parts of east Bihar, east Rajasthan, Gujarat, NDVI varies from 0.5 to 0.7. NDVI is moderate in west Rajasthan, Telangana, Andhra Pradesh, Karnataka, Tamil Nadu and Maharashtra (NDVI 0.3 to 0.5).

Difference in NOAA/AVHRR NDVI between 22nd September and 29th September 2016



- Good progress was observed in coastal Chhattisgarh, Odisha, Jharkhand, Bihar and West Bengal where, NDVI change ranges from 0.1-0.2. Moderate progress in NDVI was observed in patches in Rajasthan, Punjab, Haryana, Karnataka, Uttar Pradesh, Madhya Pradesh, Bihar, West Bengal, Andhra Pradesh, Tamil Nadu and Gujarat.

- NOAA/AVHRR NDVI composite maps for the week ending on 29th September 2016 for different States are given in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 5th October 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.

5 Day Rainfall Forecast (mid day) 30th September 2016

Met Sub-divisions	30 Sept	01Oct	2Oct	03 Oct	04 Oct
1. Andaman & Nicobar Islands	WS	WS	WS	FWS	FWS
2. Arunachal Pradesh	ISOL	SCT	SCT	SCT	SCT
3. Assam & Meghalaya	SCT	SCT	SCT	FWS	FWS
4. N.M.M. & T.	SCT	SCT	SCT	FWS	FWS
5. S.H. West Bengal & Sikkim	SCT	SCT	SCT	SCT	SCT
6. Gangetic West Bengal	SCT	SCT	ISOL	ISOL	SCT
7. Odisha	FWS	FWS	SCT	SCT	SCT
8. Jharkhand	SCT	ISOL	ISOL	ISOL	ISOL
9. Bihar	ISOL	ISOL	ISOL	ISOL	ISOL
10. East Uttar Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
11. West Uttar Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
12. Uttarakhand	ISOL	ISOL	SCT	SCT	ISOL
13. Haryana, Chd & Delhi	DRY	ISOL	ISOL	ISOL	ISOL
14. Punjab	DRY	DRY	ISOL	ISOL	ISOL
15. Himachal Pradesh	DRY	DRY	ISOL	ISOL	ISOL
16. Jammu & Kashmir	DRY	DRY	DRY	DRY	DRY
17. West Rajasthan	DRY	ISOL	ISOL	ISOL	ISOL
18. East Rajasthan	ISOL	ISOL	SCT	SCT	ISOL
19. West Madhya Pradesh	SCT	FWS	FWS	FWS	SCT
20. East Madhya Pradesh	FWS	FWS	SCT	SCT	SCT
21. Gujarat Region	DRY	ISOL	SCT	FWS	FWS
22. Saurashtra & Kutch	DRY	ISOL	ISOL	SCT	FWS
23. Konkan & Goa	ISOL	SCT	FWS	FWS	FWS
24. Madhya Maharashtra	ISOL	FWS	FWS	FWS	SCT
25. Marathwada	ISOL	FWS	WS	FWS	SCT
26. Vidarbha	WS	WS	FWS	FWS	SCT
27. Chhattisgarh	FWS	FWS	FWS	SCT	SCT
28. Coastal Andhra Pradesh	FWS	FWS	FWS	SCT	SCT
29. Telangana	SCT	SCT	FWS	FWS	SCT
30. Rayalaseema	ISOL	ISOL	ISOL	ISOL	ISOL
31. Tamil Nadu & Puducherry	ISOL	ISOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	SCT	SCT	SCT	ISOL	ISOL
33. North Interior Karnataka	SCT	SCT	SCT	ISOL	ISOL
34. South Interior Karnataka	SCT	ISOL	ISOL	ISOL	ISOL
35. Kerala	SCT	ISOL	ISOL	ISOL	ISOL
36. Lakshadweep	SCT	ISOL	ISOL	ISOL	ISOL

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

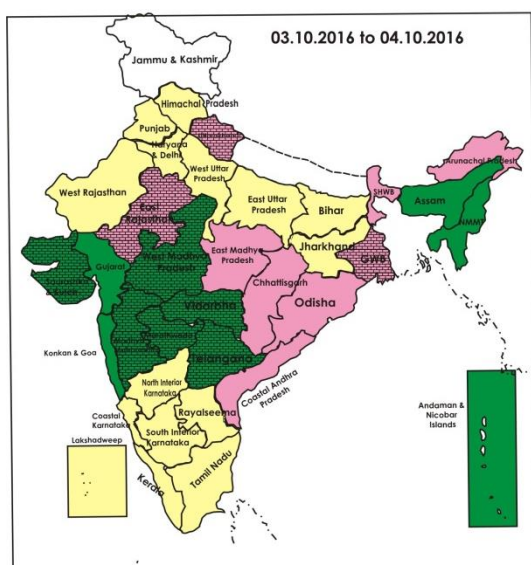
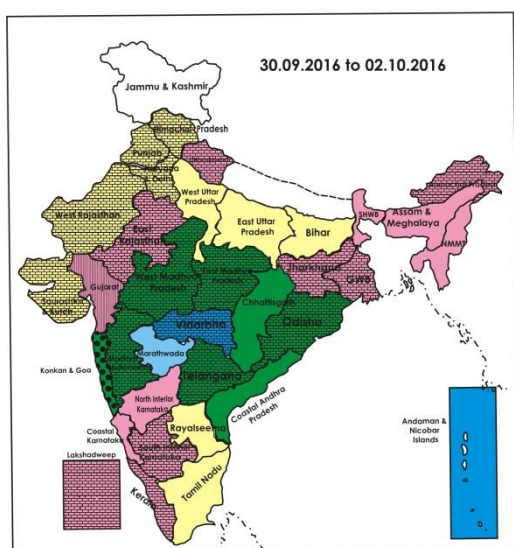
Weather Warning during next 5 days

- **30 September (Day 1):** Heavy rain at isolated places very likely over East Madhya Pradesh, Vidarbha, south Chhattisgarh, Odisha, north Coastal Andhra Pradesh and Andaman & Nicobar islands.
- **01 October (Day 2):** Heavy rain at isolated places very likely over West Madhya Pradesh, Vidarbha, Odisha, Marathwada, north Coastal Andhra Pradesh and Andaman & Nicobar islands.
- **02 October (Day 3):** Heavy to very heavy rain at isolated places very likely over Andaman & Nicobar islands; heavy at isolated places over Vidarbha, north Madhya Maharashtra, Marathwada, Konkan & Goa and Telangana.
- **03 October (Day 4):** Heavy rain at isolated places very likely over Gujarat, north Madhya Maharashtra, Konkan & Goa and Telangana.
- **04 October (Day 5) :** Heavy rain at isolated places very likely over Gujarat.

Weather Outlook for subsequent 2 days from 5th to 7th October 2016

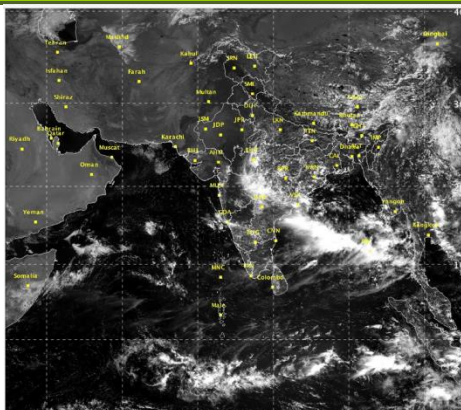
- Rain at many places very likely over north peninsula & adjoining central India and Andaman & Nicobar Islands.
- Rain at a few places very likely over northeast and east India.

Weather Forecast Map (valid upto 0830 hours 5th October 2016)



- Most places
- Most/Few places/Dry
- Most/ Few places
- Most / Many places
- Most/Many / Isolated places
- Most / Isolated places
- Most / Many/ Few places
- Most / Few / Isolated places
- Most/Many places/ Dry
- Most / Isolated places/ Dry
- Many places
- Many / Few places
- Many / Isolated places
- Many / Few / Isolated places
- Many / Few places/ Dry
- Many / Isolated places/Dry
- Many places/ Dry
- Few places
- Few / Isolated places
- Few / Isolated places/Dry
- Few places/Dry
- Isolated places
- Isolated places/ Dry
- Dry

Satellite image dated, 30.09.2016, 0600 UTC



Salient Advisories

- As rain/thundershowers likely at **most/many places** over Andaman & Nicobar Islands during the period, over Coastal Andhra Pradesh from 30th Sept. to 2nd Oct, over Telangana from 2nd & 3rd, over Assam & Meghalaya and Nagaland, Manipur, Mizoram and Tripura on 3rd & 4th Oct., over Gujarat region on 3rd & 4th, over Saurashtra & Kutch on 4th, over Konkan & Goa from 2nd to 4th, over Madhya Maharashtra from 1st to 4th Oct., over Marathwada on 1st to 3rd Oct, over Vidarbha from 30th Sept. to 3rd Oct, over Chhattisgarh from 30th Sept. to 2nd Oct, over East Madhya Pradesh from 30th Sept. & 1st Oct., over West Madhya Pradesh from 1st to 3rd Oct. and over Odisha on 30th Sept., & 1st Oct., do not apply irrigation, fertilizers and plant protection measures to the standing crops. Keep harvested produce at safer places and undertake rain water harvesting for ensuing rabi crops.
- As **heavy rain** very likely at isolated places over Telangana on 2nd & 3rd and over north Coastal Andhra Pradesh on 30th Sept. & 1st Oct., over East Madhya Pradesh on 30th Sept., over West Madhya Pradesh on 1st Oct., over south Chhattisgarh on 30th Sept., over Andaman & Nicobar Islands on 30th Sept. to 2nd Oct., over Odisha on 30th & 1st, over Konkan & Goa 3rd & 4th Oct., over Vidarbha on 30th Sept. to 2nd Oct., over Marathwada on 2nd & 3rd Oct, over north Madhya Maharashtra on 2nd & 3rd Oct. and over Gujarat on 3rd & 4th Oct., provide adequate drainage in standing crop fields to avoid water stagnation.
- In **Telangana**, in view of the heavy rainfall during last week and also heavy rainfall is expected on 2nd & 3rd Oct., drain out excess water from cotton, castor and pulse fields in Hyderabad, Rangareddy, Medak and Warangal districts and provide adequate drainage to avoid water stagnation.
- Undertake sowing of *rabi* jowar and safflower in the harvested field of green gram and black gram at *vapsa* condition in Madhya Maharashtra and Marathwada.
- In view of the prevailing/expected mainly dry weather conditions in the following Sub divisions, farmers are advised to:
 - In Bengaluru, Rural, Bengaluru Urban, Ramnagara, Chikaballapura and Kolar districts of **South Interior Karnataka**, provide protective irrigation to groundnut, ragi, maize and red gram or spray 2 % KCL (MOP) to overcome moisture stress. Also undertake intercultural operation in maize and red gram and apply residue mulch by using the residues of weeds, gliricidia and other green manure crops.
 - In **West Rajasthan**, apply protective irrigation to groundnut, tomato, chilli and bhendi as per requirement

in Barmer, Churu, Jalore, Jodhpur and Pali districts. In Jaisalmer and Bikaner districts, apply protective irrigation in late sown pearl millet, cluster bean, moth bean crops or apply foliar spray of urea @ 1% if irrigation facility is not available. In Hanumangarh and Sriganaganagar districts, apply irrigation in paddy, mung, groundnut, cotton and guar as per requirement.

- farmers are advised to maintain 5-7 cm water level in paddy crop and give irrigation to maize crop as per requirement in Jammu, Rajouri, Ramban, Poonch and Udhampur districts of **Jammu & Kashmir**.
- maintain 5-7 cm water level in rice at flowering stage and stop irrigation two weeks before harvesting in Gurudaspur, Fazilka, Ferozepur and Faridkot districts of **Punjab**. To avoid the shedding of flowers and bolls, apply irrigation and maintain optimum moisture in cotton crop during flowering and boll formation stages. Also apply irrigation in maize at flowering/tasselling stage.

Detailed Zonewise Agromet Advisories

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



Banana



Rice



Sugarcane



Red gram

- **Realised Rainfall:** East Godavari, Guntur, Krishna, Srikakulam, Vishakhapatnam, Vizianagaram and West Godavari districts of Coastal Andhra Pradesh; Kurnool district of Rayalseema; all districts of Telangana; Cannur, Idukki, Kasargod, Kozhikode and Wynad districts of Kerala; Puducherry district of Tamil Nadu; in all district of Coastal Karnataka; in Bagalkote, Bidar, Kalaburgi, Koppal, Raichur and Yadgir districts of North Interior Karnataka; Chikkamagaluru, Davangere, Kodagu and Shivamogga districts of South Interior Karnataka. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Coastal Andhra Pradesh from 30th Sept. to 2nd Oct, over Telangana from 2nd & 3rd, do not apply irrigation, fertilizers and plant protection measures to the standing crops. Keep harvested produce at safer places and undertake rain water harvesting for ensuing rabi crops.
 - As heavy rain very likely at isolated places over Telangana on 2nd & 3rd and over north Coastal Andhra Pradesh on 30th Sept. & 1st Oct., provide adequate drainage in standing crop fields to avoid water stagnation.
- **Kerala :**
 - In Kasaragod, Kannur, Kozhikode and Malappuram districts of Northern Zone, in plain areas, rice is at maturity stage, drain out water from the fields 10 days before harvesting. Undertake harvesting of matured rice.
 - In Southern Zone, continue harvesting of matured *Viruppu* rice and Nendran bananas in Thiruvananthapuram and Kollam districts and undertake field preparation for nursery sowing of second rice crop.
 - In Central Zone, undertake harvesting of matured *Viruppu* rice crop.
 - In Kottayam district of Problem Area Zone, continue sowing of *puncha* rice.
 - In Idukki and Wynad districts of High Altitude Zone, continue planting of coffee seedlings.
 - In Central Zone, undertake harvesting of matured rice crop. There is a chance of bud rot disease in coconut. Cut and remove all the affected tissues of the crown. Apply Bordeaux paste and protect it from rain till normal shoot emergence. In Thiruvananthapuram district, undertake spraying of Copper oxy Chloride @ 4g per liter of water on new sprouts of newly planted Rubber plants.
 - In Northern Zone, in hilly areas, rice is at milky stage, keep strict vigilance against rice bugs. Keep the fields and bunds free of weeds and grasses. If attack is seen, apply neem based insecticide @ 15 ml/litre of water.
- **Andhra Pradesh:**
 - In Rayalaseema, farmers are advised to prepare land with MB plough and gorru to get fine tilth for sowing of Bengal gram in Black soils from October to Last week of November in Ananthapuram District. In Anantapuram and Chittoor districts, in fallow lands, undertake sowing of Horse gram and fodder crops. Continue harvesting of Bajra and Korra.

- In North Coastal Zone, undertake harvesting groundnut, mesta and ragi.
- In Krishna Godavari Zone, due to water logging white mite on Sugarcane may dominate and infest the crop. Undertake spraying of Malathion @ 3 ml per liter of water after current spells of rain.
- In Southern Zone, continue sowing of crops like red gram, castor, green gram, cowpea, sorghum, bajra and horse gram. Present weather conditions are favourable for leaf spot and rust in 60-70 days old groundnut crop. To control, spray Hexaconazole @ 2 ml. or Chlorothalonil @ 2 gm/litre of water after current spells of rain.
- In Scars Rainfall Zone, Pink boll worm incidence was noticed in cotton. To control, undertake Prophylactic spraying of 5 % NSKE or neem oil at flowering stage to prevent egg laying.
- **Telangana:**
 - In Telangana, drain out excess water from cotton, castor and pulse fields and provide adequate drainage to avoid water stagnation in Hyderabad, Rangareddy, Medak and Warangal districts.
 - In Northern Telangana Zone, undertake sowing of Groundnut (varieties K6, JL 24, JCG 88) at optimum soil moisture conditions.
 - In Adilabad, Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), in areas which received heavy rainfall, to avoid the incidence and further spread of Bacterial Leaf Blight (BLB) in rice, temporarily postpone (5-7 days) the application of Nitrogen fertilizers. Also incidence of stem borer and leaf folder are noticed. To control, spray Cartap Hydrochloride @ 2 g or Chlorantraniliprole @ 0.4 ml per litre of water on a non rainy day.
 - In North Telangana Zone, prevailing weather conditions are congenial for the incidence of Phytophthora Blight in red gram. If noticed, spray Mancozeb @ 2g per litre of water on a non rainy day 2 times in 10 days interval for control.
 - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), prevailing weather conditions are congenial for the incidence of leaf spot on cotton. To control, spray Copper-Oxy-Chloride @ 30 g and Plantomycin @ 2 g in 10 liters of water also prevailing weather conditions are congenial for gray mold incidence on castor, to control spray Carbendazim @ 1g or Propiconazole @ 1 ml per litre of water on a non rainy day.
- **Tamil Nadu:**
 - In Ariyalur, Perambalur, Thanjavur, Thiruvarur and Trichy districts of Cauvery Delta Zone, continue land preparation for nursery sowing of Late samba/Thaladi season rice (varieties ADT 38, ADT 46, ADT 49, improved white Ponni, TRY 3 and TKM 13). Continue harvesting of matured Kuruvai rice. Continue land preparation for transplanting of Samba rice.
 - In Coimbatore, Tiruppur, Erode districts of Western Zone, apply irrigation to *Samba* nursery and undertake land preparation for sowing of millets like Cumbu, Sorghum and Ragi.
 - In the Southern Zone (Kanniwadi), continue land preparation for transplanting of *Samba* Rice.
 - In Karaikal & Puducherry, undertake sowing of medium duration rice varieties like TKM 13, CO (R) 50, ADT 38, ADT 39, CO 46, TRY 3 and White Ponni.
 - In Thoothukudi, Virudhunagar and Tirunelveli districts of South Zone, for sowing during the ensuing northeast monsoon season under rainfed conditions, select drought tolerant and pest and disease resistant varieties of cotton (KC 3 and PA 255), maize (CoH(M) 6), sorghum (K 8 and K12), green gram (CO 6), sunflower (CO 4), pearl millet (CO [Cu] 9), gingelly (TMV 5), coriander (CO 4) and senna (KKM 1) and continue main field and nursery bed preparation under dryland conditions for raising rainfed crops during the ensuing northeast monsoon season. Undertake harvesting of Maize and sunflower.
 - In North Western Zone, undertake land preparation for sowing of short duration (60-65 days) varieties of black gram (Co-6), Vamban-6,8, green gram variety Co-8, red gram varieties Co-7 (125 days), VBN -3 (105 days).
 - In Nilgiri district of High Altitude Hilly Zone, head rot disease is spreading fast in Cabbage and Cauliflower, to control undertake spraying of Copper Oxy Chloride @ 2 g per litre and to control trips in garlic spray Dimethoate @ 1.5 ml per litre of water.
 - In High Rainfall Zone, apply mulching to Pepper gardens to avoid moisture stress.
- **Karnataka:**
 - Due to continuous rain in Bidar district of North East Transition Zone during last two weeks almost all black gram and soybean crops are lost and are under submerged condition; drain out excess water in standing crops like black gram, soybean, pigeon pea, vegetable and other crop fields. Continue sowing of sorghum (DSH-4, M-35-1, Muguthi, DSV-5) with seed rate of 2.5 to 3 kg/acre, safflower (A-1) with seed rate of 3 to 3.5 kg /acre, niger (No.71, RCR-18) with seed rate of 600 g /acre under optimum soil moisture condition after draining the excess rain water. Drain out excess water from the ginger fields and drench with 0.3% Copper-oxy-Chloride for effective control of stem rot. Complete harvesting of matured black gram, soybean in Bidar district in clear weather; keep harvested produce at safer place.
 - Drain out excess water in standing crops like red gram and cotton in Kalaburgi district. Undertake sowing of Bengal gram (JG-11) in Raichur, Kalaburgi, Ballari, Yadgir, Koppal districts of North East Dry Zone under

optimum soil moisture condition. To manage reddening of leaves in cotton, spray 19:19:19 and MgSo4 both 10g dissolved in one litre of water.

- Maintain optimum water level in rice in Coastal Zone and Southern Transition Zone.
- In North Transition Zone. Continue sowing of *rabi* sorghum (DSV-4, M 35-1 Muguthi, CSV-29R and SPV-2217), safflower (A-1, A-2) and chickpea (Annigeri-1, BG-1105, BGD-103, JG-1, BGS-964) and land preparation for wheat (DWR-162, DWR-225, DWR-185, DWR-2006, DDK-1001, DWR-137). Keep the inputs ready for *rabi* sowing. Undertake harvesting of soybean in clear weather and keep the harvested produce at safer place.
- Continue sowing of minor millets like Foxtail millet, Kodo millet, prosomillet, ragi, jowar, maize and pulses like Avare, cowpea etc with realised rainfall in Kodagu district and after receipt of sufficient rainfall in Chamrajnagar, Mysuru and Mandya districts of Southern Dry Zone.
- In Bengaluru, Rural, Bengaluru Urban, Ramnagara, Chikaballapura and Kolar districts of Eastern Dry Zone, provide protective irrigation to groundnut, ragi, maize and red gram or spray 2 % KCL (MOP) to overcome moisture stress. Also undertake intercultural operation in maize and red gram and apply residue mulch by using the residues of weeds, gliricidia and other green manure crops. Undertake sowing of short duration varieties of ragi (GPU 45, 48 and Indaf 9) and short duration crops like cowpea (KBC-1, 2), foxtail millet and field bean (Hebbal Avare) under sufficient moisture condition.
- Continue sowing of sunflower, *rabi* sorghum (Maldandi Muguti, DSV-4, DSV-5, BJV-44 variety or Hybrid-DSH-4), chickpea (A-1, GBS-964, JG-11, BGD-103, GB-1105), safflower (A-1, A-2, S-144), desi cotton and horse gram with realised and expected rainfall in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. To overcome the failure of crops due to deficient rainfall situation during *rabi* season, intercropping of *rabi* sorghum + chickpea (2: 1 row proportion), chickpea + safflower (4:2 row proportion) is recommended. Continue sowing of fodder crops in some area. Take up fresh plantation of fruit trees, teak, neem, tamarind, acacia or other trees on the bunds, uncultivated and marginal lands in North Dry Zone and North East Dry Zone.
- Due to mainly dry weather condition in Eastern Dry Zone, if wilt disease is noticed in red gram field, drenching with Carbendazim 50 WP 2 g/litre of water is advised.
- Incidence of Brown plant hopper is noticed in rice crop in Raichur, Kalaburgi, Ballari, Yadgir, Koppal districts of North East Dry Zone; to control, spray Chloropyriphos @ 2.0 ml or Monocrotophos @ 1.5 ml dissolved in one litre of water on non rainy day.
- Due to cloudy weather, Blue beetle insects are noticed in rice field in Chamrajnagar, Mandya and Mysuru districts of Southern Dry Zone; to manage, spray Chloropyriphos 20 EC @ 2ml/litres of water.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In the Southern Zone and North Eastern Zones of Tamil Nadu, Vaccinate dairy animals and cattle against hemorrhagic septicaemia & black quarter.
In Telangana, prevailing weather conditions are congenial for the occurrence of Ranikhet disease in poultry, ET, sheep pox, Hemorrhagic Septicemia in Cattle, Buffaloes and Black Quarter in Cattle. To prevent the diseases, vaccinate the poultry and animals.

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



Banana



Rice



Groundnut



Khasi mandarin

- **Realised Rainfall:** Rainfall occurred in Changlang, East Kameng, East Siang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari and West Siang districts of Arunachal Pradesh; Barpeta, Cachar, Chirang, Dhubri, Dibrugarh, Goalpara, Golghat, Hailakandi, Jorhat, Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, N.C.Hills, Nalbari, Sonitpur, Sibsagar and Tinsukia districts of Assam; East Garo Hills, East Khasi Hills, Ri-Bhoi and West Garo Hills districts of Meghalaya; Aizwal, Lunglei, Saiha and Serchhip districts of Mizoram, Imphal East, Imphal West and Thoubal districts of Manipur, Kephire and Kohima districts of Nagaland and Dhalai, North Tripura and South Tripura districts of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Assam & Meghalaya and Nagaland, Manipur, Mizoram and

Tripura on 3rd & 4th Oct., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops.

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

- In Assam, repair the bunds to conserve rainwater in the rice fields and maintain a depth of 3 to 5 cm of water level in the rice fields at panicle initiation stage.
- In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of Upper Brahmaputra Valley Zone of Assam, continue nursery sowing of early cauliflower, radish, brinjal and land preparation for planting of potato.
- In Karimganj, Hailakandi and Cachar districts of Barak Valley Zone of Assam, undertake nursery raising for winter vegetables.
- In Karbi Anglong and NC Hills districts of Hill Zone of Assam, planting of coconut can be done in this month in low lying areas. Continue nursery raising of winter vegetables and transplanting of early cauliflower.
- In Marigaon and Nagaon districts of Central Brahmaputra Valley Zone of Assam, continue sowing of black gram and green gram, nursery sowing of brinjal, cole crops and early radish.
- In Barpeta, Bongaigaoin, Dhubri and Goalpara districts of Lower Brahmaputra Valley Zone of Assam, continue sowing of pumpkin, radish and onion. Undertake early planting of potato.
- In North Bank Plain Zone of Assam, continue sowing of Knol-khol and nursery sowing of brinjal and tomato. Farmers are advised to collect the recommended varieties of potato from reliable sources for sowing.
- In Meghalaya, undertake nursery sowing of cauliflower/ cabbage/ broccoli.
- In Arunachal Pradesh, continue nursery sowing of winter vegetables and harvesting pulses. Complete sowing of black gram and green gram in rice fallow of *jhum* fields.
- In Hill Zone of Assam, infestation of blast may occur in rice at tillering/ panicle initiation stage. Spray Carbendazim @ 1g/ litre at tillering stage and Ediphenphos @ 1ml/litre at panicle initiation stage.
- In Arunachal Pradesh, there is chance of attack of blister beetle at pulses at flowering stage. Undertake manual picking of Blister beetle because the incidence of the pest during flowering stage cause huge lose in harvest. Cover banana bunches with bunch covers or sacks or locally available materials to protect against sunscald, birds and insects.
- In Meghalaya, weather is congenial for the attack of gundhi bug and stem borer on Upland rice. Spray Malathion 5% dust @ 6.25kg/ha for rice gandhi bug and Chloropyriphos @0.02% or Monocrotophos @ 0.04% for stem borer. Undertake plant protection methods after current spells of rain.
- In Central Brahmaputra Valley Zone of Assam, due to prevailing weather conditions, there is chance of attack of army worm in *Sali* rice fields. Spray Chloropyriphos 20 EC/Quinalphos 25EC @ 2.5-3.0 ml/litre of water. Stem borer and caseworm infestation may also occur which may be controlled by drain out the excess water or spraying Chloropyriphos (20%) @ 2ml/litre. Undertake plant protection methods after current spells of rain.
- In Upper Brahmaputra Valley Zone of Assam, attack of army worm in rice crop is noticed. To prevent movement of this pest from one field to other, it is advised to dust Malathion 5% dust in bunds. In infested crop, spray Chloropyriphos 20 EC @ 2 ml/litre or Quinalphos 25 EC @ 2.5 ml/litre of water after current spells of rain.
- In North Bank Plain Zone of Assam, there is chance of attack of army worm in *Sali* rice. Spray 0.02% Chloropyriphos 20 EC or Quinalphos 25 EC @ 2.5ml per litre of water after current spells of rain to control the pests.

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

- In Nagaland, in rice fields, weed control and eradication of alternate hosts from rice fields and surrounding areas can help prevent the multiplication of rice bug. Mechanical control measures such as smoking the field, hand-picking of adults and nymphs have also been advocated. Continue harvesting of cow pea, black gram, ginger, cucurbits during clear weather. Keep harvested produce at safer places.
- In Manipur, continue nursery raising for rabi vegetables and early sowing of garden pea. To prevent damping off diseases, soil treatment of nursery bed for vegetables must be done with Carbendazim@ 3g/15 litre of water must be done. Also seed treatment may be done using Dithane M-45/ Thiram/ Captan @ 2g/kg seed. Dip root of nursery vegetables in Carbendazim @ 10g/ 5 lit water for 30 minutes before transplanting.
- In Mizoram, continue harvesting of *khasi* mandarin/acid lime, passion fruit, banana and nursery raising of early cole crops. Continue sowing of green gram, black gram and French bean.
- In Tripura, continue harvesting of groundnut in clear weather with digger and nursery raising of early winter vegetables such as cabbage, radish, brinjal etc. Continue harvesting of *jhum* rice.
- In Nagaland, to control the trunk borer grubs in citrus, clean the bored holes of the infested trunk with iron wire and insert a cotton swab soaked in petrol or kerosene and plug with mud.
- In Manipur, to control blast disease in main *kharif* rice, spray Tricyclazole @ 15 g/15 litre water after current spells of rain.
- In Mizoram, apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water against rice yellow stem borer in *kharif* rice. Undertake plant protection methods after current spells of rain.
- In Tripura, there is chance of attack of sheath blight on *Aman* rice at panicle initiation stage. Apply Carbendazim 2 gm per litre of water to manage the attack. Undertake plant protection methods after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

- **Animal Husbandry**

- In Upper and Lower Brahmaputra Valley Zone of Assam, undertake vaccination of cattle and goat against BQ, HS, Foot and mouth disease as well as anthrax disease. They should not be fed with water-submerged rotten grass. Vaccination (RDF1) against Ranikhet disease in one week old chicks and against Gamboro disease in two weeks old chicks may be carried out.
- In Arunachal Pradesh, vaccination cattle against FMD and deworm with antihelminthic drugs like Oxytoclozanide or Pyrantel.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Groundnut



Rice



Green gram

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, Madhya Maharashtra, Marathwada in all districts of Vidarbha except Wardha district, in Chhota Udepur, Dahod, Dangs, Narmada, Navsari, Surat, Tapi and Valsad districts of Gujarat Region. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Gujarat region on 3rd & 4th, over Saurashtra & Kutch on 4th, over Konkan & Goa from 2nd to 4th, over Madhya Maharashtra from 1st to 4th Oct., over Marathwada on 1st to 3rd Oct, over Vidarbha from 30th Sept. to 3rd Oct., do not apply irrigation, plant protection measures and fertilizers to the standing crops. Keep harvested produce at safe places and undertake rain water harvesting.
 - As heavy rain very likely at isolated places over over Konkan & Goa 3rd & 4th Oct., over Vidarbha on 30th Sept. to 2nd Oct., over Marathwada on 2nd & 3rd Oct, over north Madhya Maharashtra on 2nd & 3rd Oct. and over Gujarat on 3rd & 4th Oct., provide adequate drainage in crop fields to avoid water stagnation.
- **Maharashtra:**
 - In Konkan, maintain water level of 8-10 cm in rice fields (grain filling stage) by bunding the fields. Undertake sowing of biennial forage crops like Paragrass, Napier, Gajraj on bunds and nursery preparation for winter vegetables after current spell of heavy rain.
 - In Madhya Maharashtra, continue harvesting of matured bajra and soybean in clear weather and keep the harvested produce in safer place. Continue sowing of rabi jowar and safflower at *vapsa* condition. Maintain water level of 8-10 cm in transplanted rice fields (flowering/grain filling stage) in Western Ghat Region.
 - In Marathwada, continue harvesting of matured bajra and soybean in clear weather and keep the harvested produce in safer place. Undertake sowing of *rabi* jowar and safflower in the harvested field of green gram and black gram at *vapsa* condition.
 - In Vidarbha, drain out excess water and maintain 8-10 cm water level in transplanted rice fields (flowering/ grain filling stage) in Nagpur, Bhandara, Gondia, Chandrapur and Gadchiroli districts. Undertake sowing of Bengal gram and safflower in the harvested field of green gram and black gram. Undertake harvesting of matured soybean in clear weather.
 - Due to humid weather conditions in East Vidarbha, there may be incidence of blast disease in rice; spray Copper Oxychloride @25 g in 10 litres of water after current spell of heavy rain.
 - Due to cloudy weather conditions in Western Maharashtra Scarcity zone, there may be attack of thrips in onion, spray Fipronil @15 ml or Deltamethrin 1% + Triazophos 35% @20 ml + Mancozeb @25 g or Carbendazim @10 g per 10 litres of water using knapsack spray pump after current spell of heavy rain.
- **Gujarat:**
 - Drain out excess water from rice, pulses etc in Valsad and Navsari districts of South Gujarat Heavy Rainfall Zone. Maintain optimum water level in rice fields. Undertake planting of sugarcane and harvesting of matured pulses in clear weather.
 - In North West Zone, complete harvesting of matured bajra, continue picking of matured pods of green gram and cowpea, sesame and matured groundnut in South Saurashtra Zone in clear weather. Carry out hand weeding and intercultural operations in castor in Kutch district on a nonj rainy day.
 - In North Gujarat Zone, continue harvesting of matured bajra, maize, sesame, picking of matured pods of green gram, cowpea in clear weather. In North Gujarat Zone and North West Zone, to reduce flower drop and immature boll drop in early sown cotton, spray Naphthalic Acetic Acid @ 7 ml/10 litres of water on a non rainy day.
 - Undertake land preparation / sowing of sorghum, continue nursery preparation of *rabi* vegetable crops like chilli,

tomato and brinjal with realized rainfall in Surat, Tapi, Narmada and Bharuch districts of South Gujarat Zone. Carry out intercultural operations in standing crops.

- Due to cloudy weather incidence of spotted wilt virus is noticed in tomato in Middle Gujarat Zone; for control, spray Carbendazim (50 % WP) @5 g in 10 litres of water on non rainy day at 10 to 12 days interval.
- Due to prevailing weather conditions, there is chance of anar caterpillar in pomegranate in Kutch district and North Gujarat Zone; for control, spray Monocrotophos 36 E.C. @ 10 ml or Phezolon 35 E.C. @ 20 ml/10 litres of water on non rainy day.
- Due to cloudy weather condition there is chance of castor semi looper in castor in South Saurashtra Zone; if noticed, spray 20 ml Quinalphos (1.5% powder) or Carbaryl@ 40 g in 10 litres of water on non rainy day, for control.
- Due to prevailing weather conditions heavy infestation of semilooper is observed in castor in North Saurashtra Zone; for control, spray Quinalphos@ 20 ml in 10 litres of water on non rainy day.
- **Animal Husbandry**
- For the control of tick and other parasites in cattle, spray Deltamethrin or Aemitz @ 2 ml in 1 litre of water in Gujarat.

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



Red gram



Okra



Maize



Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, in all districts of Gangetic West Bengal except Howrah, Kolkata, North 24 Parganas and West Midnapur; in all districts of Odisha except Deogarh, Malkangiri, Rayagada & Sambalpur; in all districts of Bihar except Bhojpur; in all districts of Jharkhand except Deoghar, Khunti, Koderma and Ranchi. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Andaman & Nicobar Islands during the period, at many places over Odisha on 30th Sept., & 1st Oct., do not apply irrigation, plant protection measures and fertilizers to the standing crops. Undertake rain water harvesting.
 - As heavy rain very likely at isolated places over Andaman & Nicobar Islands on 30th Sept. to 2nd Oct. and over Odisha on 30th & 1st Oct., provide adequate drainage in standing crop fields.
- **Odisha**
 - In East and South Eastern Coastal Plain Zone, continue sowing of niger in the fallow uplands. Grow High Yielding varieties such as Deomali and IGP-76. Use 4 kg seeds/acre. Continue transplanting of brinjal and tomato. Undertake nursery raising of cole crops such as cabbage and cauliflower for early planting.
 - In Mayurbhanj and Keonjhar districts, in the transplanted rice fields, maintain water level up to 5 cm and continue nursery raising of tomato, cauliflower and cabbage.
 - In Bargarh, Bolangir and Sambalpur districts, in transplanted rice, apply 35kg Urea per acre after 21 days of transplanting, keeping the field at saturated condition. Both grassy and broad leaved weed can be controlled with the application of Bispyribac sodium @ 20g a.i. per ha. Monitor the adult population of Stem borer in the field. Use Pheromone traps to reduce initial population. Apply Coragen @ 0.3 ml/litre to control stem borer. Foliar spray of 1 g Streptocycline and 15 g Copper oxychloride in 10 litre of water should be done to control bacterial leaf blight.
 - In Malkangiri district of South Eastern Ghat Zone, due to the high humidity and cloudy weather, there is chance of bacterial leaf blight in Kharif Rice, spray Streptocycline 1 g along with 20 g Copper oxy chloride in 10 litres of water after current spells of rain.
 - In North Eastern Coastal Plain Zone, prevailing cloudy weather with high humidity will increase the incidence of blast and sheath blight of Kharif Rice. To control it spray Tebuconazole+Trifloxystrobin 75WG@200g/ha in 500 litres of water after current spells of rain.
 - In East and South Eastern Coastal Plain Zone, white ant attack has been found in Groundnut in rainfall deficit areas. Go for thorough soil drenching with Chloropyriphos @ 2 ml/litre of water after current spells of rain.
 - In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like aphids, jassids infestation

may occur on cotton crop at square formation to flowering stage. Spray Buprofezin 2ml/litre water for controlling sucking pests. Also there may be attack of stem borer, case worm and leaf folder in transplanted paddy crop at tillering and PI stage. If dead heart or white ear heads/affected leaves are noticed in the fields, go for spraying of Chloropyriphos or Triazophos or Profenophos @ 2 ml/litre of water after current spells of rain.

- In North Central Plateau Zone and Mid Central Table Land Zone, due to high humidity, there is chance of blast incidence in transplanted rice. To contro, spray Tricyclazole @ 0.6 g/litre of water. Also due to humid condition during last fortnight, there is whitefly attack on pulses. To control, spray Imidacloprid @ 1ml/litre of water after current spells of rain.
- In North Central Plateau Zone, if Helicoverpa infestation has been found in Maize, spray 100 L.E. NPV during morning and evening hours. If stem borer attack is noticed, apply 1 g Furadan in the leaf whorl or spray 2 ml Chloropyriphos or 1.5 ml Phosphamidon in 1 litre of water and repeat the spraying after 15 days of first spraying.
- In North Central Plateau Zone, white ant attack has been found on groundnut crop in low rain fall areas. Go for soil drenching with Chloropyriphos @ 2 ml /litre of water thoroughly. If Tikka disease is noticed ,then apply Carbendazim @ 2g/litre of water. Undertake plant protection methods after current spells of rain.

▪ **West Bengal**

- In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, undertake seedbed / land preparation for early winter vegetables. Farmers can cultivate radish, broccoli etc. Start seed sowing of onion, cabbage, cauliflower in the nursery bed. Keep 5-7cm water in the rice fields at the time of panicle initiation.
- In South Dinajpur and Malda districts in Sub-Himalayan, continue sowing of black gram. Seeds are should be treated with fungicides @ 2 gram/kg seeds and with Rhizobiun culture, 10-12 hour before sowing.
- In Darjeeling district of Hill Zone, complete harvesting of large cardamom and round chilli. Care should be taken to prevent water stagnation in the fields of ginger and turmeric.
- In Hill Zone, due to high humidity, yellow stem borer and blast disease may be found in rice. Spray Azadirachtin 0.03% (300PPM) neem oil based WSP @ 2000 g/ha in 1000 litre of water to control stem borer and spray tricyclazole 75% WP @ 0.5 g/litre of water to control blast disease.
- In New Alluvial Zone, in the present weather condition, attack of stem borer and rice hyspa may be found in rice. Apply Chlorpyriphos @ 2.5ml / Triazophos @ 2ml per litre of water. There is a chance of attack of BPH in the prevailing weather condition. If the number of insect is more than 15 per plant, apply Nuvan or Vapona @ 0.75 ml per litre of water or dust Quinalphos 1.5%/ Carbaril 4% at lower portion of the stem. Undertake plant protection methods after current spells of rain.
- In Coastal Saline Zone of West Bengal, in the present weather condition leaf roller and green leaf hopper attack may be found in Aman rice. For control of green leaf hopper, spray Acephate@1g/liter of water and for leaf roller attack, spray Chlorpyrifos @ 1.5ml/litre of water after current spells of rain.
- In Laterite and Red Soil Zone, in the prevailing weather condition, Gundhi bug attack may be found in rice at milky stage. Spray Neem oil @ 5ml/litre of water during early hours of the day at clear weather condition.
- In Old Alluvial Zone, under the present weather condition, to prevent the rice leaf folder, spray Quinalphos 25% E.C. @ 2ml /litre of water or Carbaryl 50% E.C. @ 2.5 g/litre of water and prevent the infestation of shoot & fruit borer in bhindi & brinjal, spray Biorine/Dispel 1kg formulation dilute in two liter of water firstly and then dilute in 300 litre of water to be sprayed one acre area. Undertake plant protection methods after current spells of rain.

• **Andaman and Nicobar Islands:**

- In North, South and Middle Andaman, drain out the excess water from rice field and setup light traps to attract borers moth during night time.
- In North, South and Middle Andaman and Nicobar, collect borer infested bhindi and destroy it.

▪ **Bihar**

- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue sowing of rabi Arhar. Before sowing seeds must be treated with Carbendizin @ 2g/kg of seed. Maintain 5 cm standing water in rice fields. Start harvesting of matured kharif maize crop.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake nursery sowing of late varieties cauliflower and transplanting of chilli, tomato, mid duration cauliflower and brinjal. Undertake land preparation for sowing of rapeseed.
- In North East Alluvial Zone, if stem borer attack is noticed in the rice fields (dead heart or drying of central shoot), spray with Imidacloprid @ 0.5ml/litre of water or Chlorpyriphos 20 EC @ 2-3 litres /ha during evening hours on a non rainy day.
- In South Bihar Alluvial Zone, in present weather condition, attack of brown plant hopper (BPH) may be enhanced in paddy. If insect population is above ETL, spray of Imidacloprid 17.8 % SC @ 1.0 ml/3 litre or fenobucarb 50 EC @ 1 ml/ litre or buprofezin 25 EC @ 2 ml/litre of water is recommended. There is chance of stem borer in maize, spray of Carbaryl @ 2 g/litre of water if infestation is above ETL. Undertake plant

protection measures on a non rainy day

▪ Jharkhand

- In Western Plateau Zone, in fallow uplands, continue sowing of kulthi and niger. Farmers, having assured irrigation facility may cultivate early potato and green peas at optimum soil moisture condition. The recommended variety of potato for this area is Kufri Ashoka and Kufri Kanchan.
- In Central and North Eastern parts of Jharkhand, continue sowing of improved varieties of niger –Birsa Niger-1, Birsa Niger-2 and Birsa Niger-3 in uplands, planting of early variety of potato and pea. To control Gall midge in rice crop, apply Phorate 10 g @ 8 kg per hectare and for Case worm and Stem borer, spraying of Chlorpyrifos or Quinolphos @ 1.5 ml per litre of water. If sheath blight is noticed, drain the water from the paddy field and top dressing of extra dose of Potash @ 30 kg ha, followed by spraying of Hexaconazole (Kantof) 0.2% or Validamycin 0.25% solution.
- In South Eastern Plateau Zone, in cucurbitaceous crops, if attack of red pumpkin beetle is found, spraying of Diclorvos 76 EC (DDVP) @ 1 ml/litre of water is advised on a non rainy day.
- In South Eastern Plateau Zone, presently weather is conducive for the occurrence of pests like hairy caterpillar on groundnut crop. So, in early stage of caterpillar, apply Dichlorvos @ 0.5 ml per litre of water on a non rainy day. For control of adult caterpillar, provide bamboo perch in the fields for predatory birds.
- In Western Plateau Zone, timely sown rice crop are at flowering stage and this stage is susceptible to the attack of Gundhi bug. To control the insects, dusting of Chlorpyrifos/Quinolphos/Methyl Parathion dust @ 10 kg per acre is recommended on a non rainy day.
- In Western Plateau Zone, in some pockets, attack of stem borer/leaf eating insects on rice crop is noticed. Broadcast granular insecticides like Carbofuran 3G @12 kg per acre or Phorate 10 G @ 4 kg per acre to control them. Keep stagnant water in the fields during broadcasting of these insecticides. Also, in some areas, maize crop is affected by fruit borer. Spray neem based insecticide @ 2-3 ml. per liter of water on upper part of the plant on a non-rainy day to control these insects. Tagging of shining wire around the field helps in repelling the birds from the maize fields.
- Suitable varieties for sowing are given in Annexure III.

• Animal Husbandry

- In Jharkhand, vaccinate poultry for the protection against ranikhet disease. All domestic animals should be dewormed for the intestinal parasitic load under the care of veterinarian.
- In North East Alluvial Zone of Bihar, during rainy season, avoid fly on the animal skin because Myiasis may be developed. Fumigation of the animal shed must be done and wash the shed with Phenyl.
- In Terai Zone of West Bengal, vaccinate cattle against BQ and HS (BQ, HS Vaccine/ HS+BQ).

CENTRAL INDIA [M.P., CHHATTISGARH]



Maize



Rice



Soybean



Green gram

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh except Damoh, Jabalpur, Narsinghpur, Panna, Satna and Tikamgarh; Alirajpur, Betul, Bhopal, Burhanpur, Dhar, Hoshangabad, Jhbu and Khandwa districts of West Madhya Pradesh; all districts of Chhattisgarh except Balrampur and Bastar districts. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Chhattisgarh from 30th Sept. to 2nd Oct, over East Madhya Pradesh from 30th Sept. & 1st Oct., over West Madhya Pradesh from 1st to 3rd Oct., do not apply irrigation, plant protection measures and fertilizers to the standing crops. Keep harvested produce at safe places.
 - As heavy rain very likely at isolated places over East Madhya Pradesh on 30th Sept., over West Madhya Pradesh on 1st Oct., and over south Chhattisgarh on 30th Sept., provide adequate drainage in standing crop fields.
- **Madhya Pradesh:**
 - In Chhindwara and Betul districts, continue nursery preparation for tomato, chilli, brinjal, early cauliflower. Continue field preparation for nursery sowing of cabbage, cauliflower and sowing of garlic, coriander etc.
 - In Hoshangabad and Narsinghpur districts, continue harvesting of matured green gram and black gram in clear weather.

- In Morena, Gwalior districts, continue land preparation and sowing of toria. Undertake intercultural operations in vegetables on a non rainy day.
- In Tikamgarh, Chhatarpur and Datia districts, continue field preparation for sowing of radish, fenugreek, spinach, mustard, coriander and turnip. Continue harvesting of matured green gram and black gram and harvesting of soybean in clear weather. Prepare nursery for improved and certified seeds of marigold flower like-Pusa narangi, Pusa basanti etc.
- In Indore and Ujjain districts, continue harvesting of short duration variety of soybean and maize in clear weather. Undertake nursery preparation for early winter vegetables and field preparation for sowing of potato, pea and garlic.
- In Jhabua, Alirajpur and Dhar districts, continue harvesting of matured green gram and black gram and undertake harvesting of maize and early variety of soybean.
- In Jabalpur, Rewa, Satna districts, continue nursery preparation for cauliflower. Continue land preparation and sowing of toria and green pea under optimum temperature condition. Undertake harvesting of matured soybean and continue harvesting of green gram and black gram in clear weather.
- In Tikamgarh, Chhatarpur and Datia districts of Bundelkhand Zone, chilli and tomato crops may be affected by leaf curl and there may be attack of red pumpkin beetle in cucurbit crops. Monitor the crops and take appropriate plant protection measures.
- In Central Narmada Valley Zone, due to humid weather, there are chances of infestation of hairy caterpillar in maize, apply Carbaryl 50% WP @ 2 kg/ha in 1000 litre of water on a non rainy day.
- **Chhattisgarh:**
 - In North Chhattisgarh, continue nursery preparation of winter vegetables like cauliflower, cabbage, chilli, tomato, brinjal etc.
 - In Central Chhattisgarh, keep inputs ready for sowing of *rabi* crops like chickpea, wheat, linseed, toria etc. Undertake nursery sowing of early winter vegetable varieties of cauliflower, cabbage and Knol Khol
 - In South Chhattisgarh, continue sowing of toria and harvesting of matured short duration variety of rice after current spells of rain.
 - In Chhattisgarh, due to humid weather attack of blast is observed in rice crop, spray Tricyclazole @ 120 g/acre after current spells of rain and repeat after 10-12 days as per requirement.
 - Suitable varieties for sowing are given in Annexure I.
- **Animal Husbandry**
 - In Chhattisgarh, Consult the doctor for H.S, B.Q, Anthrax, Theileriosis and warms prevention and treatment. This is high time for deworming. The medicine like piperagen, Benminth, and Panaraquar are effective.
 - In Madhya Pradesh, present weather condition is suitable for breeding period of buffalo. Therefore farmers are advised to incorporate minerals salts and vitamins in their feed. Activity of house flies and mosquitoes is observed in poultry houses, for control measures, spray finite or dust power of melathion in the poultry houses. To control Ranikhet disease in bird, give F-1 or Lasota strain vaccine.

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



Groundnut



Maize



Rice



Okra

- **Realised Rainfall:** Rainfall occurred in Sirmaur and Una districts of Himachal Pradesh; in Almora, Bageshwar, Chamoli, Champawat, Dehradun, Haridwar, Nainital, Pitorgarh, Rudraprayag and Udhamasinghnagar districts of Uttarakhand; in Mohali district of Punjab; in Allahabad, Ambedkarnagar, Azamgarh, Bahiraich, Ballia, Basti, Chandauli, Deoria, Faizabad, Gazipur, Gorakhpur, Jaunpur, Kheri, Kushinagar, Maharajganj, Mau, Mirzapur, Pratapgarh, Sahuji Maharajnagar, SantKabir Nagar, SantRavidas Nagar, Shrawasti, Sonbhadra, Sultanpur, Varanasi districts of East Uttar Pradesh; in Bareilly, Bijnor, Moradabad, Muzzaffarnagar districts of West Uttar Pradesh; in Banswara, Pratapgarh districts of East Rajasthan. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Rajasthan:**
 - In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, apply protective irrigation to

groundnut, tomato, chilli and bhendi as per requirement in Barmer, Churu, Jalore, Jodhpur and Pali districts In Jaisalmer and Bikaner districts, undertake harvesting of matured early moong, moth bean crops. Apply protective irrigation to late sown pearl millet, cluster bean, moth bean etc showing wilting symptoms. Undertake land preparation for sowing of radish, carrot and lucerne, berseem, oat as fodder in irrigated areas and sowing of taramira, mustard crops.

- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, undertake land preparation for sowing of mustard, to control soil borne pathogens and insects apply Quinalphos dust 1.5% @ 25 kg/ha at last ploughing. Continue sowing of radish (Pusa Rashmi), and carrot (PusaKeshar). Undertake nursery raising of cauliflower, treat seeds with 2 g Captan or 3 g Thiram per kg seed.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake harvesting of matured green gram, moth bean and cowpea. Undertake land preparation for sowing of early pea, rainfed taramira and mustard, desi carrot.
 - In East Rajasthan, Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone, undertake seed bed preparation for nursery raising of chilli, brinjal, tomato for rabi season.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, undertake harvesting of matured mung. Apply irrigation in cotton and paddy as per requirement.
 - In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of sucking pests and alternaria leaf spots in cotton and bacterial leaf blight in paddy, for control spray Emidachloprid 17.8 SL @ 200 ml per hectare or Dimethoate 30 EC @ 1 litre per hectare for control of sucking pests and spray solution of Propineb @ 2 g or Mancozeb @ 3 g per litre of water for alternaria leaf spots in cotton and for control of bacterial leaf blight in paddy spray Streptocycline @ 1g & Copper Oxychloride @ 30 g per 10 litres of water.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf curl & mosaic disease in chilli crop, for control uproot & burn affected plants & spray Dimethoate 30 EC @ 1.0 ml per litre water.
 - In Sub Humid Southern Plain and Aravali Hill Zone, prevailing weather condition is congenial for attack of grass hopper in sorghum and maize, for control, apply Methyl Parathion 2% dust. Also there is chance of attack of pod borer in pulses, for control, spray Monocrotophos 36 SL or Malathion 50 EC @ 1 litre per hectare.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of spotted bollworm in Desi cotton, for control, spray Spinosad 45 SC @ 0.33 ml or Flubendiamid 480 SC @ 0.4 ml per litre of water.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar prevailing weather condition is congenial for attack of tikka in groundnut, for control spray Carbendesim (50% WP) 0.1% @ 1 gm. per litre of water or Hexaconazole 5 EC @ 1 ml per litre of water.
- **Jammu & Kashmir:**
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, farmers are advised to apply irrigation and maintain 5-7 cm water level in paddy crop and apply irrigation to maize crop as per requirement. Continue sowing of radish and carrot on ridges and continue nursery raising of main season cole crops like cabbage, cauliflower and KnolKhol.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue sowing of toria intercropped with gobi-sarson. Give irrigation to paddy, maize and vegetable crops as per requirement. Mulch the inter row spaces in maize field with local vegetative material or remove the lower leaves of maize and use them as mulch to conserve soil moisture. Undertake harvesting of matured maize crop when the colour of the cob sheath has changed from green to straw colour. Continue nursery sowing of cole crops on raised seed beds.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, continue sowing of leafy vegetables like spinach, methi and coriander and toria in clear weather. Undertake harvesting of matured mash pods in clear weather.
 - In Leh district of Cold Arid Zone, undertake harvesting of matured potato and onion. Complete harvesting of Alfa alfa and undertake harvesting of tomatoes, capsicum, chilli and brinjal at regular interval.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, due to increase in temperature with high humidity, there may be incidence of hairy caterpillars on pulses (mash), destroy the young larvae in gregarious phase. If population is high, spray Quinalphos @ 0.03% or Dichlorvos @ 0.05%.
 - In Leh district of Cold Arid Zone in poly houses, if leaf blight and fruit rot is observed in capsicum, spray (Mancozeb + Metalaxyl-M) @ 25 g per 10 litres of water, followed by application of Mancozeb @ 25g per 10 litres of water after 7- 10 days.
 - Weather is congenial for attack of blast on paddy crop and stem borer and aphid in the maize in Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, to control blast, spray Trycylazole (beam) @ 0.06%. In maize crop, for control stem borer apply Carbofuran 3G @ 20 kg per hectare and for control aphids,

spray Dimethoate 30 EC/Rogor @ 2 ml per litre of water.

▪ **Uttarakhand:**

- In Udham Singh Nagar district of Bhabar and Tarai Zone, farmers are advised maintain optimum water level in paddy in flowering stage. In Nainital district of Bhabar and Tarai Zone, continue transplanting of seedlings of rai and French bean, pea, radish and turnip (Shalgam) in polyhouses. Continue transplanting of seedlings of hilly rai or snowball, cabbage and cauliflower in main field.
- In TehriGarhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, continue sowing of toria in mid and high altitude region. Undertake transplanting of cabbage and brochholi if seedlings are ready. Continue sowing of off season pea.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, carry out intercultural operations in late transplanted paddy. Give irrigation to paddy and maize crop as per requirement. Do the earthing and propping in sugarcane to avoid lodging.
- In Udham Singh Nagar district of Bhabar and Tarai Zone, field should be prepared for sowing of carrot, raddish and potato. Tomato seed should be sown in the nursery for winter season. Undertake sowing of Knol-khol and maintain proper drainage in the chili. Continue transplanting of plant in the orchards.
- In TehriGarhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, undertake sowing of spinach, radish, carrot, fenugreek and coriander.
- In TehriGarhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, there may be incidence of blast disease on finger millet and paddy crop, reduce or delay top dressing of Nitrogen fertilizer and if the disease population is above ETL, spray Propiconazole 25EC (Tilt) @ 1ml/litre in water on a non rainy day.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, under prevailing weather condition there is possibility of incidence of rice leaf roller and stem borer in early transplanted rice, for control broadcast Fipronil (Regent/Mortal) 0.3 G @ 7.5 kg mixed with 10 kg dry sand in per acre.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, undertake land preparation for sowing of mustard and early wheat in lower region. Complete sowing of gram and lentil in lower regions and continue harvesting of matured maize in lower regions. Continue harvesting of peas, cabbage and cauliflower in high hills regions. Continue sowing of turnip and radish in lower rainfed areas. Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli, lettuce. Continue transplanting of tomato, cauliflower, cabbage and capsicum and planting of onion. Transplanting of ageti nursery in fields. Undertake sowing of potato in lower plain regions. Undertake sowing of berseem, lucerne and oats for fodder.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmaur districts, continue nursery sowing of cauliflower and transplanting of cabbage.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, remove the weeds, if any from the oat fields. Continue nursery sowing of vegetables. Continue harvesting of matured potato crop.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, present weather is conducive for attack of downy mildew in cauliflower, tomato and cabbage, for control spray Redomil M-Z @ 25 gm per litre of water, repeat at 15 days interval.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul&Spiti, present weather is conducive for untimely fall of leaves in apple trees for control spray Mancozeb and Carbendazim @ (500 gm + 100 gm) per 20 litres of water at 20 days interval.
- In Mild Hills Sub-Humid Zone, in Kullu and Mandi districts, present weather is conducive for attack of woolly apple aphid in Apple, for control spray Marshal @ 200ml per 200litres of water.
- In Mild Hills Sub-Humid Zone, in Kullu and Mandi districts, present weather is conducive for attack of mealy bug in pomegranate, for control spray Emidachloprid @ 200 ml per 200 litres of water.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, in lower regions weather is conducive for attack of false smut in paddy crop, for control spray Blitox 50 @ 500 g per hectare at 10 days interval, 2 to 3 times.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, weather is conducive for attack fruit rot disease in tomato, for control spray Mancozeb @ 250 gm or Rhedomil gold @ 250 gm in 100 litres of water at 8-10 days interval.

▪ **Punjab, Haryana and Delhi:**

- In Punjab, in Fazilka, Ferozepur and Faridkot districts, farmers are advised to apply irrigation in rice at flowering/ grain formation stage for higher yield and stop irrigation two weeks before harvesting. To avoid the shedding of flowers and bolls, maintain optimum moisture in cotton crop during flowering and fruiting stages. Also apply irrigation in maize at flowering/tasselling stage.
- In Western Zone of Punjab, transplant fully developed seedlings (4-6 weeks old) of cauliflower. Apply 45 kg

urea, 155 kg superphosphate and 40 kg muriate of potash before transplanting. Undertake sowing of late season varieties of cauliflower i.e. can be started. Undertake sowing of early varieties of potato and “desi” varieties of radish (Punjab Pasand), turnip (L-1) and carrot (Punjab Black Beauty, Punjab Carrot Red and PC 34), using 4-5 kg seed rate of radish and carrot and 2-3 kg seed rate of turnip per acre. Keep ridges 45 cm and plants 7.5 cm apart. Apply irrigation in rice and cotton as per requirement.

- In Undulating Plain Zone, apply irrigation in rice and vegetable nursery.
 - In Central Plain Zone of Punjab, continue sowing of pea and planting of fruit crops like citrus, mango, litchi, guava etc.
 - In Ajitgarh, Rupnagar and SBS Nagar districts, continue sowing of mash, okra, cucurbits, cowpea, sesame and nursery raising of early varieties of cauliflower, brinjal and tomato.
 - In Western Zone of Haryana, continue sowing of arhar, green gram and black gram. Undertake intercultural/hoeing operations in cotton crops for conserving the moisture and removing the weeds. Undertake planting the fruits crops. Undertake harvesting and threshing of matured bajra crop.
 - In Eastern Zone of Haryana, continue sowing of fodder crops such as guar, maize and bajra.
 - In Western Semi-Arid Zone of Delhi, field preparation may be started for sowing of early mustard- Pusa Sarson-25, Pusa Sarson-26, Pusa aAgrmi, Pusa Taraka, Pusa Mahak and earlypea (Cultivars- Pusa pragati, Pant matar-3, Arkil etc). Farmers are advised to do arrangement for quality seeds. Weather is suitable for sowing of carrot in the raised bed. Recommended cultivars: PusaRudhira. Seed rate-4.0 kg/acre. Application of FYM, potash and phosphorus fertilizer is recommended. Seed treatment with Captan @ 2 g per kilogram is advised. Undertake transplanting of green onion seedling in the prepared fields and planting of early potato.
 - In Western Zone of Haryana, due to warm weather condition, rice blast may be noticed in early transplanted rice crop. Spray 200 gram Carbendazim mixed with 200 litre of water per acre.
 - In Central Plain Zone and Western Zone of Punjab, sheath blight may be noticed in rice. Control the same by spraying Nativo 75 WG @ 80 g or Lustre 37.5 SE @ 320 ml or Folicure/Orius 25 EC @ 200 ml or Bavistin 50 WP @ 200 g or Tilt/Bumper 25 EC or Monceren 250 SC 200 ml in 200 litres of water.
 - In Undulating Plain Zone of Punjab, there is chance of attack of leaf folder and stem borer in rice (Basmati), the fields showing more than 10% affected leaves or 5% dead hearts, should be sprayed with Fame @ 20 ml 480 SC(flubendiamide) or 1litre of Dursban/Classic/Force 20 EC (Chlorpyrifos) in 100 litres of water per acre.
 - In Western Zone of Punjab, control leaf folder in rice when leaf damage reaches 10 per cent by spraying 20 ml Fame 480 SC or 170g Mortar 75 SG or one litre of Coroban/Durmet/Force 20 EC or 560 ml Monocil 36 SL in 100 litres of water per acre.
 - In Western Semi-Arid Zone of Delhi, monitor the fields regularly. Spray Thiamethoxam @ (2.0 g / 10 lit. of water) or NSKE (5%) against white flies and other sucking pests in all crop and vegetables.
 - In Western Semi-Arid Zone of Delhi, in present weather conditions, monitor for brown plant hopper (BPH) in paddy, spray Emidachloprid 17.8 % SC@ 1.0 ml/3 litre or Fenobucarb 50 EC @ 1 ml/litre or Buprofezin 25 EC @ 2 ml/litre of water. Monitor the infection of blast disease in rice at 2-3 days interval. If symptoms appear than, spray of Bavistin 2 gram/litre of water 2-3 times with an interval of 10 day. False smut may appear in paddy in present weather conditions spray of Blitox 50 @ 500 grams per acre at 10 days interval.
- **Uttar Pradesh:**
- In Central Plain Zone of Uttar Pradesh, continue sowing of toria, mustard, vegetable pea and cabbage. Continue planting of potato and transplanting of mid season brinjal, tomato, cauliflower, tomato and capsicum.
 - In Eastern Plain Zone of Uttar Pradesh, undertake sowing of toria, potato, vegetable pea. Undertake transplanting of cauliflower, cabbage, brinjal, chilli, tomato.
 - In Western Plain Zone of Uttar Pradesh, add one packet/acre of Blue Green Algae (BGA) in those fields of paddy where standing water is available, as it is rich source of nitrogen. Continue transplanting of brinjal, tomato, chilli, cauliflower and cabbage on raised bed if seedlings are ready. Continue hoeing & weeding in sugarcane and vegetables.
 - In Bundelkhand Zone of Uttar Pradesh, continue land preparation for sowing of peas, gram, lentil, linseed and toria. Continue transplanting of mid season brinjal, chilli, tomato, cabbage, cauliflower. Undertake land preparation for sowing of radish, cabbage, carrot, coriander.
 - In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of pyrrillia disease in sugarcane, for control spray Phosphomidon @ 300 to 400 ml or Methyl-O-Demeton @ 1.5 liters in 1000 liters of water after current spells of rain.
 - In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of stem borer in paddy, for control spray Chlorpyrifos 20 EC or Quinalphos 25 EC @ 1.5 litres per 500 to 600 litres of water per hectare.
 - In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of gundhi bug in paddy, for control, broadcast Methyl Parathion 2% or Malathion 5% @ 20 to 25 kg. Per

hectare.

- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of pod borer/sucking pest in Urd and Mung, for control, spray Quinalphos 25 EC @ 1.5 litres per 600 to 700 litres of water per hectare.
- In Bundelkhand Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of gundhi bug, sucking pest for control spray Dimethoate or Malathion @ 1litre/hectare.
- In Western Plain Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of fruit borer, diamond back moth in vegetables like brinjal, cauliflower, cabbage, tomato etc, for control use pheromone trap @ 3 to 4 per acre. If insect population is above ETL, spray Spinosad @ 1.0 ml per 4 litres of water.
- Suitable varieties for sowing are given in Annexure III.
- **Horticulture:**
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf curl & mosaic in Papaya, for control uproot & burn the affected plants and spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 ml per litre of water.
 - East Rajasthan, Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts of Sub In Humid Southern Plain and Aravali Hill Zone, prevailing weather condition is congenial for canker in citrus plants for control apply Bordo mixture (4:4:50) or Streptomycin @ 250 mg & Bavistin @ 1 gm per litre of water and repeat at an interval of 20 days.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue plantation of mango, litchi, guava, citrus, loquat and amla.
 - In Una, Hamirpur, Kangra and Chamba districts of Himachal Pradesh, weather is conducive for leaf minor in new growth of citrus on citrus plants, for control spray Malathion @ 10 ml or Metasystox @ 10 ml per 10 litres of water.
 - In Udhampur district of Bhabar and Tarai Zone, after withdrawal of monsoon, it is observed that Gum comes out from the Mango tree and this is mostly occurred in the orchards where soil is sandy. For this, Copper Sulphate @ 200-250g/Tree should be used. Remove the Gum from the trees by scratching, then spraying of Copper-Oxichloride @ 2g/litre should be done on that part of the tree.
- **Apiculture:**
 - In Himachal Pradesh, to control mites attack on honeybees, dust Sulphur on sealed brood in the colony and not on larvae. For protection from ants put the legs of apiary into water so that ants could not attack apiary.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, in case of insufficient nectar or honey in the apiary, artificial feeding may be given to honey bee colonies.
- **Floriculture**
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue sowing of marigold seeds and spray Emidacloprid to protect Chrysanthemum plants from mealy bug attack.
 - In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of blue beetle in balsam, zinnia, cleome and rose, for control spray Cypermethrin @ 20 ml in 10 litres of water. In poly house there may be attack of thrips and beetle, for control spray Rogor @ 20 ml in 10 litres of water for thrips and for beetle spray Dicofol @ 20 ml in 10 litres of water.
 - In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, complete pinching and staking in carnation. Undertake transplanting of marigold seedling in fields for summer crop. Undertake earthing up operation in gladiolus and disbudding in carnation.
- **Animal Husbandry**
 - In Punjab, in case of tick infestation in animals, control it by spraying Asuntol (1 g/litre of water) or Butox (2 ml/litre of water) on the animals as well as in the sheds and repeat the spray after 10-15 days. Do not spray animals below six months of age.
 - In Rajasthan, there may be attack of external parasites like ticks. These parasites cause blood parasite diseases like Babesia & Theileria. In this disease frequent fever come in animals. Treat animal immediately if symptoms are seen.
 - In Himachal Pradesh, in Una, Hamirpur, Kangra and Chamba districts, there may be attack of ticks and mites on animals, for control spray Botox @ 2 ml per litre of water.
- **Poultry:**
 - In Himachal Pradesh, weather is congenial for attack of Diathermia and Cocksedia in poultry, for control spray Formalin 40% @ 1 litre in 9 litres of water around the farm.

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

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	14.09.16		21.09.16		28.09.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	37.2	-66	37.5	-64	100.6	58
Dibang Valley	**	**	**	**	**	**
East Kameng	24.3	-68	20.2	-67	33.7	-50
East Siang	174.2	9	27.2	-83	155.3	41
Kurung Kumey	**	**	**	**	**	**
Lohit	65.4	-27	32.9	-53	31.0	-53
Lower Dibang Valley	233.1	146	32.4	-46	64.8	19
Lower Subansari	**	**	**	**	**	**
Papumpare	167.4	94	145.4	28	211.6	87
Tawang	66.0	-40	80.0	-45	38.0	-61
Tirap	76.4	-35	36.8	-61	108.8	39
Upper Siang	191.2	2	162.6	-5	503.6	215
Upper Subansari	88.0	306	244.8	398	261.4	406
West Kameng	17.1	-85	42.8	-71	8.2	-92
West Siang	98.1	22	60.8	-28	86.8	56
Assam&Meghalaya						
Assam						
Baksa	21.1	-81	33.2	-77	24.2	-75
Barpeta	11.4	-90	67.9	-54	71.3	-25
Bongaigaon	54.6	-44	116.6	15	26.8	-73
Cachar	134.4	38	57.2	-20	104.1	43
Chirang	68.6	-29	168.4	66	47.8	-53
Darrang	**	**	**	**	**	**
Dhemaji	**	**	**	**	**	**
Dhubri	19.5	-79	102.8	13	58.9	-24
Dibrugarh	58.1	-38	49.9	-36	59.9	-2
Goalpara	59.6	4	105.5	34	58.0	-30
Golaghat	52.6	-1	24.7	-55	36.1	-11
Hailakandi	128.0	27	33.2	-39	110.1	53
Jorhat	35.1	-54	34.0	-41	40.3	-28
Kamrup(Rural)	72.0	64	12.7	-70	24.0	-45
Kamrup(Metro)	11.7	-73	25.9	-40	14.1	-67
Karbi Anglong	28.6	-43	76.7	79	30.5	-23
Karimganj	121.7	9	77.7	-30	93.1	24
Kokrajhar	37.4	-64	73.5	-40	91.1	-24
Lakhimpur	121.8	10	56.4	-43	113.2	19
Morigaon	136.0	133	56.4	21	73.0	28

N.C.Hills	19.5	-27	0.0	-100	58.2	5
Nagaon	54.3	-9	19.3	-58	26.1	-46
Nalbari	5.3	-88	46.8	-41	62.1	70
Sonitpur	19.7	-70	63.8	8	45.0	12
Sibsagar	72.3	37	37.8	-14	63.6	65
Tinsukia	96.9	14	39.6	-54	68.1	13
Udalgiri	26.8	-58	94.8	46	16.5	-55
Meghalaya						
East Garo Hills	46.6	-54	29.0	-64	51.8	-6
East Khasi Hills	67.9	-66	65.5	-50	54.0	-47
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	39.7	-48	59.8	-18	74.1	-1
South Garo Hills	3.0	-97	5.0	-94	6.0	-90
West Garo Hills	0.4	-99	51.4	-41	100.8	69
West Khasi Hills	60.0	-51	13.0	-82	29.0	-77
NMMT						
Mizoram						
Aizwal	150.7	63	95.4	-1	76.8	0
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	77.5	-12	204.0	103	79.6	-26
Mamit	**	**	**	**	**	**
Saiha	104.0	19	59.0	-33	182.0	85
Serchhip	112.0	47	116.9	35	92.5	16
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	9.3	-79	25.8	-46	89.6	143
Imphal west	160.6	561	94.2	134	183.5	432
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	20.0	-3	30.0	-4	32.0	99
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	45.9	10	38.3	-2	25.7	41
Kephire	27.0	-50	43.0	-28	50.0	-12
Kohima	57.3	-17	9.6	-82	30.9	-36
Longleng	**	**	**	**	**	**
Mokokchung	11.0	-85	12.0	-80	25.0	28
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	36.0	-48	57.0	7	24.0	-51
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	144.0	130	97.2	58	30.7	-49

North Tripura	141.9	74	78.2	35	53.6	-8
South Tripura	60.7	-1	31.6	-36	49.4	-29
West Tripura	38.8	-35	15.4	-71	13.1	-77
Himachal Pradesh						
Bilaspur	35.9	-21	6.2	-81	15.4	-50
Chamba	8.0	-86	0.0	-100	6.0	-88
Hamirpur	29.1	-17	2.7	-91	29.6	-18
Kangra	39.8	-37	26.5	-30	20.9	-49
Kinnaur	0.0	-100	0.2	-98	10.4	-53
Kullu	2.8	-89	0.0	-100	6.7	-71
Lahaul and Spiti	1.5	-94	0.0	-100	1.0	-97
Mandi	65.3	52	6.3	-77	14.0	-51
Shimla	4.9	-85	5.0	-74	10.1	-59
Sirmaur	8.2	-86	0.2	-99	55.7	47
Solan	14.1	-70	0.0	-100	5.8	-86
Una	43.8	39	31.9	40	36.5	-13
Punjab						
Amritsar	0.1	-99	0.0	-100	12.7	-46
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.9	-93	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Sahib	0.7	-98	0.0	-100	0.3	-99
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	12.8	-60	0.2	-99	15.1	-53
Hoshiarpur	6.7	-81	2.8	-83	2.3	-94
Jalandhar	1.0	-97	3.7	-70	1.3	-95
Kapurthala	0.0	-100	0.3	-98	3.2	-84
Ludhiana	2.8	-91	3.5	-77	0.5	-98
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.8	-98	14.9	-10	21.3	-52
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	41.7	25	16.0	1	24.0	-30
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	47.0	71
Tarn Taran	0.0	-100	0.0	-100	0.0	-100
Haryana, Chd, Delhi						
Haryana						
Ambala	1.0	-98	2.7	-93	21.6	-45
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	12.0	-74	1.7	-94	27.6	-33
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	3.4	-57	2.0	-79
Hissar	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100
Katihah	0.0	-100	0.0	-100	0.0	-100

Karnal	1.9	-93	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	1.5	-77
Mewat	0.0	-100	0.0	-100	1.4	-88
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	3.7	-93	7.8	-71	15.4	-46
Panipat	0.8	-97	0.0	-100	0.0	-100
Rewari	0.0	-100	2.3	-67	2.5	-74
Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	3.8	-92	0.0	-100	15.0	-43
Delhi						
Central Delhi	0.0	-100	0.0	-100	1.0	-93
East Delhi	0.0	-100	6.0	-63	0.0	-100
New Delhi	333.3	1045	7.7	-53	0.0	-100
North Delhi	500.0	1618	0.0	-100	0.8	-95
North East Delhi	0.0	-100	0.0	-100	4.0	-71
North West Delhi	333.3	1045	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	0.0	-100	0.0	-100	5.1	-63
West Delhi	**	**	**	**	**	**
Jammu & Kashmir						
Anantnag	12.0	-13	0.4	-97	4.3	-70
Badgam	1.8	-91	0.0	-100	0.4	-96
Bandipore	**	**	**	**	**	**
Baramula	6.2	-60	0.0	-100	4.2	-66
Doda	8.4	-63	0.0	-100	2.0	-95
Ganderbal	0.0	-100	0.0	-100	0.0	-100
Jammu	18.3	-60	0.0	-100	20.9	-34
Kargil	**	**	**	**	**	**
Kathua	3.2	-95	0.0	-100	17.2	-43
Kistwar	**	**	**	**	**	**
Kulgam	2.0	-85	0.0	-100	0.0	-100
Kupwara	2.0	-76	0.0	-100	3.0	-68
Ladakh(Leh)	0.1	-96	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	2.6	-81	0.0	-100	0.3	-98
Rajouri	20.0	-39	0.0	-100	5.8	-78
Ramban	4.8	-79	0.0	-100	3.1	-92
Reasi	90.3	82	18.5	-49	24.6	-50
Samba	41.5	-9	0.0	-100	13.6	-57
Shopian	**	**	**	**	**	**
Srinagar	2.0	-77	0.0	-100	0.0	-100
Udhampur	25.6	-46	0.0	-100	1.4	-97
East Madhya Pradesh						
Anuppur	37.4	-47	24.6	-46	73.1	109
Balaghat	33.4	-45	12.6	-65	61.9	71

Chhatarpur	2.1	-96	24.7	-41	54.5	163
Chindwara	1.5	-97	36.4	7	56.9	84
Damoh	0.0	-100	10.5	-78	22.5	15
Dindori	4.2	-93	65.8	90	204.9	561
Jabalpur	0.0	-100	16.1	-56	22.4	-16
Katni	0.0	-100	5.3	-86	41.4	65
Mandla	18.9	-71	33.6	-23	66.2	126
Narsingpur	8.6	-87	20.0	-57	9.0	-69
Panna	13.5	-82	49.5	20	2.8	-88
Rewa	48.8	-31	37.9	-1	33.1	43
Sagar	0.0	-100	31.0	-31	31.8	32
Satna	11.3	-81	29.4	-22	24.2	-9
Seoni	5.2	-91	36.8	-18	48.5	72
Shahdol	13.9	-77	13.1	-64	129.6	420
Sidhi	8.2	-88	11.6	-73	134.4	304
Singrauli	62.8	24	34.9	-12	31.4	32
Tikamgarh	0.0	-100	5.3	-85	3.5	-79
Umaria	8.7	-88	71.0	56	65.5	148
West Madhya Pradesh						
Agar	0.0	-100	15.9	-47	2.5	-94
Alirajpur	0.0	-100	123.9	323	52.2	103
Asoknagar	0.0	-100	25.5	-37	0.5	-97
Badwani	0.0	-100	106.7	289	12.1	-61
Betul	2.7	-96	30.9	-20	38.6	43
Bhind	0.0	-100	9.0	-66	0.0	-100
Bhopal	0.0	-100	27.0	-23	32.2	1
Burhanpur	2.5	-91	73.3	127	46.9	115
Datia	0.0	-100	25.0	-39	0.0	-100
Dewas	0.0	-100	30.4	-8	7.7	-77
Dhar	0.0	-100	93.9	191	81.1	136
Guna	0.0	-100	9.9	-68	14.6	-34
Gwalior	0.0	-100	0.6	-99	0.0	-100
Harda	1.6	-97	18.2	-55	1.7	-95
Hoshangabad	2.1	-97	118.3	124	57.0	60
Indore	0.0	-100	59.0	62	22.8	-44
Jhabua	0.0	-100	87.1	236	48.0	82
Khandwa	0.0	-100	92.2	165	32.8	-8
Khargone	0.0	-100	121.3	325	6.8	-78
Mandsaur	3.3	-91	15.1	-32	9.4	-53
Morena	0.0	-100	9.1	-68	0.7	-96
Neemuch	0.3	-99	0.0	-100	25.0	56
Raisen	0.0	-100	24.4	-43	18.8	-23
Rajgarh	0.4	-99	7.8	-72	10.1	-61
Ratlam	0.0	-100	30.8	10	9.1	-73
Sehore	0.2	-99	82.3	152	12.9	-62
Shajapur	0.0	-100	34.5	8	11.5	-65
Sheopur Kalani	1.0	-97	0.0	-100	0.0	-100
Shivpuri	0.0	-100	2.4	-92	3.6	-79

Ujjain	0.0	-100	64.4	109	21.2	-33
Vidisha	0.0	-100	32.5	-11	19.8	18
Chhattisgarh						
Balod	138.5	102	88.4	156	77.1	83
Baloda Bazar	28.2	-59	12.9	-52	93.5	166
Balrampur	35.0	-53	25.0	-31	25.0	-48
Bastar	188.6	226	38.7	-12	1.8	-96
Bemetara	69.9	34	63.4	85	105.9	189
Bijapur	72.0	18	40.5	-5	167.9	368
Bilaspur	46.5	-32	6.5	-81	95.2	192
Dantewara	214.0	306	147.5	280	51.4	45
Dhamtari	151.4	103	68.8	94	72.2	95
Durg	123.0	79	97.8	183	115.6	174
Gariaband	151.7	111	38.3	0	105.0	246
Janjgir	47.2	-31	24.2	-27	127.3	193
Jashpurnagar	64.7	-25	85.2	124	48.4	6
Kabirdham	33.4	-29	25.3	-25	132.6	257
Kanker	189.1	157	30.6	-30	104.9	162
Kondagaon	99.4	40	68.2	52	37.4	-10
Korba	69.9	-7	68.2	47	165.2	369
Koriya	24.1	-66	32.3	-8	97.2	277
Mahasumund	127.2	82	45.7	52	59.9	80
Mungeli	66.4	-3	0.0	-100	77.4	137
Narayanpur	95.8	43	65.9	65	47.1	33
Raigarh	95.8	15	25.8	-22	43.9	15
Raipur	109.3	51	52.1	58	107.2	183
Rajnandgaon	76.6	25	17.7	-52	66.9	70
Sukma	162.3	192	60.6	40	102.2	172
Surajpur	18.9	-67	33.3	-9	66.8	132
Surguja	35.2	-53	30.0	-10	69.5	79
East Uttar Pradesh						
Allahabad	8.5	-88	39.8	8	51.7	107
Ambedkar Nagar	88.0	46	0.0	-100	142.0	363
Azamgarh	22.5	-69	44.5	-26	187.4	477
Bahraich	77.1	6	34.6	-1	33.3	15
Ballia	27.7	-49	28.3	-32	87.1	222
Balrampur	10.6	-83	50.7	30	0.0	-100
Banda	22.8	-57	18.9	-41	5.8	-71
Barabanki	34.0	-57	48.8	2	9.1	-63
Basti	16.1	-73	31.8	-32	179.8	529
Chandauli	53.0	-35	40.0	113	48.0	67
Deoria	23.0	-58	77.0	33	67.5	110
Faizabad	44.6	-31	43.1	-4	51.5	102
Farrukhabad	13.9	-72	4.5	-83	18.9	12
Fatehpur	10.8	-84	42.6	12	5.9	-73
Gazipur	89.6	18	35.8	-23	96.4	171
Gonda	79.5	12	11.6	-75	10.7	-71
Gorakhpur	40.7	-47	34.9	-50	86.9	167
Hardoi	54.2	-13	9.4	-67	11.1	-48

Jaunpur	41.7	-49	52.5	5	59.0	86
Kannauj	17.0	-70	29.2	-3	1.8	-91
Kanpur City	13.8	-71	15.0	-55	1.5	-93
Kanpur Dehat	1.0	-98	7.8	-72	12.9	-51
Kaushambi	0.0	-100	13.1	-57	18.4	-38
Kheri	121.2	79	11.3	-69	32.0	7
Kushi nagar	2.6	-96	34.5	-49	52.5	27
Lucknow	54.0	-4	21.7	-41	5.9	-75
Maharajganj	38.5	-45	25.0	-59	63.8	87
Mau	43.5	-48	20.0	-63	51.5	56
Mirzapur	43.5	-51	55.9	8	91.1	219
Pratapgarh	32.0	-53	10.7	-75	35.0	34
RaiBareilly	34.3	-38	12.3	-65	11.2	-52
Sahuji Maharajnagar	0.0	-100	9.0	-77	77.5	191
Sant Kabirnnagar	34.0	-43	98.0	99	134.0	394
Sant Ravidas Nagar	31.0	-62	37.0	97	45.0	57
Shrawasti	44.6	-39	14.4	-59	53.6	85
Sidharthnagar	66.3	13	31.5	-31	8.5	-68
Sitapur	74.9	0	13.9	-53	0.9	-97
Sonbhadra	72.0	-14	11.2	-65	103.2	212
Sultanpur	56.1	2	26.9	-39	40.2	62
Unnao	22.5	-63	10.8	-66	5.0	-81
Varanasi	35.4	-60	23.5	-52	148.9	307
West Uttar Pradesh						
Agra	16.0	-58	1.7	-93	0.9	-95
Aligarh	3.0	-93	1.1	-96	15.2	-26
Auraiya	0.0	-100	17.6	-33	0.0	-100
Badaun	1.8	-95	0.4	-99	3.2	-86
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	39.2	-23	2.4	-92	33.3	17
Bijnor	2.7	-94	0.0	-100	31.8	31
Bulandsahar	0.0	-100	0.0	-100	6.1	-74
Etah	0.0	-100	2.0	-92	0.0	-100
Etawah	0.0	-100	3.3	-89	0.0	-100
Firozabad	9.6	-78	1.0	-97	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100
Hamirpur	8.3	-85	17.0	-53	6.0	-64
Jalaun	0.0	-100	10.3	-69	16.0	-26
Jhansi	10.2	-79	3.4	-91	1.4	-94
Jotiba Phule Nagar	0.0	-100	0.5	-98	15.0	-40
Kanshiramnagar	0.0	-100	13.0	-59	0.0	-100
Lalitpur	0.0	-100	17.0	-59	8.0	-57
Mahamaya Nagar	0.0	-100	0.0	-100	0.5	-98
Mahoba	0.0	-100	24.6	-19	0.0	-100
Mainpuri	4.5	-90	0.5	-98	0.0	-100
Mathura	0.0	-100	0.0	-100	1.0	-93
Meerut	0.0	-100	0.0	-100	9.3	-57

Moradabad	13.0	-71	3.2	-90	31.5	20
Muzzaffarnagar	5.7	-86	0.0	-100	30.9	27
Pilibhit	22.6	-69	0.0	-100	25.9	-38
Rampur	7.2	-80	4.0	-90	29.3	-3
Saharanpur	0.0	-100	0.0	-100	8.3	-54
Shahjahanpur	48.1	-22	0.8	-97	1.5	-94
Uttarakhand						
Almora	23.8	-42	1.2	-97	47.3	53
Bageshwar	20.3	-51	0.0	-100	31.5	2
Chamoli	70.2	85	9.9	-59	34.7	72
Champawat	77.5	1	0.0	-100	89.0	122
Dehradun	20.3	-76	11.7	-79	30.3	-12
Garhwal Pauri	32.6	-42	3.8	-91	16.6	-35
Garhwal Tehri	21.1	-57	0.2	-99	1.1	-95
Haridwar	12.3	-68	0.1	-99	37.9	66
Nainital	118.2	65	23.9	-63	36.7	-13
Pithoragarh	53.9	-33	28.1	-50	39.7	-21
Rudrapur	66.2	-17	0.7	-98	36.4	35
Udham Sing Nagar	31.2	-50	2.3	-95	33.1	-7
Uttarkashi	0.1	-99	6.9	-86	24.2	-29
Bihar						
Araria	132.2	71	123.1	104	204.7	255
Arwal	62.2	-6	32.6	-28	68.1	129
Aurangabad	120.4	85	55.1	34	130.4	378
Banka	48.7	-9	77.3	66	148.1	162
Begusarai	40.9	-23	64.7	27	98.5	114
Bhabua	46.6	-46	31.2	-39	79.7	92
Bhagalpur	31.7	-45	77.0	72	76.4	32
Bhojpur	64.9	2	70.5	26	22.5	-23
Buxar	82.4	7	14.8	-67	49.6	147
Darbhanga	67.7	34	35.5	-2	116.4	168
East Champaran	128.1	131	58.2	12	49.9	31
Gaya	84.3	68	27.4	-31	101.4	205
Gopalganj	83.2	17	31.7	-52	88.5	204
Jahanabad	98.1	64	89.6	53	51.9	57
Jamui	51.0	-9	7.9	-82	86.9	39
Kathihar	36.9	-52	67.2	18	60.3	-11
Khagadia	13.6	-79	54.7	-18	77.5	6
Kishanganj	115.8	31	136.8	82	200.8	174
Lakhisarai	104.8	87	19.1	-63	85.8	48
Madhepura	83.1	14	65.5	39	116.7	104
Madhubani	25.1	-56	57.0	91	97.4	156
Monghyar	31.4	-44	165.8	219	130.8	126
Muzaffarpur	81.1	41	37.7	-33	87.8	125
Nalanda	96.1	67	35.0	-30	43.9	12
Nawada	85.7	54	29.5	-12	88.0	123
Patna	101.7	62	47.5	-17	77.9	91
Purnea	67.8	-17	44.5	-34	86.6	36
Rohtas	104.1	68	16.4	-60	81.4	184

Saharsha	67.1	-3	42.0	-50	94.4	83
Samstipur	70.5	18	35.9	-40	80.7	48
Saran	81.1	21	25.4	-48	82.0	102
Sheikpura	123.1	118	0.0	-100	55.3	39
Sheohar	120.6	163	52.7	17	58.4	85
Sitamarhi	106.8	133	73.5	63	39.8	26
Siwan	99.0	19	37.3	-46	52.1	60
Supaul	70.6	27	73.9	44	139.1	178
Vaishali	61.6	-2	47.1	-11	59.8	41
West Champaran	102.1	52	72.2	-4	45.1	10
Jharkhand						
Bokaro	98.6	62	32.2	-25	46.8	2
Chatra	86.4	56	44.2	-27	77.0	66
Deoghar	20.4	-65	33.5	-37	20.4	-71
Dhanbad	67.4	-5	46.3	-6	98.9	43
Dumka	28.2	-59	45.2	14	125.1	66
East Singhbhum	64.3	5	82.7	127	44.9	-12
Garhwa	15.5	-76	7.2	-83	66.4	93
Giridih	90.1	39	53.2	27	83.0	34
Godda	55.2	-14	70.7	73	52.4	-17
Gumla	119.4	51	52.0	10	31.9	-33
Hazaribagh	127.3	103	56.8	23	85.9	124
Jamtara	12.6	-85	61.2	17	85.7	11
Khunti	46.5	-39	12.8	-77	27.0	-40
Koderrna	111.7	108	10.2	-73	19.7	-64
Latehar	181.8	157	24.5	-26	184.8	331
Lohardagga	107.5	84	18.6	-63	109.5	154
Pakur	40.8	-51	16.2	-79	87.9	-1
Palamau	103.6	53	7.0	-85	168.4	317
Ramgarh	66.8	3	53.4	19	30.0	-32
Ranchi	63.7	-7	14.1	-67	28.0	-44
Sahebganj	56.6	-32	18.8	-74	131.2	36
Saraikela	30.5	-56	6.6	-86	45.4	-10
Simdega	81.6	-13	29.1	-35	30.0	-38
West Singhbhum	14.1	-78	4.6	-87	74.0	68
East Rajasthan						
Ajmer	0.0	-100	0.3	-95	1.5	-80
Alwar	0.0	-100	0.0	-100	5.5	-56
Banswara	0.2	-99	30.0	56	33.8	58
Baran	3.4	-89	9.9	-47	0.1	-99
Bharatpur	0.0	-100	0.0	-100	8.0	-21
Bhilwara	1.9	-92	0.3	-97	0.3	-98
Bundi	2.2	-92	1.8	-83	4.2	-68
Chittorgarh	1.3	-96	0.4	-97	8.0	-48
Dausa	0.0	-100	0.0	-100	11.4	-3
Dholpur	0.0	-100	0.0	-100	1.2	-91
Dungarpur	0.0	-100	7.7	-42	17.7	27
Jaipur	0.6	-97	1.5	-83	10.7	19
Jhalawar	3.9	-88	27.4	35	3.7	-84

Jhunjhunu	0.0	-100	0.0	-100	7.1	-29
Karauli	0.2	-99	0.0	-100	17.7	62
Kota	1.0	-97	4.5	-66	0.4	-98
Pratapgarh	0.0	-100	8.0	-63	63.8	141
Rajsamand	0.3	-99	3.4	-67	0.1	-99
Sawai Madhopur	0.0	-100	0.0	-100	3.6	-70
Sikar	0.0	-100	5.9	-11	2.3	-74
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	5.5	-44
Udaipur	0.2	-99	5.1	-64	4.8	-70
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.2	-97
Churu	0.0	-100	0.0	-100	22.4	136
Hanumangarh	0.0	-100	0.0	-100	6.7	10
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.2	-96
Nagaur	0.0	-100	0.9	-85	1.8	-77
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	6.0	70
Gujarat Region						
Ahmedabad	0.0	-100	23.2	48	1.9	-87
Anand	0.7	-98	27.9	54	26.5	71
Aravalli	0.0	-100	19.0	-14	16.2	-8
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Broach	9.7	-72	75.3	250	24.6	-24
Chhota Udepur	2.5	-95	65.2	69	53.1	112
DNH	84.1	43	152.7	266	109.4	3
Dahod	0.7	-98	48.5	70	35.0	60
Daman	123.9	111	236.6	467	137.3	30
Dangs	50.5	-33	206.1	292	32.5	-53
Gandhinagar	0.0	-100	28.8	99	8.3	-56
Kheda	0.0	-100	39.8	95	3.1	-82
Mahisagar	0.3	-99	21.4	0	14.9	5
Mehsana	0.0	-99	3.9	-77	0.2	-99
Narmada	9.7	-78	87.2	214	46.1	47
Navsari	102.4	47	130.1	285	88.6	64
Panchmahal	0.1	-99	27.5	-5	22.9	7
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	8.7	-45	3.9	-77
Surat	25.8	-44	145.4	447	38.9	-11
Tapi	15.8	-66	132.2	339	37.6	-17
Vadodara	0.0	-100	70.2	166	23.7	-1
Valsad	98.2	41	172.1	354	108.6	35
S K & Diu region						
Amreli	10.2	-45	194.0	972	1.3	-96
Bhavnagar	6.6	-70	147.4	857	0.8	-97
Botad	0.0	-100	33.8	96	0.0	-100

Devbhoomi Dwarka	0.0	-100	9.0	92	0.0	-100
Diu	0.0	-100	142.1	1745	22.4	45
Gir Somnath	0.0	-100	163.1	1065	14.4	-12
Jamnagar	0.0	-100	11.7	13	0.0	-100
Junagarh	2.4	-91	131.7	624	26.0	52
Kutch	0.0	-100	8.5	46	0.0	-100
Morbi	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	44.0	479	0.0	-100
Rajkot	0.0	-100	82.5	346	1.9	-91
Surendranagar	0.0	-100	11.5	10	0.0	-100
Maharashtra						
Konkan & Goa						
Mumbai City	6.0	-91	336.2	755	374.0	359
Mumbai Suburban	47.2	-31	390.1	829	244.9	203
North Goa	28.1	-56	124.7	123	135.7	110
Raigad	31.0	-63	359.3	512	351.8	280
Ratnagiri	18.4	-75	334.6	478	385.5	382
Sindhudurg	40.8	-39	153.9	155	195.7	193
South Goa	23.3	-58	92.4	67	114.8	112
Thane	44.5	-35	235.7	381	124.6	70
Madhya Maharashtra						
Ahmednagar	4.6	-85	129.1	356	78.9	76
Dhule	5.0	-74	73.7	314	32.0	-4
Jalgaon	1.9	-93	107.9	429	38.0	31
Kolhapur	2.8	-91	55.3	49	49.2	7
Nandurbar	14.6	-56	102.9	324	33.1	-3
Nasik	18.9	-58	87.6	213	51.4	11
Pune	7.5	-74	89.8	157	58.9	23
Sangli	14.7	-42	34.0	-1	64.0	52
Satara	2.9	-88	80.2	148	44.1	-8
Solapur	17.7	-50	79.8	82	110.1	106
Marathwada						
Aurangabad	4.2	-86	78.2	187	41.9	-2
Beed	14.4	-56	122.0	198	220.9	380
Hingoli	20.8	-37	92.0	205	85.5	139
Jalna	12.0	-58	74.8	185	96.5	159
Latur	75.5	95	161.0	350	157.5	363
Nanded	39.2	14	101.3	163	109.5	188
Osmanabad	34.7	-12	139.9	207	173.1	239
Parbhani	29.5	-10	143.6	294	170.7	356
Vidarbha						
Akola	5.1	-85	58.7	145	35.6	20
Amraoti	14.6	-61	69.5	158	59.3	88
Bhandara	96.6	64	4.7	-86	73.3	129
Buldhana	1.2	-96	47.4	105	56.2	115
Chandrapur	161.0	180	45.5	54	128.2	240
Gadchiroli	182.5	258	38.4	22	98.9	217
Gondia	184.9	185	7.1	-78	72.9	115

Nagpur	49.7	15	11.8	-63	44.3	58
Wardha	39.9	22	41.0	44	28.5	-10
Washim	11.2	-72	45.4	41	70.2	168
Yeotmal	42.5	44	51.4	80	51.4	68
Odisha						
Angul	40.9	-40	6.7	-83	32.9	-23
Balasore	67.6	-24	11.5	-77	97.7	30
Bargarh	76.4	-3	16.3	-51	34.3	5
Bhadrak	47.5	-23	21.9	-56	107.7	128
Bolangir	62.7	-15	14.2	-63	59.0	86
Boudh	58.9	-23	34.0	-29	46.5	12
Cuttack	47.0	-42	21.0	-52	91.8	98
Deogarh	147.9	90	20.4	-38	19.6	-52
Dhenkanal	20.7	-68	9.9	-77	36.6	-19
Gajapati	67.8	24	60.2	-17	91.2	98
Ganjam	38.5	-33	34.1	-35	103.5	135
Jagatsingpur	16.0	-79	24.8	-42	118.6	134
Jajpur	56.2	-8	21.8	-64	109.8	99
Jharsuguda	76.2	0	31.1	-20	53.7	42
Kalahandi	104.2	24	43.0	2	37.1	18
Kandhamal	98.2	29	31.6	-34	34.7	-17
Kendrapara	11.5	-84	3.5	-94	130.0	127
Keonjhar	49.9	-14	7.4	-85	43.5	-8
Khurda	50.5	-35	17.6	-69	78.2	55
Koraput	56.9	-25	60.7	0	48.2	9
Malkangiri	115.4	74	35.7	-16	8.0	-77
Mayurbhanj	51.7	-32	14.1	-72	65.0	4
Nawapara	75.6	27	50.5	58	93.0	169
Nawarangpur	88.2	26	50.8	2	41.0	23
Nayagarh	28.8	-53	42.8	-20	80.5	43
Puri	45.1	-41	9.3	-81	98.3	75
Rayagada	31.1	-43	29.3	-41	29.5	-21
Sambalpur	43.9	-43	16.3	-50	14.6	-64
Sonepur	32.5	-64	10.1	-70	33.3	-23
Sundargarh	73.4	4	22.4	-39	52.2	53
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	47.7	-33	233.1	160	104.8	11
North & Middle Andaman	68.5	-35	124.2	13	66.6	-32
South Andaman	197.8	102	184.7	65	87.0	-24
GWB						
Bankura	49.3	-23	13.7	-67	51.1	-15
Birbhum	20.5	-68	29.5	-46	52.9	-34
Burdwan	12.5	-83	62.5	27	52.3	-18
East Midnapore	37.9	-62	23.6	-55	70.4	-23
Hooghly	13.6	-76	23.6	-49	54.9	-1
Howrah	58.4	-24	24.3	-51	29.3	-65
Kolkata	12.5	-84	40.6	-14	6.5	-92

Murshidabad	16.7	-73	39.5	-20	63.1	-15
Nadia	12.6	-73	32.9	-21	59.0	-1
24 Pargana (N)	23.4	-69	10.0	-82	29.4	-57
Purulia	51.9	-30	14.1	-66	73.5	24
24 Pargana (S)	35.4	-62	32.0	-36	44.4	-55
West Midnapore	41.5	-43	2.5	-94	22.5	-64
SHWB & Sikkim						
Cooch Behar	47.0	-60	46.9	-59	216.7	114
Darjeeling	144.3	4	143.4	34	96.2	-8
East Sikkim	65.6	-29	129.2	83	66.1	-6
Jalpaiguri	112.2	-10	180.0	45	181.0	80
Malda	54.8	-30	44.2	-10	119.7	42
North Dinajpur	57.3	-43	83.8	7	125.2	-5
North Sikkim	80.2	-21	182.3	119	226.6	225
South Dinajpur	27.1	-62	112.2	76	63.2	-3
South Sikkim	54.3	-41	109.3	55	55.6	-21
West Sikkim	**	**	**	**	**	**
Karnataka						
Coastal Karnataka						
Dakshina Kannada	24.4	-65	52.9	-10	84.0	22
Udupi	30.9	-67	65.0	-10	105.1	12
Uttara Kannada	16.7	-70	45.3	-17	86.4	56
N I Karnataka						
Bagalkote	12.8	-41	37.1	-11	42.5	-2
Belagavi	12.2	-23	21.3	-34	28.9	-23
Bidar	78.5	109	121.3	209	235.9	415
Dharwad	0.5	-97	14.5	-64	8.3	-76
Gadag	21.2	-7	19.6	-53	24.1	-43
Haveri	1.2	-90	16.5	-50	15.7	-52
Kalaburgi	63.1	75	105.3	116	112.5	131
Koppal	4.1	-84	25.3	-49	32.2	-18
Raichur	33.5	26	112.9	167	59.6	54
Vijayapura	9.9	-66	85.1	98	25.6	-48
Yadgir	36.6	7	84.8	78	68.0	39
S I Karnataka						
Ballari	10.7	-50	18.0	-62	19.5	-45
Bangalore Rural	9.2	-70	7.7	-87	12.7	-69
Bangalore Urban	8.3	-75	14.3	-75	6.2	-87
Chamarajanagar	1.4	-93	8.1	-80	9.5	-75
Chikaballapur	2.2	-92	12.0	-76	6.8	-82
Chikkamagaluru	5.1	-81	29.3	-32	40.9	-17
Chitradurga	3.8	-73	14.3	-59	29.0	-16
Davangere	2.3	-86	23.9	-43	43.4	31
Hassan	11.8	-16	3.8	-89	4.6	-88
Kodagu	12.5	-67	37.1	-20	69.9	46
Kolar	7.9	-73	9.9	-80	3.5	-90
Mandya	18.1	-20	1.8	-95	20.6	-50
Mysuru	5.3	-68	2.8	-91	7.7	-77
Ramanagara	0.0	-100	7.2	-89	9.4	-82

Shivamogga	21.4	-6	56.0	81	101.9	189
Tumakuru	11.4	-55	11.0	-77	6.8	-85
Kerala						
Alappuzha	8.6	-86	9.9	-84	12.1	-85
Kannur	8.5	-80	69.2	74	39.2	-25
Ernakulam	9.7	-85	27.6	-59	13.4	-84
Idukki	3.2	-95	28.5	-55	36.0	-60
Kasaragod	12.8	-77	36.1	-29	47.2	-24
Kollam	8.5	-79	19.8	-61	4.3	-94
Kottayam	8.8	-84	20.7	-64	5.7	-93
Kozhikode	5.1	-89	49.4	-3	30.3	-57
Malappuram	0.6	-98	35.7	-22	22.6	-62
Palakkad	2.8	-91	38.6	11	24.5	-55
Pathanamthitta	7.4	-87	21.7	-63	5.3	-94
Thiruvananthapuram	0.4	-99	3.8	-89	5.4	-90
Thrissur	0.5	-99	24.0	-59	21.5	-74
Wyand	14.1	-64	14.1	-72	33.2	-30
Tamil Nadu						
Ariyalur	12.3	-65	0.0	-100	0.0	-100
Chennai	42.2	80	83.3	199	0.1	-99
Coimbatore	0.4	-96	17.8	-15	3.8	-83
Cuddalore	7.9	-73	4.1	-89	3.0	-91
Dharmapuri	2.2	-94	1.5	-97	0.5	-99
Dindigul	4.0	-86	0.5	-98	0.4	-99
Erode	3.2	-85	0.9	-97	1.2	-96
Kanchipuram	35.5	12	43.5	18	19.7	-46
Kanyakumari	0.0	-100	0.4	-98	2.3	-93
Karikal	0.0	-100	0.0	-100	0.0	-100
Karur	0.0	-100	0.1	-99	0.0	-100
Krishnagiri	1.7	-94	1.3	-98	0.3	-99
Madurai	0.0	-99	9.1	-72	1.6	-95
Nagapattinam	1.6	-93	4.8	-81	0.2	-99
Namakkal	5.6	-83	0.8	-98	1.9	-94
Nilgiris	5.2	-80	8.6	-78	9.4	-77
Perambalur	6.0	-78	0.0	-100	0.5	-98
Puducherry	21.9	-30	17.5	-42	53.8	120
Pudukottai	5.5	-79	11.6	-63	0.7	-98
Ramanathapuram	3.4	-72	0.1	-99	1.2	-94
Salem	5.6	-84	0.4	-99	0.1	-99
Sivaganga	7.7	-71	7.0	-68	19.2	-29
Thanjavur	15.5	-41	2.8	-91	1.5	-95
Theni	0.1	-99	0.7	-96	0.4	-99
Tirunelveli	0.0	-100	0.0	-100	0.0	-100
Tirupur	0.0	-100	12.3	-39	0.7	-97
Tiruvallur	17.4	-37	76.6	151	0.7	-98
Tiruvannamalai	39.3	-1	4.0	-92	15.4	-58
Tiruvarur	7.4	-71	1.6	-94	2.1	-92
Toothukudi	0.0	-100	0.1	-99	0.0	-100

Trichy	2.2	-93	0.8	-98	0.3	-99
Vellore	10.9	-66	17.9	-63	2.7	-93
Villupuram	6.4	-82	8.6	-81	22.9	-32
Virudhunagar	10.1	-45	0.0	-100	2.0	-92
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	49.3	47	35.0	-14	99.9	104
Guntur	98.7	225	48.7	54	123.3	175
Krishna	24.0	-28	66.7	83	89.2	83
Nellore	10.2	-47	20.8	-28	7.6	-77
Prakasam	91.2	360	18.6	-36	27.3	-34
Sirkakulam	38.1	-23	48.1	-13	125.2	176
Visakhapatnam	49.4	22	64.7	37	124.6	184
Vizianagram	64.5	30	79.5	41	137.1	193
West Godavari	31.4	-17	74.9	94	124.8	155
Rayalaseema						
Anantapur	8.3	-64	11.0	-75	15.6	-54
Chittoor	6.2	-77	12.7	-68	2.7	-92
Cuddapah	18.7	-15	50.8	33	21.6	-34
Kurnool	33.1	32	64.8	74	51.6	27
Telangana						
Adilabad	55.0	65	48.9	27	147.6	309
Hyderabad	83.3	136	142.0	239	112.5	146
Karimnagar	82.3	167	61.4	59	186.2	377
Khammam	47.7	25	37.9	6	125.6	203
Mehabubnagar	58.7	82	68.4	94	87.4	98
Medak	100.7	171	95.9	105	265.3	633
Nalgonda	107.7	243	53.9	55	130.0	212
Nizamabad	48.5	26	76.9	109	336.1	804
Rangareddy	67.6	58	92.9	119	136.5	184
Warangal	48.6	49	98.4	169	211.3	540

Legends

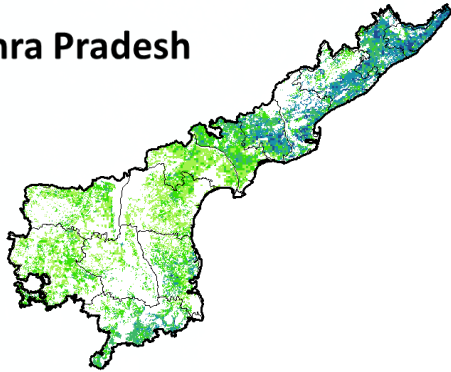
	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

Annexure II

NOAA/AVHRR NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON

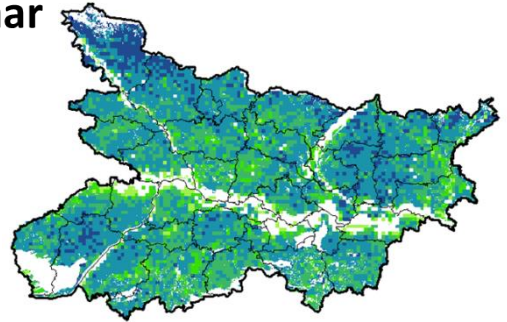
29th September 2016 FOR DIFFERENT STATES

Andhra Pradesh



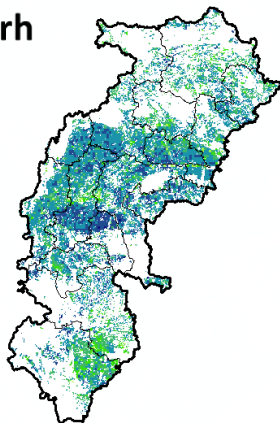
Agriculture vigour is moderate over central and southern part whereas, northern coastal parts show good NDVI in the state of Andhra Pradesh.

Bihar



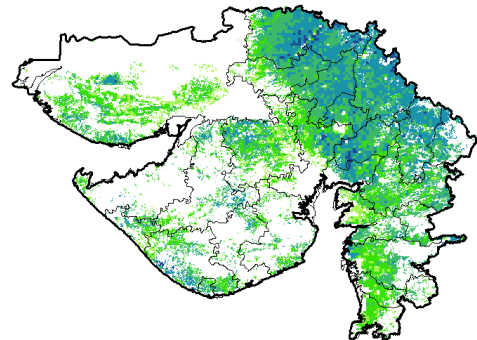
Agriculture vigour is moderate over few patches in southern and central parts of Bihar whereas northern part shows good to very good NDVI values

Chhattisgarh



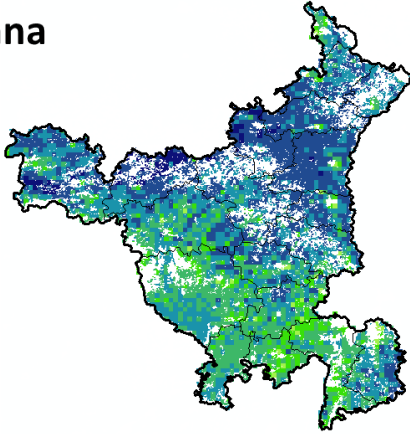
Agriculture vigour is moderate in northern region whereas, good vigour is seen in central and southern region of Chhattisgarh.

Gujarat



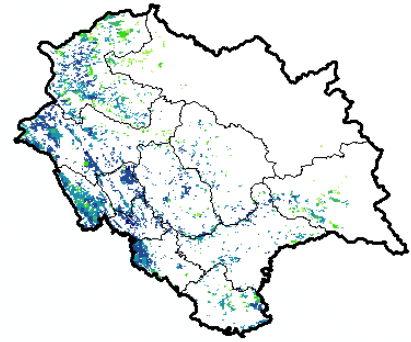
Moderate NDVI values are observed in patches in Saurashtra region whereas, good to very good NDVI is observed in Gujarat.

Haryana



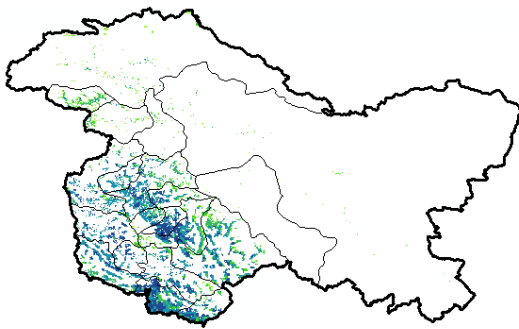
Agriculture vigour is moderate in patches over southern region whereas, good & very good agriculture vigour is observed in rest of the state.

Himachal Pradesh



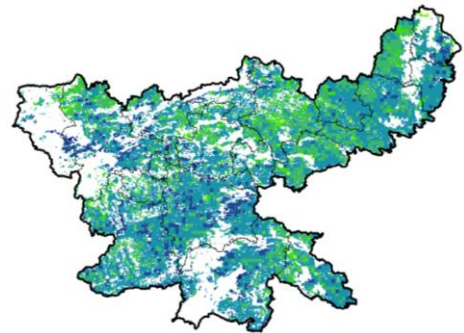
Agriculture vigour is good to very good over southern parts of Himachal Pradesh.

Jammu & Kashmir



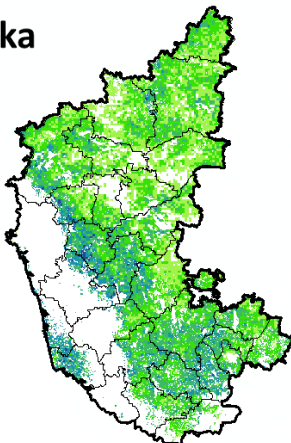
Agriculture vigour is good to very good over south western part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.

Jharkhand



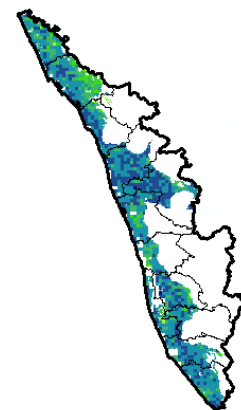
Agriculture vigour is moderate over in few patches in northern region of Jharkhand whereas, remaining states shows good NDVI values.

Karnataka



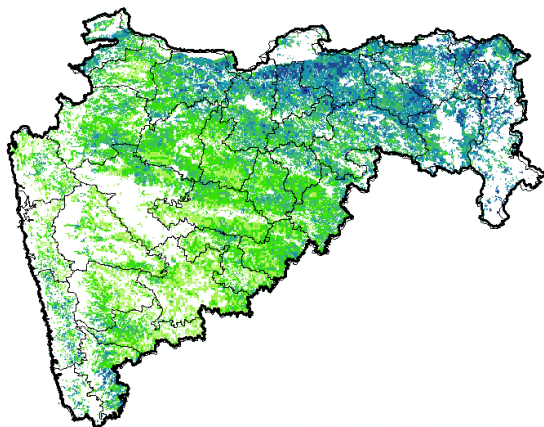
Agriculture vigour is moderate over northern region of the state whereas good vigour is observed in the central and patches in southern regions.

Kerala



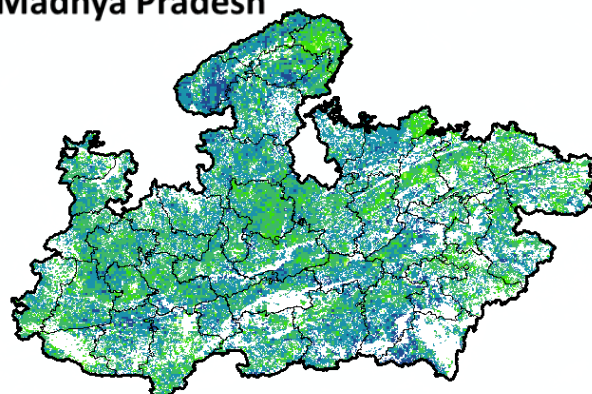
Agriculture vigour is good over entire state of Kerala except northern part which shows moderate NDVI values.

Maharashtra



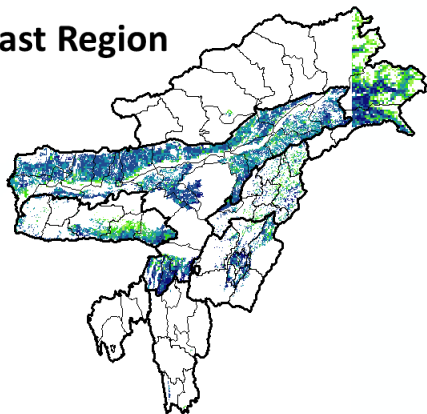
Agricultural vigour is moderate over madhya Maharashtra whereas, good to very good vigour is observed in the eastern regions.

Madhya Pradesh



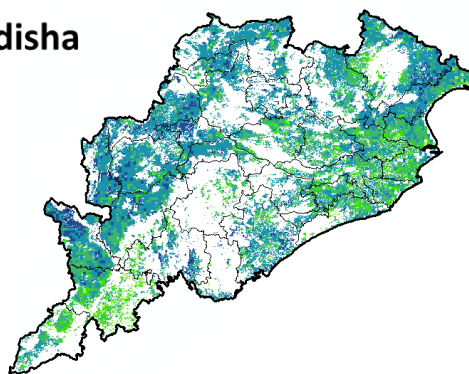
Agriculture vigour is moderate over patches in eastern region of the state of Madhya Pradesh whereas, good & very good vigour is observed over central, western and northern region.

North East Region



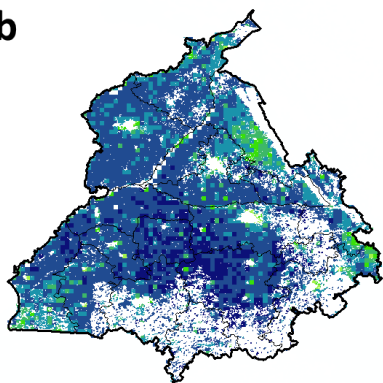
Agriculture vigour is good & very good over north-east states of country.

Odisha



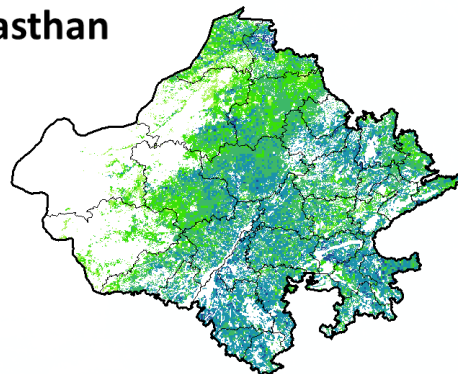
Agricultural vigour is moderate over coastal region of Odisha whereas, good to very good vigour is observed in western region.

Punjab

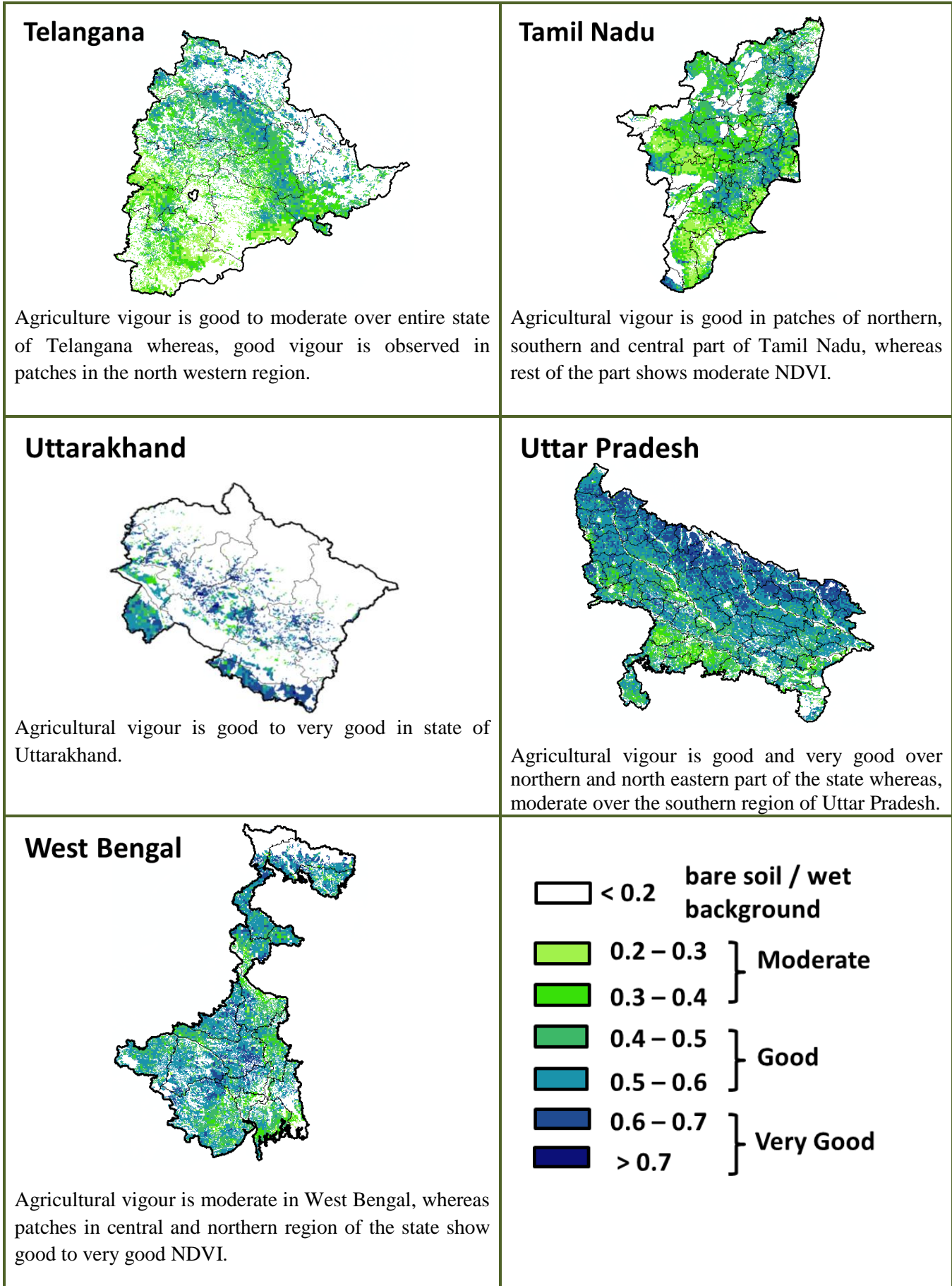


Agricultural vigour is very good over the entire state of Punjab.

Rajasthan



Agriculture vigour is moderate over western Rajasthan whereas, good vigour is observed over central and eastern region.



* For New Delhi NOAA/AVHRR NDVI COMPOSITE Map is not available due to some problem in data set.

Annexure III

Assam

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti..

Cauliflower : Early Kunwari, Pusa Ketki, Pusa Dipali.

Winter brinjal: Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samra.

Pumpkin: Arke Suryamukhi, Arka Chandan.

Radish : Pusa Desi, Pusa Chetki.

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

Brinjal : Cluster, Barbengena, JC-1, Kuchia, Pusa Kranti, Pusa Purple Long (for long varieties).
Pusa Purple Round, Pusa Vairab, JC-2, BWR-12 (round varieties).

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

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

Cauliflower : Early Kunwari, Pusa Katki and Pusa Deepali (for early maturity).

Improved Japanese, Pusa Synthetic, Pusa Snowhall (for mid maturity).

Snowball-16, Pusa Snowball, K-1 and Hissar 1 (for late maturity)etc.

Cabbage : Golden Acre, Pride of India, Pusa Mukta (Sel – 8) (for early maturity).

Drum Head and Eclipse Drum Head (for late maturity).

Knol-Khol : White Vienna (for early maturity).

Purple Viena (for late maturity).

Manipur

Pea : Arkel.

Tripura

Tomato: Trishul, Allrounder, T- 1408, T- 1458, Anup.

Cauliflower: CFL- 4048, Pusa early synthetic, Kamaya, Suhasihi.

Cabbage: BC- 76, Pusa Drum Head, Pusa Synthetic.

Broccoli: Everest, Ayeshwaria.

West Bengal

Mango : Himsagar, Mallicka, Langra

Guava : Safeda, L-49

Coconut : Eastcoastal, Hazari

Banana : Mortoman, Chapa, Kathali, Singapuri.

Mustard : Varuna, Sita and Bhagirathi.

Cabbage : Pride of India, Pusa early, Kranti. Cauliflower:- Jawhar moti, Bharat Jyoti, Early banaras.

Bihar

Pigeon pea:- Bahar, Pusa-9, Narendra Arher-1, Rajendra Arher-1 and Maalvia-13.

Jammu and Kashmir

Toria: RSPT-1 and RSPT-2.

Uttarakhand

Pea: Vivek 10, Vivek 11, Pant 3.

Radish: Meenu early, Japanese white, Pusa Himani.

Carrot: Pusa Vrishi.

Himachal Pradesh

Cauliflower: snowball and Giant snowball.

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

Turnip: PTWG-1.

Carrot: Pusakesar

Peas : Mater ageta-6 (early variety).

Cabbage: Pride of India, golden achor and hybrid.

East Uttar Pradesh

Arahar: Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, parasmanak, UPAS 120.

Moong: Type-27, 56

Toria:TA-9, Bhawani, PT-30, PT-507, TA-36, PT-303.
Potato:Kufarichandramukhi, Kufarisadabahar, or KufriAshoka.

West Uttar Pradesh

Barseem: V.L.1,V.L.10, maskavi, jai,K-8027, K-9565, Mandakini.
Baby corn: M.H.-4.

Punjab

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89,CO118, COJ85, COJ64.
Radish: Punjab Pasand and Japanese white.
Turnip: L-1.
Carrot: Punjab Black Beauty, Punjab Carrot Red and PC-34.
Tomato:TH-1,PunjabRatta, Punjab NR 7, Punjab Chhuhara, Punjab Upma, Castle Rock.
Okra: Punjab-8 and Punjab-7
Cauliflower: Pusa Snow Ball-1,Pusa Snow Ball K-1.

Delhi

Oat : J.H.O-822, O.L.-9, Pusa oat-5.
Barseem:Vardan, Buland Barseem-1, Masakavi, J.B-3.
Radish:Japani White, Hill queen, French Radish;
Spinach: PusaBharti.
Amaranths: PusalalChaulai, PusaKiran.
Ladyfinger: Pusa A-4.
Radish:Japani White, Hill queen, French Radish.
Spinach:All Green, PusaBharti.
Fenugreek:PusaKasuri.
Coriander:PantHaritama, Hybrids.
Turnip:Pusa Swati, Local Red variety.
Pumpkin- PusaVisvash, PusaVikash.
Ridge Gourd- PusaChikni.
Cucumber- PusaUday, PusaBarkha.

Marathwada:

Rabi jowar : Maldandi (M-35 – 1), SPV-655, SPV-839, Phule Yashoda, Parbhani Moti, Swati.

East Rajasthan:

Pea(early): Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 improved varieties.
Cauliflower: Pusa snow ball K-1, Hisar-1, Dania and Selection-7 are improved varieties.
Carrot: Pusa Keshar (improved variety).

West Rajasthan

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

Karnataka

Ragi: Indaf-5, Indaf-9, and GPU-28.MR-01,MR-06 & ML-365.

Andhra Pradesh

Sorghum:CSH-9,CSH-13,CSH-14,PSV-15,PSV-19
Bajra:ICTP 8203,PBH 3
Korra:Prasad, Krishnadevaraya, Narashimharaya, Srilakshmi, Surya nandi
Cowpea: C 152 GC3 C0-4 CO-5
Sunflower:NDSH1 KBSH1 KBSH 44 DRSH 1
Green gram:LGG 407 LGG 450 LGG 460 MGG 295 ML 267
Field bean:TFB-1 TFB-5

Tamil Nadu

Samba rice:CR 1009 and ADT 50.

Telangana

Cotton:American Cotton varieties,Desi Cotton varieties (G. arboreum. L and G. herbaceum. L, Intra/Inter – specific Cotton hybrids,Bt. cotton.