



National Agromet Advisory Service Bulletin



Friday 23rd September 2016

(For the period 23rd to 27th September 2016)



Issued by

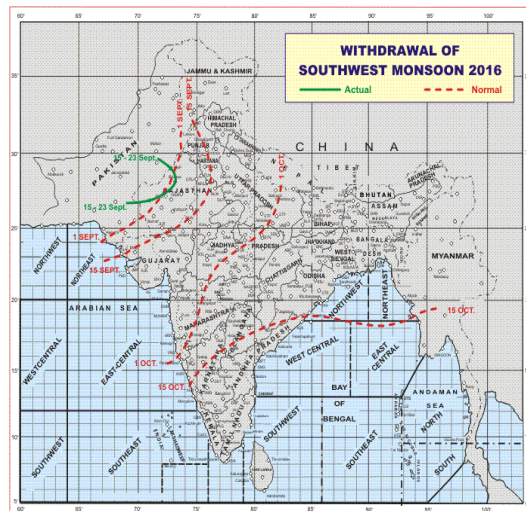
*National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.*

Weblink For

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

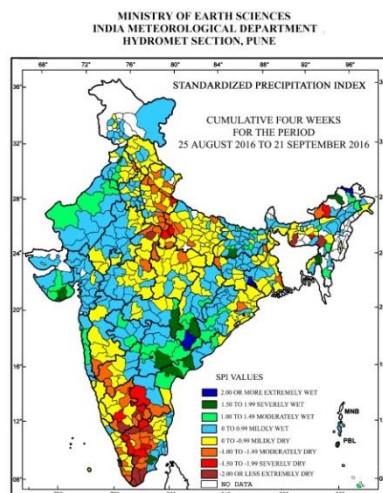
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Monsoon Watch



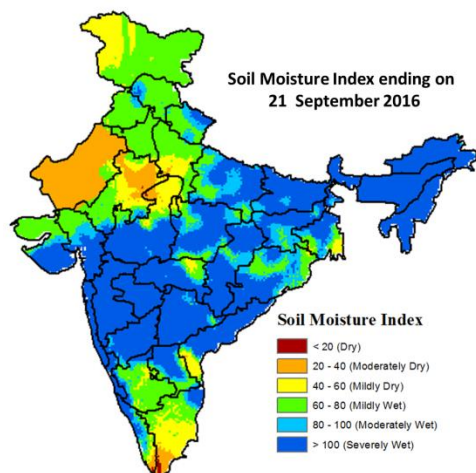
- The withdrawal line of southwest monsoon continues to pass through Anupgarh, Bikaner and Jaisalmer.
- Based on the 24 hours rainfall data ending at 0830 hours IST of 22 September 2016; southwest monsoon is vigorous over Konkan & Goa and Coastal Andhra Pradesh; active over Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Himachal Pradesh, Madhya Maharashtra, Marathwada, Telangana and Rayalaseema.

Standardised Precipitation Index Four Weekly for the Period 25th August to 21st September 2016



- Extremely/severely wet conditions experienced in many districts of Tripura; few districts of Arunachal Pradesh; Saurashtra & Kutch; South Andaman district of Andaman & Nicobar Islands; East Singbhum district of Jharkhand; Gaya district of Bihar; Kapurthala district of Punjab; Gadchiroli district of Maharashtra; Bastar, Dantewada districts of Chhattisgarh; West Godavari, Guntur districts of Andhra Pradesh; Nalgonda district of Telangana; Sivaganga district of Tamil Nadu & Puducherry.
- Extremely/Severely dry conditions experienced in most districts of Meghalaya; few districts of Tamil Nadu & Puducherry; East Kameng district of Arunachal Pradesh; Kanpur Dehat, Jalaun, Pilibhit districts of Uttar Pradesh; Gwalior district of Madhya Pradesh; Anantpur district of Andhra Pradesh; Bangalore Rural, Chamaraanagar, Hassan, Mysore, Chickballapur districts of Karnataka.
- Moderately dry conditions experienced in few districts of Uttarakhand; Karnataka; West Kameng district of Arunachal Pradesh; North 24 Pargana district of West Bengal; Dhenkanal, district of Odisha; Garhwa, Sahibganj districts of Jharkhand; Farrukhabad, Kannauj, Kanpur City, Kaushambi, Maharajganj, Unnao, Auraiya, Bijnor, Badaun, Etah, Etawah, Lalitpur, Mainpuri, Rampur, Saharanpur, Mahoba districts of Uttar Pradesh; Panchkula district of Haryana; Sas Nagar Mohali district of Punjab; Bhind, Morena, Vidisha, Satna, Sidhi districts of Madhya Pradesh; Kolhapur district of Maharashtra; Chittoor district of Andhra Pradesh; Erode, Madurai, Namakkal, Salem, Trichy, Virudhunagar districts of Tamil Nadu & Puducherry; Alappuzha, Kottayam, Kollam, Thrissur, Trivandrum districts of Kerala.
- Rest of the country experienced moderately wet mildly dry/mildly wet conditions.

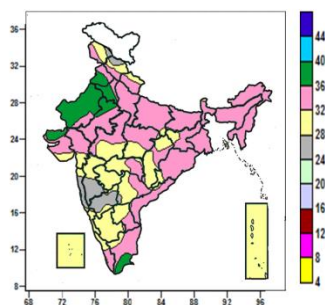
Soil Moisture Index for the week ending on 21st September 2016



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

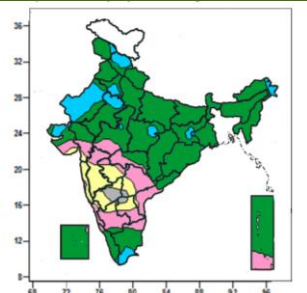
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 21.09.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 21.09.2016



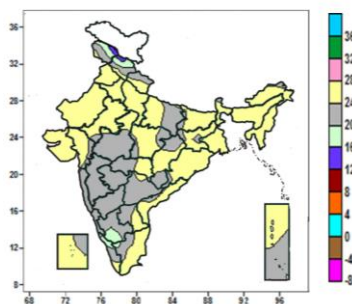
- Mean maximum temperature was between 36 to 40°C over many parts of Punjab, Haryana & Delhi, West Rajasthan, Kutch, some parts of East Rajasthan, Tamil Nadu and isolated pockets of Gujarat Region.
- Mean maximum temperature was between 32 to 36°C over rest of the Country except Konkan & Goa, Madhya Maharashtra, Marathwada, Coastal Karnataka, North Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, many parts of Jammu & Kashmir, Himachal Pradesh, Chhattisgarh, Vidarbha, Telangana, Rayalaseema, South Interior Karnataka, some parts of Uttarakhand, Jharkhand, Gujarat, Madhya Pradesh, Kerala and isolated pockets of East Uttar Pradesh, Bihar, Odisha and Coastal Andhra Pradesh, Tamil Nadu, where it was between 24 to 32°C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 21.09.2016



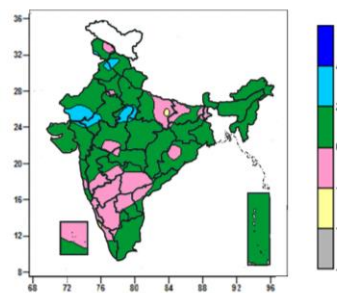
- Mean maximum temperature was above normal by 2 to 4°C over many parts of Himachal Pradesh, West Rajasthan, Kutch, some parts of Jammu & Kashmir, Arunachal Pradesh, Haryana & Delhi, East Rajasthan, Tamil Nadu and isolated pockets of Madhya Pradesh, Jharkhand, Gangetic West Bengal and Kerala.
- It was normal to near normal over rest of the country except North Interior Karnataka, many parts of Madhya Maharashtra, Konkan & Goa, Marathwada, some parts of South Interior Karnataka, Telangana, Rayalaseema and isolated pockets of Gujarat, Coastal Andhra Pradesh and Coastal Karnataka, where it was below normal by 2 to 6°C.

Actual Mean Minimum Temperature (°C) in India for the week ending 21.09.2016



- Mean minimum temperature was between 12 to 16°C over some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, South Interior Karnataka, Kerala and isolated pockets of Tamil Nadu.
- Mean minimum temperature was between 20 to 28°C over rest of the country.

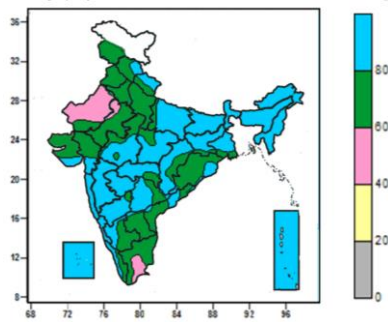
Mean Minimum Temperature (°C) Anomaly in India for the week ending 21.09.2016



- Mean minimum temperature was above normal by 2 to 4°C over some parts of Himachal Pradesh, Rajasthan, West Madhya Pradesh and isolated pockets of Jammu & Kashmir, Punjab, West Uttar Pradesh, East Madhya Pradesh and Gujarat.
- Mean minimum temperature was normal to near normal over rest of the country except isolated pocket of East Uttar Pradesh, where it was below normal by 2 to 4°C.

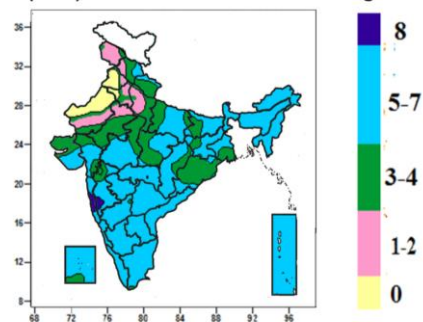
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 21.09.2016

Relative Humidity (%) over India for the week ending 21.09.2016



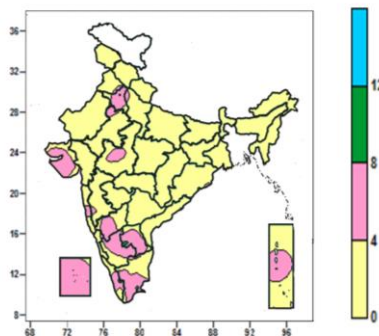
- Mean Relative Humidity was above 80% over North East India, Sub-Himalayan West Bengal & Sikkim, Bihar, Konkan & Goa, Madhya Maharashtra, Marathwada, Coastal Karnataka, Lakshadweep, Andaman & Nicobar Islands, many parts of Uttarakhand, East Uttar Pradesh, Jharkhand, Gangetic West Bengal, Madhya Pradesh, Vidarbha, Chhattisgarh, Telangana, North Interior Karnataka, some parts of Himachal Pradesh, Gujarat, Odisha, Coastal Andhra Pradesh, Kerala and isolated pockets of Rayalaseema.
- Mean Relative Humidity was between 60 to 80% over rest of the country except many parts of West Rajasthan, some parts of East Rajasthan and Tamil Nadu, where it was between 40 to 60%.

Cloud amount (okta) over India for the week ending 21.09.2016



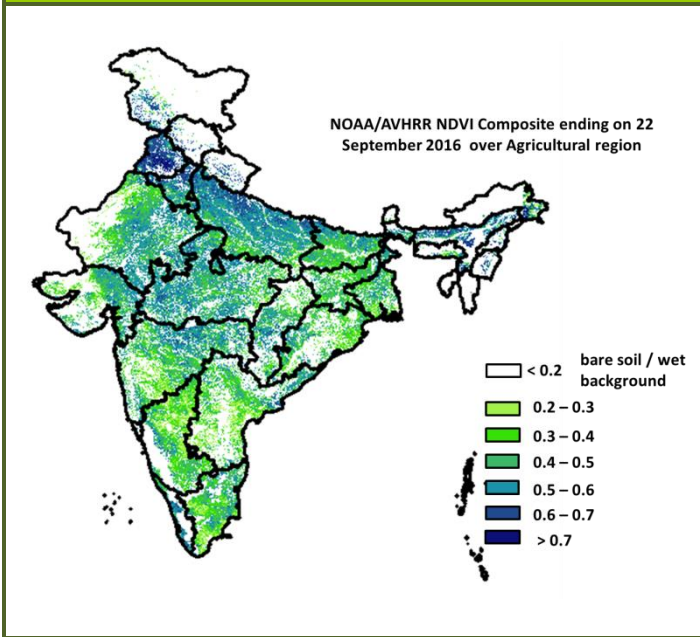
- Sky remained overcast (8 okta) over some parts of Konkan and Madhya Maharashtra.
- Sky remained generally cloudy (5-7okta) over rest of the country except Jammu & Kashmir, West Uttar Pradesh, many parts of Himachal Pradesh, Uttarakhand, East Rajasthan, Odisha, some parts of East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Madhya Pradesh, West Rajasthan, Gujarat, Chhattisgarh, Madhya Maharashtra, Lakshadweep and isolated pockets of Vidarbha, North Interior Karnataka and Tamil Nadu, where it was partly cloudy/mainly clear sky (3-4/1-2 okta) and many parts of Punjab, some parts of Haryana and West Rajasthan, where it was clear sky(0 okta).

Wind speed (knots) over India for the week ending 21.09.2016



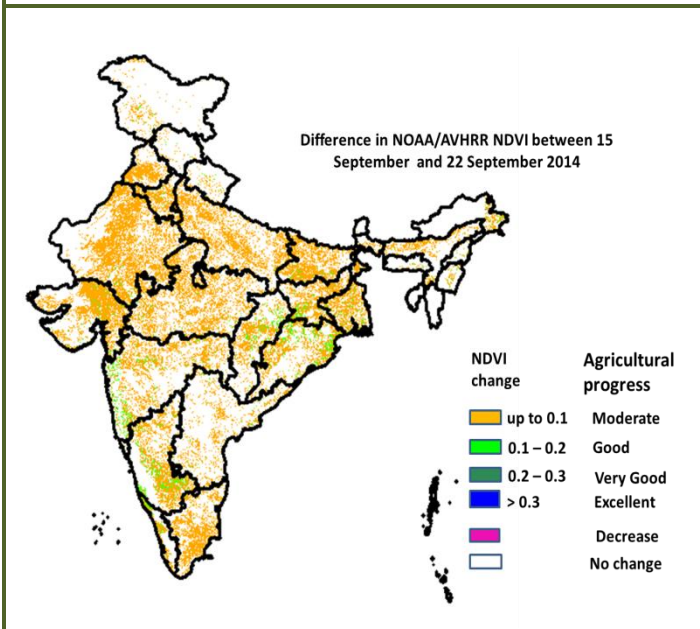
- Mean wind speed was between 0 to 4 knots over the country except many parts of Haryana & Delhi, Saurashtra & Kutch, Rayalaseema, South Interior Karnataka, Lakshadweep, some parts of North Interior Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar Islands and isolated pockets of Punjab, East Rajasthan, West Madhya Pradesh, Konkan, West Uttar Pradesh, Madhya Maharashtra and Coastal Karnataka, where it was between 4 to 8 knots and isolated pocket of Rayalaseema, where it was between 8 to 12 knots .

NOAA/AVHRR NDVI COMPOSITE ENDING ON 22nd September 2016 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is very good in Punjab, northern parts of Haryana, patches in Uttar Pradesh, patches in east Madhya Pradesh, Marathwada 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, Vidarbha region where NDVI varies from 0.5 to 0.7. NDVI is moderate in parts of Bihar, west Rajasthan, Telangana, Andhra Pradesh, Karnataka, Tamil Nadu, Odisha, West Bengal and Jharkhand (NDVI 0.3 to 0.5).

DIFFERENCE IN NOAA/AVHRR NDVI BETWEEN 15th and 22nd SEPTEMBER 2016



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

- NOAA/AVHRR NDVI composite maps for the week ending on 22nd September 2016 for different States are given in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 28th September 2016

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

5 Day Rainfall Forecast (MID DAY) 23rd September 2016

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

% Station Reporting Rainfall

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

Weather Warning during next 5 days

- 23 September (Day 1):** Heavy to very heavy rain at a few places with extremely heavy fall at isolated places very likely over Telangana; heavy to very heavy at isolated places with extremely heavy fall over Konkan & Goa; heavy to very heavy at a few places over North Interior Karnataka and at isolated places over Madhya Maharashtra and Marathwada and Coastal Karnataka; heavy at isolated places over Vidarbha, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Coastal Andhra Pradesh and Andaman & Nicobar Islands.
- 24 September (Day 2):** Heavy to very heavy rain with extremely heavy fall at isolated places very likely over Konkan & Goa; heavy to very heavy at isolated places over Madhya Maharashtra, Marathwada and Telangana; heavy over Vidarbha, Sub-Himalayan West Bengal & Sikkim, Coastal Karnataka, North Interior Karnataka and Andaman & Nicobar Islands.
- 25 September (Day 3):** Heavy rain at isolated places very likely over Konkan & Goa, Madhya Maharashtra, Marathwada, Telangana and Coastal Andhra Pradesh.
- 26 September (Day 4):** Heavy rain at isolated places very likely over south Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Marathwada, Telangana and Coastal Andhra

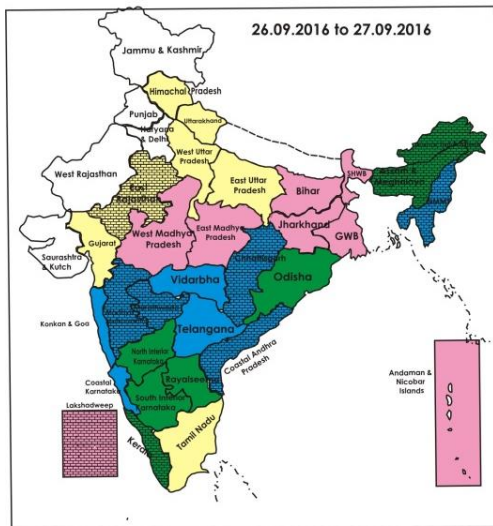
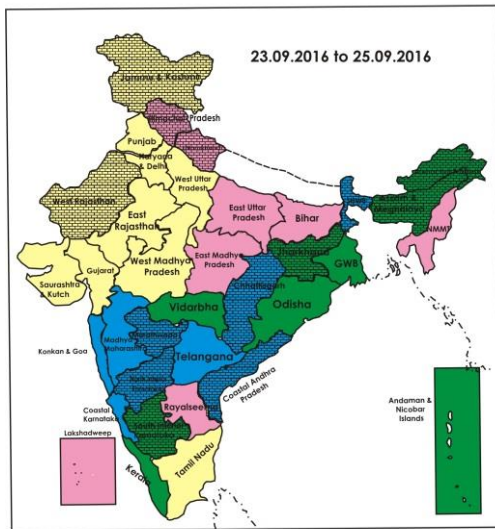
Pradesh.

- **27 September (Day 5):** Heavy to very heavy rain at isolated places very likely over Konkan & Goa; heavy at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada and Telangana.

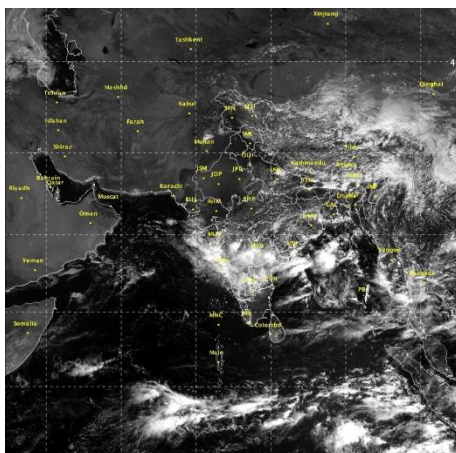
Weather Outlook for subsequent 2 days from 28th to 30th September 2016

- Rain at many places very likely along west coast, over central and northeast India.
- Rain at a few places very likely over east India and south peninsula.
- Conditions becoming favourable for further withdrawal of monsoon from some more parts of northwest India.

Weather Forecast Map (valid upto 0830 hours 28th September, 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



Salient Advisories

- As rain/thundershowers likely at **most places** over Telangana, **most/many** places over Coastal Karnataka, North Interior Karnataka, Coastal Andhra Pradesh, Maharashtra, Chhattisgarh and Odisha during the period, at **many places** over South Interior Karnataka on 23rd, 26th & 27th, over Kerala from 23rd to 26th, over Rayalaseema on 26th & 27th, over West Bengal & Sikkim from 23rd to 25th, over Jharkhand on 23rd & 24th, over Andaman & Nicobar Islands from 23rd to 25th, over Arunachal Pradesh and Assam & Meghalaya on 23rd & 27th, over Nagaland, Manipur, Mizoram and Tripura on 26th & 27th Sept., do not apply irrigation, plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places and undertake rain water harvesting for ensuing *rabi* crops.
- As **heavy to very heavy rain** at a few places with **extremely heavy fall** at isolated places very likely over **Telangana** on 23rd and heavy to very heavy/ heavy rain at isolated places from 24th to 27th, heavy to very heavy rain very likely at isolated places with isolated extremely heavy fall over **Konkan & Goa** on 23rd & 24th and heavy rain at isolated places from 25th to 27th, **heavy to very heavy/ heavy rain** very likely at isolated places over Coastal Karnataka and North Interior Karnataka on 23rd & 24th, over Coastal Andhra Pradesh on 23rd, 25th & 26th Sept, over Madhya Maharashtra from 23rd to 25th & 27th and over Marathwada from 23rd to 27th, **heavy rain** at isolated places over Vidarbha on 23rd & 24th, over Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura on 26th & 27th Sept., drain out excess water from cotton, castor and pulse fields in Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts and provide adequate drainage in standing crop fields to avoid water stagnation. Drain our excess water from cotton, soybean, groundnut, red gram and vegetable fields, orchards of papaya and pomegranate and maintain adequate drainage to avoid water stagnation in Madhya Maharashtra. In Madhya Maharashtra (Western Ghat Region), maintain 7-8 cm water level in rice fields.
- In view of the heavy rainfall during last week, drain our excess water from rice fields and maintain water level of 8-10 cm in rice fields (flowering/grain filling stage) in Konkan. Drain out excess water from groundnut and in cotton in Amreli and Rajkot districts of North Saurashtra Zone, in Bhavnagar district of Bhal and Coastal Zone and Gir Somnath district and from pulses, rice fields in Navsari, Valsad and Dangs districts of South Gujarat Heavy Rainfall Zone.
- In view of the prevailing/expected mainly dry weather conditions in the following Sub divisions, farmers are advised to:
 - 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. Undertake hoeing and weeding operation in rainfed crops to create dust mulch for checking evaporation losses and also for control of weeds. In Hanumangarh and Sriganganagar

districts, apply irrigation in paddy, mung, groundnut, cotton and guar as per requirement. Undertake harvesting of matured bajra.

- farmers are advised to maintain 5-7 cm water level in paddy crop and give irrigation to maize crop as per requirement in Rajouri, Ramban, Poonch and Udhampur districts of **Jammu & Kashmir**.
- apply irrigation to maintain optimum water level in paddy at panicle emergence/formation of earhead and this stage is very susceptible to water stress affecting the size, number of grains and weight of seeds of earhead in Udhm Singh Nagar district of **Uttarakhand**. Also apply irrigation in jowar and bajra at flowering/grain formation stage.
- maintain 5-7 cm water level in rice at flowering stage and stop irrigation two weeks before harvesting in Gurudasapur, 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:** Rainfall occurred in East Godavari, Guntur, Krishna, Srikakulam, Vishakhapatnam, Vizianagaram and West Godavari districts of Coastal Andhra Pradesh, Kurnool and Cuddapah districts of Rayalaseema, all districts of Telangana, Kannur, Kasargod, Kozhikode, Malappuram and Pllakkad districts of Kerala, Chennai, Kancheepuram and Tiruvallur districts of Tamil Nadu, all district of Coastal Karnataka, Bagalkote, Bidar, Kalaburgi, Raichur, Vijayapura and Yadgir districts of North Interior Karnataka, Kodagu and Shivamogga districts of South Interior Karnataka. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Telangana, most/many places over Coastal Karnataka, North Interior Karnataka and Coastal Andhra Pradesh during the period, at many places over South Interior Karnataka on 23rd, 26th & 27th, over Kerala from 23rd to 26th and over Rayalaseema on 26th & 27th Sept., 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 to very heavy rain at a few places with extremely heavy fall at isolated places very likely over Telangana on 23rd and heavy to very heavy/heavy rain at isolated places from 24th to 27th, heavy to very heavy heavy rain very likely at isolated places over Coastal Karnataka and North Interior Karnataka on 23rd & 24th, over Coastal Andhra Pradesh on 23rd, 25th & 26th Sept., provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Kerala:**
 - In Kasaragod, Kannur, Kozhikode and Malappuram districts of Northern Zone, maintain optimum water level in rice fields which are at grain formation stage in hilly regions. In plain areas, rice is at maturity stage, drain out water from the fields 10 days before harvesting.
 - In Southern Zone, continue harvesting of matured Viruppu rice and Nendran bananas in clear weather in Thiruvananthapuram and Kollam districts.
 - In Kottayam district of Problem Area Zone, continue sowing of *puncha* rice.
 - In Idukki and Wynad districts of High Altitude Zone, continue planting of cardamom and coffee seedlings.
 - In Thiruvananthapuram district, undertake spraying of Copper oxy chloride @ 4g per litre of water on new sprouts of newly planted Rubber plants.
 - In Kottayam, Kasaragod, Kannur, Kozhikode and Malappuram districts, adopt complete field sanitation in pepper gardens. Spray pseudomonas 10-15 g/litre of water. Plant cuttings in polythene bags. Incorporate VAM culture in potting mixture to provide disease resistance. Ensure proper drainage facility. The branches of support trees may be lopped off to allow penetration of sunlight and avoid build up of humidity. Provide enough sunlight on the vines by pruning shade trees. Apply fertilizers @ 75 g Urea, 160 g rock Phosphate, 170 g Potash per wine.

- 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.
- **Karnataka:**
 - Drain out excess water in standing crops like pigeon pea, soybean crop fields in Bidar district of North East Transition Zone, in maize, sunflower, red gram, cotton, sugarcane and chilli crop fields in Raichur and Kalaburgi districts and provide adequate drainage. drain out excess water from the ginger field and drench with 0.3% Copper-oxy-Chloride for effective control of stem rot. 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. Complete harvesting of black gram in clear weather and keep the harvested produce at safe places.
 - Undertake sowing of *rabi* sorghum (DSV-4, M 35-1 Muguthi, CSV-29R and SPV-2217), safflower (A-1, A-2) and land preparation for sowing of chickpea (Annigeri-1, BG-1105, BGD-103, JG-1, BGS-964) and wheat (DWR-162, DWR-225, DWR-185, DWR-2006, DDK-1001, DWR-137) in Dharwad, Belagavi and Haveri districts of North Transition Zone.
 - In Eastern Dry Zone, use short duration varieties of ragi like GPU 45, 48 and Indaf 9 for sowing after receipt of rain in Bengaluru, Rural, Bengaluru Urban, Ramnagara, Chikaballapura and Kolar districts. Undertake intercultural operation in maize and red gram. Undertake residue mulch by using the residues of weeds, gliricidia and other green manure crops.
 - Continue sowing of sunflower, *rabi* sorghum, safflower, chickpea, desi cotton and horse gram with realised rainfall in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. Select short duration, charcoal and stem rot resistant varieties of *rabi* sorghum (MaldandiMuguti, DSV-4, DSV-5, BJV-44 variety or Hybrid-DSH- 4), chickpea (A-1, GBS-964, JG-11, JG-11, BGD-103, GB-1105), safflower (A-1, A-2, S-144). To overcome the failure of crops due to deficient rainfall situation, sowing of sunflower with spacing of 135 cm, safflower and *rabi* sorghum at 60 cm row spacing, intercropping of *rabi* sorghum + chickpea (2: 1 row proportion), chickpea + safflower (4:2 row proportion) is recommended.
 - Continue ploughing the land across the slope which is spared for sowing of *rabi* crops to facilitate better conservation of soil and soil moisture in Chamrajnagar, Kodagu, Mandya and Mysuru districts of Southern Dry Zone. Continue sowing of short duration crop minor millets; sow the crop across the slope to facilitate better conservation of moisture in the soil. Give preference to fodder crops. Take up repair of bunds and water retention structures.
 - In Southern Transition Zone and Coastal Zone, maintain optimum water level in rice.
 - Due to rainfall received in last week, flower drop is noticed in red gram, cotton in Raichur, Kalaburgi districts of North East Dry Zone; for control, take up spraying of 19:19:19 5 g and Planofix @ 0.25 ml dissolved in one liter of water. Yellowing of leaves is noticed in maize, sunflower, sugarcane and chilli; to control, spray 19:19:19 dissolved in one liter of water. Continue harvesting of black gram; green gram and bajra in clear weather.
 - To reduce the square/flower bud/flower drop in cotton in Hill Zone spray Planofix @ 0.25 ml/litre of water for control after current spells of rain. Pour 3 litres of Chloropyriphos solution (3 ml per liter of water) to base of arecanut against root grub. after current spells of rain.
 - Due to prevailing weather conditions stem borer is likely to attack the ginger, turmeric and cardamom in Uttara Kannada district of Hill Zone; for control, spray Monocrotophos @ 1.2 ml or Chloropyriphos @ 2 ml per litre of water after current spells of rain.
 - Due to cloudy weather thrips infestation was noticed in rice field in Chamrajnagar, Mandya and Mysuru districts of Southern Dry Zone; to manage, spray Roger @ 1.5 ml/litre of water on non rainy day.
 - Due to high humidity and cloudy weather, there is chance of leaf spot disease in banana in Kodagu district; spray Blitox 3 g/litre of water by mixing soap solution while spraying for control after current spells of rain.
- **Andhra Pradesh:**
 - In Rayalaseema, in Anantapur and Chittoor districts, in fallow lands, undertake sowing of Sorghum, Bajra, Green gram, Cowpea, Horse gram and Field bean in red soils and undertake sowing of Sorghum, Greengram, Sunflower, Korra and Field bean in Black soils in Kurnool district utilizing the realized rainfall.
 - 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, undertake sowing of crops like redgram, castor, green gram, cowpea, sorghum, bajra and horse gram. Present weather conditions are favourable for leaf folder and stem borer attack in rice at tillering stage. To control, spray Chloropyriphos @ 2.5 ml. or cartaphydrochloride @ 2g Orrhynoxypyr @ 0.3 ml/litre of water on non rainy day.
 - In Kadapa district of Southern Zone, prevailing weather conditions are congenial for attack of leaf folder and sucking pests in groundnut (flowering stage). To control leaf folder, spray Monocrotophos @ 1.6 ml or Quinolphos @ 2 ml/litre of water and to control sucking pests, spray Imidachlorprid @ 0.3 ml/litre of water on non rainy day.
- **Telangana:**
 - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), drain out excess water from cotton, castor and pulse fields and provide adequate drainage to avoid water stagnation.

- 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.
- 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 after current spells of rain 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 liter of water after current spells of rain.
- **Tamil Nadu:**
 - In Ariyalur, Perambalur, Thanjavur, Thiruvarur and Trichy districts of Cauvery Delta Zone, undertake 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). Undertake 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. Considering the wind speed, propping may be done in banana, above 5 months old. In irrigated turmeric, spray each 375 gram of Ferrous sulphate, Zinc sulphate, borax and urea after mixing in 250 litres of water per hectare twice at 25 days interval. Undertake harvesting of Kar season rice.
 - In the Southern Zone (Kanniwadi), continue land preparation for sowing of cotton and maize. For taking up sowing in time under rainfed conditions during the ensuing North East monsoon season, make ready the inputs like seeds, chemicals for seed treatment, biofertilizers, organic manures, chemical fertilizers etc. Undertake land preparation for *Samba* Rice.
 - 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 north east monsoon season. Undertake harvesting of Maize and sunflower in prevailing dry weather conditions.
 - 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 irrigation to vegetable crops in view of the prevailing mainly dry weather.
 - 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 Karnataka, keep animals indoors during heavy rainfall period and keep fodder in safe place to avoid spoilage due to rainfall. For milch animals, regularly follow schedule of 1 kg feed + 50 g mineral mixture per 2 litres of milk yield. Feed animals with a mixture of green grass + hay + minerals + dry feed.
 - 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



Jute

- **Realised Rainfall:** Rainfall occurred in Changlang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh, Baksa, Barpeta, Bongaigaon, Cachar, Chirang, Dhubri, Dibrugarh, Goalpara, Hailakandi, Jorhat, Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam, East Khasi Hills, Ri-Bhoi and West Garo Hills districts of Meghalaya, Aizwal, Lunglei, Saiha and Serchhip districts of Mizoram, Imphal

West and Thoubal districts of Manipur, Dimapur, Kephire and Phek 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 most/many places over Arunachal Pradesh and Assam & Meghalaya on 23rd & 27th and over Nagaland, Manipur, Mizoram and Tripura on 26th & 27th Sept., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops.

➤ As heavy rain very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura on 26th & 27th Sept., provide adequate drainage in standing crop fields to avoid water stagnation.

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

➤ 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, farmers are advised to ensure good drainage system in the banana garden and prevent water logging condition.

➤ 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 continue of brinjal, pumpkin and radish and planting of coconut one year old seedling under lowland condition. Undertake sowing of onion.

➤ In North Bank Plain Zone of Assam, avoid excess water from the fields of pulses. One weeding should be done at 20 days after sowing by khurpi or hoe. Undertake sowing of Knol-khol, brinjal and tomatato.

➤ In Meghalaya, maintain proper drainage facilities in the field of groundnut, ginger/turmeric.

➤ In Arunachal Pradesh, continue nursery sowing of winter vegetables and harvesting of *jhum* rice and pulses after 1-2 bright sunny days. Continue sowing of black gram and green gram in rice fallow of *jhum* fields without delay.

➤ In Hill Zone, infestation of rice blast may occur in 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 25 EC @ 2.5-3.0 ml/litre of water after current spells of rain.

➤ In Lower Brahmaputra Valley Zone of Assam, to control rice hispa in *Sali* rice, spray 0.02 % Chloropyrophos 20 EC (1ml/litre of water) or 0.025% Quinalphos 25 EC 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, for controlling blast disease in TRC/WRC rice, destroy the infested residue, stubbles, grass and weeds present in the bunds of the field as they act as a source for the infection. Avoid excess use of nitrogen fertilizer. Continue harvesting of cow pea, black gram, ginger, cucurbits during clear weather. Keep harvested produce at safer places.

➤ In Manipur, continue sowing of onion in the upland areas. Land preparation for sowing of french bean, broad bean and pea may be done. Continue nursery raising for rabi vegetables. Undertake early sowing of garden pea.

➤ In Mizoram, undertake harvesting of *khasi* mandarin/acid lime, passion fruit, banana, sowing of soybean and nursery raising of early cole crop.

➤ In Tripura, continue harvesting of groundnut in clear weather with digger and nursery raising of early winter vegetables such as cabbage, radish, brinjal etc.

➤ 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, spray Tricyclazole @ 15 g/15 litre water against blast on main *kharif* rice 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 powdery mildew in the field of bitter gourd and pointed gourd. Spray Penconazole 10% EC @ 1ml per litre of water or Dinocap 48% EC @ 2ml or Triadimefon 25% WP @ 0.3gm 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 Bramhaputra Valley Zone of Assam, the farmers who have not vaccinated domestic live stocks like cattle, goat and pigs should be vaccinated against BQ, HS, Foot and mouth disease as well as anthrax disease. They should not be fed with water submerged rotten grasses.

➤ In Barak Valley Zone of Assam, due to prevailing weather condition, farmers may feed vitamin E to their cattle which help to reduce the heat stress and improve the milk and health of the cattle. Due to rainfall and high humidity condition lead to Coccidiosis disease in the chicken, therefore avoid dampness of the deep litter. Keep the poultry house well ventilated during day time.

➤ In Tripura, live stock must be vaccinated against various diseases. Vaccinate goat against pox. Restrict the consumption of fresh growing grass during rainy season to avoid Bloat in cattle and goat. Keep the animal sheds clean; apply lime in and around animal shed to maintain sanitation.

❖ **Fishery**

➤ In Nagaland, due to heavy rainfall and muddy water influx from the surrounding areas in the fish ponds may result in reduction of dissolved oxygen. Stir the water with a bamboo pole as it will help in increasing the oxygen and protect the fishes from suffocation.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Groundnut



Rice



Green gram

● **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, Madhya Maharashtra and Marathwada, all districts of Vidarbha except Bhandara, Gondia and Nagpur, in Bharuch, Chhota Udepur, Dahod, Dangs, Kheda, Narmada, Navsari, Surat, Tapi, Vadodara and Valsad districts of Gujarat Region, Amreli, Bhavnagar, Botad, Gir Somnath, Junagadh, Porbandar and Rajkot districts of Suarashtra & Kutch. Weather remained mainly dry over rest of the region.

● **Advisories:**

➤ As rain/thundershowers likely at most/many places over Maharashtra during the period, 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 to very heavy rain very likely at isolated places with isolated extremely heavy fall over Konkan & Goa on 23rd & 24th and heavy rain at isolated places from 25th to 27th, heavy to very heavy/heavy rainfall at isolated places over Madhya Maharashtra from 23rd to 25th & 27th and over Marathwada from 23rd to 27th, heavy at isolated places over Vidarbha on 23rd & 24th Sept., drain our excess water from cotton, soybean, groundnut, red gram and vegetable fields and provide adequate drainage to avoid water stagnation in Madhya Maharashtra, and Marathwada. In Madhya Maharashtra (Western Ghat Region), drain out excess water from rice fields.

■ **Maharashtra:**

➤ In Konkan, maintain water level of 8-10 cm in rice fields (flowering/ grain filling stage) by bunding the fields. Undertake planting of biennial forage crops like Paragrass, Napier, Gajraj on bunds after current spell of rain.

➤ In Madhya Maharashtra, undertake harvesting of already matured bajra and soybean after current spells of rain. Undertake sowing of rabi jowar at *vapsa* condition. Undertake sowing of safflower at *vapsa* condition. Seed treatment of thiarum or captan or bavistin @2.5 g per kg of seed should be applied before sowing. Drain out excess water from cotton, soybean, groundnut, red gram and vegetable fields and orchards of papaya and pomegranate. Maintain water level of 7-8 cm in transplanted rice fields (panicle initiation/ flowering stage) in Western Ghat Region.

➤ In Marathwada, undertake harvesting of already matured bajra and soybean after current spells of rain. Undertake preparatory tillage for the sowing of *rabi* jowar and safflower in the harvested field of green gram and black gram after current spells of rain.

➤ In Vidarbha, maintain 7-8 cm water level in transplanted rice fields (panicle initiation/flowering stage) in Nagpur,

Bhandara, Gondia, Chandrapur and Gadchiroli districts. Undertake preparatory tillage for *rabi* crops in the harvested field of green gram and black gram after current spells of rain. Undertake harvesting of matured soyabean after current spells of rain.

- Due to humid and cloudy weather conditions in Madhya Maharashtra, there may be incidence of anthracnose disease in pomegranate; spray Hexaconyazol @ 1 ml per litre of water after current spell of rain.
- Due to continuous rain during last week in Marathwada region, there may be attack of shoot and fruit borer in Okra; spray of Emamectin benzoate (5 SG) @ 0.35 g or Fenprothrin (30 EC) @ 0.75 ml or Quinalphos (25 EC) @ 2 ml per litre of water with the help of Knapsack sprayer.

▪ **Gujarat:**

- Drain out excess water from groundnut and in cotton in Amreli and Rajkot districts of North Saurashtra Zone, in Bhavnagar district of Bhal and Coastal Zone and Gir Somnath district.
- Undertake intercultural operations like weeding, hoeing to maintain the soil moisture and to control weeds; undertake mulching by using dry grass, crop residues etc in areas of Jamnagar, Surendranagar districts of North Saurashtra Zone, which have received less rainfall. Apply irrigation to the cotton, groundnut and vegetable crops as per availability of irrigation facility and crop stage. Spray 2% Potassium Nitrate (2 kg in 100 litres of water) on the standing crops in areas where severe dry spell is prevailing.
- Continue land preparation for planting of sugarcane, continue sowing of late *kharif* okra, maintain optimum water level in rice field, drain out excess water from pulses, rice fields in Navsari, Valsad and Dangs districts of South Gujarat Heavy Rainfall Zone.
- In South Saurashtra Zone, continue harvesting of matured groundnut in clear weather.
- In North Gujarat Zone, apply need based protective irrigation in standing crops like cotton, groundnut, sesame, fodder sorghum, cluster bean and vegetables; carry out hand weeding and intercultural operations in urd bean, castor, fennel, fodder sorghum crops. Continue harvesting of matured bajra, continue picking of matured pods of green gram and in Kutch district of North West Zone.
- Drain out excess water from papaya, banana and other crop fields in Surat Tapi, Narmada, and Bharuch districts. Continue bed preparation for sowing of *rabi* vegetable crops like chilli, tomato and brinjal in South Gujarat Zone.
- Due to prevailing weather conditions there is chance of shoot and fruit borer in brinjal and tomato in Kachchh district; if observed, collect and bury infested fruits and shoots in the soil and spray Spinosad 48 EC @ 3 ml /10 litres of water in clear weather.
- Decrease in temperature, high cloud cover and humidity are conducive for the incidence of sigatoka leaf spot in banana in South Gujarat Zone; if noticed, spray Carbendazim @ 1 g/litre of water for control.
- Due to cloudy weather condition there are chances of blast disease in pearl millet in Middle Gujarat Zone; to avoid, apply Carbendazim @10 g or Tricyclazol @ 6 g in 10 litres of water on a non rainy day. Due to high humidity condition there is chance of alternaria blight in chilli; for control, spray Tridimorf (80 % EC) @ 5 ml in 10 litre of water.
- Due to prevailing weather conditions, there is chance of white fly in vegetable crops in North Gujarat Zone and in Kutch district; spray neem seed extract @ 500 ml or neem seed oil @ 50 ml in 10 litres of water at 15 days interval (4 sprays) or Acetamiprid 20 % SP @ 5 g/10 litres of water at 15 days interval.

❖ **Animal Husbandry**

- Provide 6-8 kg good quality dry roughage with 15-20 kg green fodder to the animals, for the control of tick and other parasites, 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 and Sub-Himalayan West Bengal & Sikkim, Burdwan, Kolkata, Murshidabad, Nadia and South 24 Parganas districts of Gangetic West Bengal, Boudh, Gajapati, Ganjam, Jharsuguda, Kalahandi, Kandhamal, Koraput, Malkangiri, Nawapara, Nawarangpur and Nayagarh districts of Odisha, all districts of Bihar except Buxar, Gaya, Jamui, Lakhisarai, Nawada, Rohtas, Nawada, Rohtas, Saran and Sheikpura, all districts of Jharkhand except Garhwa, Khunti, Koderma, Latehar, Lohardagga, Pakur, Palamu, Ranchi, Sahebganj, Saraikela, Simdega and West Singhbhum. Weather remained mainly dry over rest of the

region.

- **Advisories:**

- As rain/thundershowers likely at most/many places over Odisha during the period, over West Bengal & Sikkim from 23rd to 25th, over Jharkhand on 23rd & 24th and over Andaman & Nicobar Islands from 23rd to 25th Sept., do not apply irrigation, plant protection measures and fertilizers to the standing crops. Undertake rain water harvesting for ensuing *rabi* crops.

- As heavy to very heavy rain very likely at isolated places over Andaman & Nicobar Islands on 23rd Sept., provide adequate drainage in standing crop fields.

- **Odisha:**

- In East and South Eastern Coastal Plain Zone, undertake 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 at 21st days after 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 oxochloride in 10 litre of water should be done to control bacterial leaf blight.

- In Kalahandi and Nuapara districts of Western Undulating Zone, stem borer attack may occur in maize crop at 3-4 week stage. If damage is noticed, spray Traizophos 400 ml in 200 litre water per acre after current spells of rain.

- 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 75 WG @ 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 Chloropyrifos @ 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 Chloropyrifos or Triazophos or Profenophos @ 2 ml/litre of water after current spells of rain.

- In Agul and Dhenkanal districts of Mid Central Table Land Zone, blast incidence is noticed in some areas on 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.

- **West Bengal:**

- In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, complete weeding & top dressing operation in rice. Keep 5-7cm water in the field at the time of tillering.

- In South Dinajpur and Malda districts in Sub-Himalayan, continue sowing of black gram and nursery sowing of early cabbage and cauliflower.

- In Darjeeling district of Hill Zone, continue harvesting of large cardamom and round chilli. Care should be taken to prevent water stagnation in the fields of ginger and turmeric. Apply 20 kg Nitrogen as 2nd top dressing at 40-45 days after transplanting of rice and maintain 3-5 cm of standing water.

- In Purba Medinipur and South 24 Parganas of Coastal Saline Zone, undertake sowing of vadu kalai @4-5kg/bigha after seed treatment with thirum @ 3g/kg of seed. Complete transplanting of winter vegetables in the main field.

- In New Alluvial Zone, in the present weather condition, attack of stem borer and rice hyspa may be found in rice. Apply Chlorpyrifos @ 2.5ml / Triazophos @ 2ml per litre of water. Also attack of Brown spot & Blast may be found. Apply Carbendazim + Mancozeb @ 2.5g/litre of water at 10-12 days interval. Undertake plant protection methods after current spells of rain.

- In Coastal Saline Zone of West Bengal, in the present weather condition leaf roller and stem borer may be found in *Aman* rice. For stemborrer attack spray Triazophos @ 1.5ml/litre of water and leaf roller attack spray Chlorpyrifos @ 1.5ml/litre of water after current spells of rain.

- In Laterite and Red Soil Zone, in the present weather condition, sheath blight and Gundhi bug attack may be found in rice. For sheath blight, spray Carbendazim 50 WP @ 1g/litre of water. For Gundhi bug, 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, in rice field keep the bund open at 10 – 15 cm height as moderate to heavy rainfall is expected. Dip seedling of chilli in 1 % Trichoderma solution for one hour before transplanting.
- In Nicobar, avoid intercultural operation in coconut community garden as rainfall is expected.

▪ **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 3-5 cm standing water in rice fields.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, continue nursery sowing of cabbage and transplanting of chilli, tomato, cauliflower and brinjal. Undertake weeding in vegetables such as chilli, tomato, cauliflower, brinjal, *kharif* onion, bhindi, pumpkin, sponge guard and cucumber.
- 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 Chlorpyrifos 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 population is observed above ETL in rice then, broadcast Cartap 4% granules @ 10 kg/acre in moist soil for effective control. There is chance of stem borer in maize, spray of Carbrayl @ 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 shinning 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, to prevent liver fluke in cattle (Symptom –Anorexia, Diarrhoea and swelling of brisket region), the cattle should give Oxcylozanide (10-15 mg /kg body weight) or Rufoxinide (7.5 mg /kg body weight) after consulting 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 Chhindwara, Dindori, Mandla, Panna, Rewa, Sagar, Seoni, Singrauli and Umari districts of East Madhya Pradesh, Alirajpur, Barwani, Betul, Burhanpur, Dewas, Dhar, Hoshangabad, Indore, Jhbu, Khandwa, Khargone, Ratlam, Sehore, Shajapur, Ujjain and Vidisha districts of West Madhya Pradesh, all districts of Chhattisgarh except Baloda Bazar, Balrampur, Bilaspur, Janjgir, Mungeli, Kabirdham, Raigarh and Rajnandgaon. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - In Chhindwara and Betul districts, continue nursery preparation for tomato, chilli, brinjal, early cauliflower. Undertake 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 in clear weather.
 - In Indore and Ujjain districts, continue harvesting of short duration variety of soybean and green cob of maize.
 - In Jhabua, Alirajpur and Dhar districts, continue harvesting of matured green gram and black gram and in Khargone, Khandwa districts, continue harvesting of matured green gram.
 - 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 green gram and black gram in clear weather.
 - In Jhabua Hill Zone, due to cloudy weather there are chances of attack of sucking pest in maize, spray Thiamethoxam or Acetamiprid @ 0.35-0.45 g/litre of water on a non rainy day.
 - 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:**
 - As rain/thundershowers likely at most/many places over Chhattisgarh during the period., do not apply irrigation, plant protection measures and fertilizers to the standing crops.
 - 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.
 - In South Chhattisgarh, continue sowing of toria and undertake 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 III.
 - ❖ **Animal Husbandry**
 - In Madhya Pradesh, provide green fodder and fresh and clean water three times a day.
 - In Chhattisgarh, provide concentrate feed to milch animals mixed with dry and green fodder and insure for enrich diet having protein, carbohydrate, fat, vitamins etc.

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



Groundnut

Maize

Rice

Okra

- **Realised Rainfall:** Rainfall occurred in Una district of Himachal Pradesh, Allahabad, Azamgarh, Bahraich, Balrampur, Barabanki, Basti, Chandauli, Deoria, Faizabad, Fatehpur, Gazipur, Gorakhpur, Jaunpur, Kushinagar, Mirzapur, Sant Kabirnagar, Sant Ravidasnagar and Siddharthnagar districts of East Uttar Pradesh, Banswara ditrict 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. Undertake harvesting of matured bajra. Undertake land preparation for sowing of taramira crop. In Jaisalmer and Bikaner districts, apply protective irrigation to *khari* crops like groundnut, guar and pulses as per requirement. In late sown pearl millet, cluster bean, moth bean crops, apply foliar spray of urea @ 1% if irrigation is not available. Undertake hoeing and weeding operation in rainfed crops to create dust mulch for checking evaporation losses and also for control of weeds.
 - In Dungarpur and Banswara districts of Southern Humid Plain Zone, apply irrigation in rice as per requirement and apply top dressing of urea.
 - In Irrigated North Western Plain Zone, in Hanumangarh and Sriganganagar districts, apply irrigation as per requirement in paddy.mung, groundnut, cotton and uar.
 - In East Rajasthan, Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone, continue transplanting of mid-season cabbage and cauliflower vegetables. Maize is tasseling and silking stage, at this stage, in hybrid maize broadcast 40 kg and in desi and composite maize 35 kg Nitrogen.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake harvesting of matured green gram, mothbean and cowpea. Undertake land preparation for sowing of early pea, taramira and mustard.
 - In Alwar, Bharatpur, Dhaultpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, undertake harvesting of matured bajra and jowar.Undertake sowing of radish (Pusa Rashmi), and carrot (PusaKeshar).
 - 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 100 litres of water.
 - In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of semiloopers/spodoptera in soybean for control of semiloopers/spodoptera in soybean spray Emamectin benzoate 5 SG @ 200 to 220 g or Thiodicarb 75 SP @ 1.0 kg./ha or Indoxacarb 15.8 EC @ 350 ml./ha. In case of sudden outbreak of semiloopers/spodoptera for control spray Chlorantranilipole @ 150 ml per 500 litres of water per hectare.
 - In Sub Humid Southern Plain and Aravali Hill Zone, prevailing weather condition is congenial for attack of stem borer in maize and bollworm and jassids in cotton crop, for control apply Phorate 10 G 3% granules @ 5 to 7.5 kg per hectare at 15-30 days after sowing of maize, for stem borer and apply Carbaryl 50% dust @ 2.5 kg per hectare for control of bollworm and jassids in cotton crop.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of bacterial blight in guar for control spray Streptocycline @ 5 g or Plantomycine @ 50 g or Agrimycin @ 30 g per 100 litres of water.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of pink bollworm in Desi cotton, for control spray Fenveret 20 EC @ 1 ml per litre of water.
 - 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 Quinalphos 25 EC @ 2 ml or Fenveret 20 EC @ 1 ml per litres of water on a non rainy day.
 - In Irrigated North Western Plain Zone, prevailing weather condition is congenial for attack of white fly in Narma cotton for control spray mixture of Nimbesidin + Taral soap 5 ml @ 1 ml per litre of water or Triazophos 40 EC @ 2.5 ml per litre of water.

- In Irrigated North Western Plain Zone, Hanumangarh and Sriganaganagar 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 maintain 5-7 cm water level in paddy crop and give irrigation to maize crop as per requirement. Continue sowing of radish and carrot on ridges and undertake nursery raising of main season cole crops like cabbage, cauliflower and KnolKhol. Undertake sowing of leafy vegetables like spinach, methi and coriander and sowing of toria.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, undertake sowing of toria after treatment the seed with Captan/Thiram @ 3g/kg seed to protect from incidence of alternaria blight/seedling rot. Spray the paddy crop with a mixture of 3.00 g of Zinc Sulphate, 15 kg Urea and 1 Kg of Zineb per hectare in 500 litre of water, if yellowing of leaves from tips is noticed. 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 sowing of berseem crop (*var.* Mascavi, Pusa Giant, BL-1) wherever optimum soil moisture is available. Continue sowing of cole crops on raised seed beds.
 - 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 Cold Arid Zone, undertake harvesting of matured potato and onion. 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 in Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, to control, spray Tricyclazole (beam) @ 0.06%.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, Weather is congenial for attack of stem borer and aphid in the maize crop, for control stem borer apply Carbofuran 3G @ 20 kg per hectare and for control aphid spray Dimethoate 30 EC/Rogor @ 2 ml per litre of water.
- **Uttarakhand:**
 - In Udhham Singh Nagar district of Bhabar and Tarai Zone, farmers are advised apply irrigation to maintain optimum water level in paddy in panicle emergence/formation of earhead stage as this stage is very susceptible to water stress affecting the size, number of grains and weight of seeds of earhead. Apply irrigation in jowar and bajra at flowering/ grain formation stage. Give irrigation to pulse crops at the time of flowering and to cowpea at the time of fruiting if sufficient moisture is not there in the field.
 - Undertake sowing of Knol-khol with varieties like purple vienna and white vienna during the month. Undertake sowing of tomato seeds in the nursery beds for winter season and prepare field for garlic.
 - 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 Nainital district of Bhabar and Tarai Zone, continue transplanting of seedlings of rai and sowing of 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 Tehri Garhwal, 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 some areas of Nainital district of Bhabar and Tarai Zone of Bhabar and Tarai Zone, there is infestation of bacterial leaf blight in the paddy turning tip of leaves white, to control spray 500g Copper Oxichloride and 15g Streptocyclin in 500 litre of water. Repeat the spray again at 7-10 days interval.
 - In Udhham Singh Nagar district of Bhabar and Tarai Zone, under prevailing weather condition there is possibility of incidence of Sheath Rot in rice, to control, spray Propiconazol 25 EC @ 500 ml or Hexaconazole 5 EC @ 1 litre/ha.
 - In Udhham Singh Nagar district of Bhabar and Tarai Zone, under prevailing weather condition there is possibility of drying of plants in French bean crops, to control, spray Trichoderma bio control @ 6 to 10 g per litres of water.
 - 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.
 - In Nainital district of Bhabar and Tarai Zone, maintain moisture in the vegetable crops which are sown 15-20 days before by hoeing first and then by applying mulch in the field to control weeds as well as to conserve moisture.
- **Himachal Pradesh:**
 - In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, maintain 3 -

5 cm water level. Complete sowing of gram and lentil in in lower regions and continue harvesting of matured maize in lower regions. Undertake harvesting of peas, cabbage and cauliflower in high hills regions. Undertake sowing of turnip and radish in lower rainfed areas. Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli, lettuce. Undertake sowing of onion. Continue transplanting of tomato, cauliflower, cabbage and capsicum. Transplanting of ageti nursery in fields.

- 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. Undertake 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 attack of downy mildew in cauliflower, tomato and cabbage, for control spray Rhedomil 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 mixture of Mancozeb and Carbendazim@ (500 gms + 100 gms) per 20litres of waterat 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 @ 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 of white flies or sucking pests in soybean, moong, urd crops, for control spray Imidacloprid 17.8 % SC @ 1.0 ml per 3 litres of water or Thiamethoxam 25 WG @ 40 gm per acre when sky remain clear.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of hairy caterpillar in mash and sesame crops, for control spray Cypermethrin 25 EC @ 0.5 ml per litre of water.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, weather is conducive for attack of blister blight in shady and high humid areas in tea plants, for control spray Calixin @ 0.2% or Folicur @ 0.1% and if attack is severe then repeat spray at 15 days with alternate spray of Blitox @ 0.3% at seven days interval in clear weather.
- **Punjab, Haryana and Delhi:**
 - In Punjab, in Fazilka, Ferozepur and Faridkot districts, farmers are advised to give frequent light irrigation in rice at flowering 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, continue transplanting of chilli, tomato, bell pepper. Continue sowing of cucurbits, round gourd, sponge gourd, okra, and cluster bean. Continue sowing of radish, turnip and carrot and fodder crops.
 - 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. Complete the sowing of guar/bajraand sowing of leafy vegetables, bottle gourd, cucumber, ridge gourd summer radish.Undertake intercultural/hoeing operations in cotton crops for conserving the moisture and removing the weeds. Undertake planting the fruits crops.
 - 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, PusaAgrni, PusaTaraka, PusaMahak and earlypea (Cultivars- Pusapragati, Pant matar-3, Arkiletc). Farmers are advised to do arrangement for quality seeds. Weather is suitable for sowing of carrot in the raised bed. Recommended cultivars: Pusa Rudhira. 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.
 - In Central Plain Zone and Western Zone of Punjab, sheath blight may be noticed in rice. Check by spraying Amistar Top 325 SC @ 200 ml or 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),thefields showing more than 10% affected leaves or 5% dead hearts, should be sprayed with Fame @ 20 ml 480 SC (flubendiamide) or 1 litre of Dursban/Classic/Force 20 EC (Chlorpyriphos) in 100 litres of water per acre.
 - Due to isolated rainfall and possible dry weather with high temperature in Undulating Plain Zone of Punjab there

- may be chances of increase of white fly population in pulses, spray Triazophos @ 600 ml/acre on a non rainy day.
- In Western, Central and Western Plain Zone of Punjab due to humid weather conditions, false smut may be noticed in paddy crop, spray Kocide 46 DF (Chopper hydroxide) @ 500 g in 200 litres of water per acre and after 10 days of its application spray Tilt 200 ml in 200 litres of water at boot stage of the crop.
- 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.
- In Western Semi-Arid Zone of Delhi, in the present weather condition, there may be increase in population of insect pests of cotton. Farmers are advised to install pest specific pheromone traps in the fields for monitoring the insect. If borer's pest population is above ETL, spraying of Spinosad @ 1ml/3 litre of water is advised.
- **Uttar Pradesh:**
- In Central Plain Zone of Uttar Pradesh, maintain 3 – 5 cm water in the fields. Continue sowing of toria and cabbage. Undertake planting of potato. Continue transplanting of mid season brinjal, tomato, cauliflower and capsicum.
- 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, undertake land preparation for sowing of peas, gram, lentil, linseed and toria. Continue nursery sowing of mid season brinjal, chilli, tomato, cabbage, cauliflower and continue transplanting of mid season brinjal, chilli, tomato, cabbage, cauliflower. Undertake land preparation for sowing of radish, cabbage, carrot, coriander.
- In Eastern Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of stem borer in maize, for control spray Linden 6% G @ 20 kg or Carbofuran 3% G @ 20 kg per hectare.
- In Eastern Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of leaf roller in arhar, for control spray Monocrotophos 36 EC @ 800 ml per hectare.
- In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of bacterial disease and bacterial blight in paddy, for control, spray Agromycin-100 @ 75 gm or Streptocycline @ 15 gm or Copper Oxychloride @ 500 g in 500-600 litres of water, 2 to 3 times at an interval of 10 days.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of pyorrhea disease in sugarcane, for control spray Phosphamidon @ 300 to 400 ml or Methyl-O-Demeton @ 1.5 liters in 1000 litres of water.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of sheath blight and khaira in paddy, for control sheath blight, spray Zineb 75% WP @ 2 kg per hectare or Carbendazim 12 % + Mancozeb 63 % WP @ 750 g per hectare in 500 to 600 litres of water and for control khaira spray Zinc Carbamet 75% @ 2 kg per hectare.
- In Western Plain Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of stem borer in paddy crop and mite and jassid in bhindi, brinjal and chilli crops, for control stem borer broadcast Cartap 4% granules or Carbofuran 3% G @ 10 kg/acre or spray Chlorpyrifos 20 EC @ 2 ml per litre of water and for control mite and jassids spray Phosmite @ 2 ml per litre of water for mite and spray Dimethoate 30 EC @ 2 ml/litre of water for jassid.
- Suitable varieties for sowing are given in Annexure III.
- ❖ **Horticulture:**
- In Irrigated North Western Plain Zone of Rajasthan, there may be fruit drops in kinnow fruits, for control, spray Carbendazim 50 WP @ 1 g per litre of water or Propineb 70 WP @ 2 g per litre of water and Gibberellic acid @ 20 mg in 1 litre of water.
- In Semi-Arid Eastern Plain Zone, and in Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of fruit fly in guava, for control bury the affected plants in soil and spray Malathion 50 EC @ 1.0 ml per litre of water.
- 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 Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, complete harvesting of walnut and continue gap filling in old orchards.
- ❖ **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 marigoldseed 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. To control thrips in tagetes spray Rogor @ 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 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 Tarai Zone of Uttarakhand, to save the sheep and goats from infectious diseases, give vaccination of Interotoxemia and PPR. When symptoms of Gal-Ghotu disease appears in the animals, then inject Sulphonamides like Sulphamethazine or Sulphadimidne 150Mg/Kg in the veins of animal for three days with the advice of Veterinarian.
- 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	07.09.16		14.09.16		21.09.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	127.1	138	37.2	-66	37.5	-64
Dibang Valley	**	**	**	**	**	**
East Kameng	46.2	-26	24.3	-68	20.2	-67
East Siang	568.0	350	174.2	9	27.2	-83
Kurung Kumey	**	**	**	**	**	**
Lohit	135.8	73	65.4	-27	32.9	-53
Lower Dibang Valley	463.0	1320	233.1	146	32.4	-46
Lower Subansari	**	**	**	**	**	**
Papumpare	190.3	22	167.4	94	145.4	28
Tawang	22.0	-80	66.0	-40	80.0	-45
Tirap	116.2	2	76.4	-35	36.8	-61
Upper Siang	273.4	98	191.2	2	162.6	-5
Upper Subansari	88.6	201	88.0	306	244.8	398
West Kameng	53.4	-51	17.1	-85	42.8	-71
West Siang	214.0	261	98.1	22	60.8	-28
Assam & Meghalaya						
Assam						
Baksa	109.1	16	21.1	-81	33.2	-77
Barpeta	202.4	115	11.4	-90	67.9	-54
Bongaigaon	101.3	10	54.6	-44	116.6	15

Cachar	154.4	54	134.4	38	57.2	-20
Chirang	86.6	-6	68.6	-29	168.4	66
Darrang	**	**	**	**	**	**
Dhemaji	**	**	**	**	**	**
Dhubri	39.4	-42	19.5	-79	102.8	13
Dibrugarh	110.0	40	58.1	-38	49.9	-36
Goalpara	58.5	-10	59.6	4	105.5	34
Golaghat	120.8	117	52.6	-1	24.7	-55
Hailakandi	135.5	88	128.0	27	33.2	-39
Jorhat	170.8	145	35.1	-54	34.0	-41
Kamrup(Rural)	33.4	-30	72.0	64	12.7	-70
Kamrup(Metro)	15.2	-68	11.7	-73	25.9	-40
Karbi Anglong	63.5	52	28.6	-43	76.7	79
Karimganj	144.0	34	121.7	9	77.7	-30
Kokrajhar	154.8	60	37.4	-64	73.5	-40
Lakhimpur	175.1	69	121.8	10	56.4	-43
Morigaon	111.8	124	136.0	133	56.4	21
N.C.Hills	100.7	85	19.5	-27	0.0	-100
Nagaon	57.4	4	54.3	-9	19.3	-58
Nalbari	119.0	120	5.3	-88	46.8	-41
Sonitpur	59.5	9	19.7	-70	63.8	8
Sibsagar	121.7	119	72.3	37	37.8	-14
Tinsukia	153.6	80	96.9	14	39.6	-54
Udalgiri	93.1	89	26.8	-58	94.8	46
Meghalaya						
East Garo Hills	144.4	110	46.6	-54	29.0	-64
East Khasi Hills	449.7	210	67.9	-66	65.5	-50
Jaintia Hills	1.0	-99	0.0	-100	0.0	-100
Ribhoi	64.6	-15	39.7	-48	59.8	-18
South Garo Hills	3.0	-96	3.0	-97	5.0	-94
West Garo Hills	34.7	-49	0.4	-99	51.4	-41
West Khasi Hills	5.0	-96	60.0	-51	13.0	-82
NMMT						
Mizoram						
Aizwal	31.1	-71	150.7	63	95.4	-1
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	54.0	-45	77.5	-12	204.0	103
Mamit	**	**	**	**	**	**
Saiha	1.0	-99	104.0	19	59.0	-33
Serchhip	73.6	-19	112.0	47	116.9	35
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	37.6	-23	9.3	-79	25.8	-46
Imphal west	254.2	405	160.6	561	94.2	134
Senapati	**	**	**	**	**	**

Tamenglong	**	**	**	**	**	**
Thoubal	1.0	-97.0	20.0	-3	30.0	-4
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	50.2	1	45.9	10	38.3	-2
Kephire	**	**	27.0	-50	43.0	-28
Kohima	61.0	-20	57.3	-17	9.6	-82
Longleng	**	**	**	**	**	**
Mokokchung	**	**	11.0	-85	12.0	-80
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	8.0	-90	36.0	-48	57.0	7
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	67.3	18	144.0	130	97.2	58
NorthTripura	61.6	-5	141.9	74	78.2	35
SouthTripura	110.5	91	60.7	-1	31.6	-36
West Tripura	50.4	-24	38.8	-35	15.4	-71
Himachal Pradesh						
Bilaspur	35.2	-18	35.9	-21	6.2	-81
Chamba	14.9	-83	8.0	-86	0.0	-100
Hamirpur	25.3	-55	29.1	-17	2.7	-91
Kangra	24.7	-72	39.8	-37	26.5	-30
Kinnaur	16.6	-9	0.0	-100	0.2	-98
Kullu	22.3	-6	2.8	-89	0.0	-100
Lahaul and Spiti	3.8	-86	1.5	-94	0.0	-100
Mandi	23.4	-54	65.3	52	6.3	-77
Shimla	9.3	-73	4.9	-85	5.0	-74
Sirmaur	24.7	-58	8.2	-86	0.2	-99
Solan	34.5	-31	14.1	-70	0.0	-100
Una	8.0	-83	43.8	39	31.9	40
Punjab						
Amritsar	6.6	-76	0.1	-99	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.9	-93
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	3.8	-85	0.7	-98	0.0	-100
Ferozpur	9.8	-60	0.0	-100	0.0	-100
Gurdaspur	39.4	-4	12.8	-60	0.2	-99
Hoshiarpur	0.0	-100	6.7	-81	2.8	-83
Jalandhar	9.3	-74	1.0	-97	3.7	-70
Kapurthala	35.5	36	0.0	-100	0.3	-98
Ludhiana	2.0	-93	2.8	-91	3.5	-77
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	16.7	-57	0.8	-98	14.9	-10

Patiala	4.3	-87	0.0	-100	0.0	-100
Ropar	36.7	7	41.7	25	16.0	1
Sangrur	0.9	-97	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	16.7	-62	1.0	-98	2.7	-93
Bhiwani	1.3	-93	0.0	-100	0.0	-100
Chandigarh	0.1	-99	12.0	-74	1.7	-94
Faridabad	70.0	28	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	30.3	-9	0.0	-100	3.4	-57
Hissar	0.3	-99	0.0	-100	0.0	-100
Jhajar	13.3	-56	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	7.6	-69	1.9	-93	0.0	-100
Kurukshetra	6.7	-75	0.0	-100	0.0	-100
Mahendragarh	0.7	-96	0.0	-100	0.0	-100
Mewat	37.8	-7	0.0	-100	0.0	-100
Palwal	43.5	81	0.0	-100	0.0	-100
Panchkkula	8.0	-86	3.7	-93	7.8	-71
Panipat	4.6	-85	0.8	-97	0.0	-100
Rewari	5.0	-83	0.0	-100	2.3	-67
Rohtak	0.8	-97	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	6.0	-81	0.0	-100	0.0	-100
Yamunanagar	9.0	-81	3.8	-92	0.0	-100
Delhi						
Central Delhi	0.0	-100	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	6.0	-63
New Delhi	6.1	-86	333.3	1045	7.7	-53
North Delhi	2.0	-96	500.0	1618	0.0	-100
North East Delhi	1.0	-98	0.0	-100	0.0	-100
North West Delhi	0.0	-100	333.3	1045	0.0	-100
South Delhi	10.2	-77	0.0	-100	0.0	-100
South West Delhi	18.9	-58	0.0	-100	0.0	-100
West Delhi	0.0	-100	**	**	**	**
Jammu & Kashmir						
Anantnag	6.2	-53	12.0	-13	0.4	-97
Badgam	0.0	-100	1.8	-91	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	16.6	23	6.2	-60	0.0	-100
Doda	12.8	-12	8.4	-63	0.0	-100
Ganderbal	15.8	95	0.0	-100	0.0	-100
Jammu	24.1	-42	18.3	-60	0.0	-100
Kargil	**	**	**	**	**	**
Kathua	53.6	-10	3.2	-95	0.0	-100

Kistwar	**	**	**	**	**	**
Kulgam	1.2	-91	2.0	-85	0.0	-100
Kupwara	0.0	-100	2.0	-76	0.0	-100
Ladakh(Leh)	0.0	-100	0.1	-96	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	0.0	-100	2.6	-81	0.0	-100
Rajouri	0.0	-100	20.0	-39	0.0	-100
Ramban	24.0	66	4.8	-79	0.0	-100
Reasi	45.4	-14	90.3	82	18.5	-49
Samba	43.5	4	41.5	-9	0.0	-100
Shopian	**	**	**	**	**	**
Srinagar	4.5	-44	2.0	-77	0.0	-100
Udhampur	63.6	20	25.6	-46	0.0	-100
East Madhya Pradesh						
Anuppur	58.2	-15	37.4	-47	24.6	-46
Balaghat	29.8	-64	33.4	-45	12.6	-65
Chhatarpur	14.1	-83	2.1	-96	24.7	-41
Chindwara	21.5	-60	1.5	-97	36.4	7
Damoh	22.5	-65	0.0	-100	10.5	-78
Dindori	73.1	15	4.2	-93	65.8	90
Jabalpur	16.5	-77	0.0	-100	16.1	-56
Katni	19.4	-71	0.0	-100	5.3	-86
Mandla	18.9	-74	18.9	-71	33.6	-23
Narsingpur	23.5	-66	8.6	-87	20.0	-57
Panna	11.4	-84	13.5	-82	49.5	20
Rewa	11.9	-85	48.8	-31	37.9	-1
Sagar	13.2	-78	0.0	-100	31.0	-31
Satna	7.1	-89	11.3	-81	29.4	-22
Seoni	15.9	-73	5.2	-91	36.8	-18
Shahdol	32.5	-52	13.9	-77	13.1	-64
Sidhi	30.0	-62	8.2	-88	11.6	-73
Singrauli	6.8	-90	62.8	24	34.9	-12
Tikamgarh	1.5	-98	0.0	-100	5.3	-85
Umaria	25.1	-62	8.7	-88	71.0	56
West Madhya Pradesh						
Agar	46.2	-52	0.0	-100	15.9	-47
Alirajpur	20.3	-62	0.0	-100	123.9	323
Asoknagar	24.0	-55	0.0	-100	25.5	-37
Badwani	5.0	-89	0.0	-100	106.7	289
Betul	34.9	-42	2.7	-96	30.9	-20
Bhind	20.4	-60	0.0	-100	9.0	-66
Bhopal	54.3	-23	0.0	-100	27.0	-23
Burhanpur	78.3	31	2.5	-91	73.3	127
Datia	0.3	-99	0.0	-100	25.0	-39
Dewas	47.7	-30	0.0	-100	30.4	-8
Dhar	19.9	-62	0.0	-100	93.9	191
Guna	14.4	-78	0.0	-100	9.9	-68
Gwalior	2.6	-96	0.0	-100	0.6	-99

Harda	29.2	-65	1.6	-97	18.2	-55
Hoshangabad	34.2	-64	2.1	-97	118.3	124
Indore	40.2	-29	0.0	-100	59.0	62
Jhabua	33.6	-36	0.0	-100	87.1	236
Khandwa	12.7	-81	0.0	-100	92.2	165
Khargone	41.8	-34	0.0	-100	121.3	325
Mandsaur	20.7	-67	3.3	-91	15.1	-32
Morena	1.7	-97	0.0	-100	9.1	-68
Neemuch	60.7	1	0.3	-99	0.0	-100
Raisen	15.1	-79	0.0	-100	24.4	-43
Rajgarh	30.3	-53	0.4	-99	7.8	-72
Ratlam	52.7	-13	0.0	-100	30.8	10
Sehore	24.6	-68	0.2	-99	82.3	152
Shajapur	60.5	-4	0.0	-100	34.5	8
Sheopur Kalani	25.5	-39	1.0	-97	0.0	-100
Shivpuri	29.8	-51	0.0	-100	2.4	-92
Ujjain	48.0	-11	0.0	-100	64.4	109
Vidisha	3.7	-94	0.0	-100	32.5	-11
Chhattisgarh						
Balod	49.0	-4	138.5	102	88.4	156
Baloda Bazar	27.4	-45	28.2	-59	12.9	-52
Balrampur	46.5	-39	35.0	-53	25.0	-31
Bastar	67.8	-6	188.6	226	38.7	-12
Bemetara	42.2	-22	69.9	34	63.4	85
Bijapur	60.1	-25	72.0	18	40.5	-5
Bilaspur	36.8	-39	46.5	-32	6.5	-81
Dantewara	74.9	14	214.0	306	147.5	280
Dhamtari	55.0	-6	151.4	103	68.8	94
Durg	1.2	-98	123.0	79	97.8	183
Gariaband	39.6	-40	151.7	111	38.3	0
Janjgir	61.4	-16	47.2	-31	24.2	-27
Jashpurnagar	34.8	-55	64.7	-25	85.2	124
Kabirdham	10.6	-79	33.4	-29	25.3	-25
Kanker	41.1	-29	189.1	157	30.6	-30
Kondagaon	51.6	-28	99.4	40	68.2	52
Korba	71.3	-9	69.9	-7	68.2	47
Koriya	34.1	-49	24.1	-66	32.3	-8
Mahasumund	91.8	45	127.2	82	45.7	52
Mungeli	4.6	-92	66.4	-3	0.0	-100
Narayanpur	34.0	-48	95.8	43	65.9	65
Raigarh	102.8	49	95.8	15	25.8	-22
Raipur	9.9	-81	109.3	51	52.1	58
Rajnandgaon	19.3	-70	76.6	25	17.7	-52
Sukma	108.0	52	162.3	192	60.6	40
Surajpur	20.0	-76	18.9	-67	33.3	-9
Surguja	105.6	33	35.2	-53	30.0	-10
East Uttar Pradesh						
Allahabad	21.3	-54	8.5	-88	39.8	8
Ambedkar Nagar	0.0	-100	88.0	46	0.0	-100

Azamgarh	29.0	-51	22.5	-69	44.5	-26
Bahraich	0.4	-99	77.1	6	34.6	-1
Ballia	95.7	159	27.7	-49	28.3	-32
Balrampur	4.2	-93	10.6	-83	50.7	30
Banda	5.9	-91	22.8	-57	18.9	-41
Barabanki	9.8	-84	34.0	-57	48.8	2
Basti	49.0	-11	16.1	-73	31.8	-32
Chandauli	12.0	-75	53.0	-35	40.0	113
Deoria	50.0	3	23.0	-58	77.0	33
Faizabad	6.5	-90	44.6	-31	43.1	-4
Farrukhabad	13.0	-71	13.9	-72	4.5	-83
Fatehpur	14.1	-72	10.8	-84	42.6	12
Gazipur	24.7	-49	89.6	18	35.8	-23
Gonda	3.7	-94	79.5	12	11.6	-75
Gorakhpur	20.5	-68	40.7	-47	34.9	-50
Hardoi	21.8	-55	54.2	-13	9.4	-67
Jaunpur	37.9	-29	41.7	-49	52.5	5
Kannauj	10.3	-79	17.0	-70	29.2	-3
Kanpur City	1.3	-97	13.8	-71	15.0	-55
Kanpur Dehat	0.3	-99	1.0	-98	7.8	-72
Kaushambi	0.8	-98	0.0	-100	13.1	-57
Kheri	19.8	-61	121.2	79	11.3	-69
Kushi nagar	40.0	-19	2.6	-96	34.5	-49
Lucknow	2.5	-95	54.0	-4	21.7	-41
Maharajganj	11.7	-80	38.5	-45	25.0	-59
Mau	11.0	-76	43.5	-48	20.0	-63
Mirzapur	28.7	-51	43.5	-51	55.9	8
Pratapgarh	24.0	-55	32.0	-53	10.7	-75
RaiBareilly	7.4	-84	34.3	-38	12.3	-65
Sahuji Maharajnagar	29.5	-52	0.0	-100	9.0	-77
Sant Kabirnagar	19.0	-62	34.0	-43	98.0	99
Sant Ravidas Nagar	37.0	-21	31.0	-62	37.0	97
Shrawasti	3.2	-94	44.6	-39	14.4	-59
Sidharthnagar	13.2	-76	66.3	13	31.5	-31
Sitapur	17.2	-70	74.9	0	13.9	-53
Sonbhadra	31.2	-45	72.0	-14	11.2	-65
Sultanpur	0.5	-99	56.1	2	26.9	-39
Unnao	9.0	-80	22.5	-63	10.8	-66
Varanasi	26.8	-55	35.4	-60	23.5	-52
West Uttar Pradesh						
Agra	26.4	-30	16.0	-58	1.7	-93
Aligarh	6.8	-83	3.0	-93	1.1	-96
Auraiya	4.7	-89	0.0	-100	17.6	-33
Badaun	12.0	-75	1.8	-95	0.4	-99
Baghpat	31.8	33	0.0	-100	0.0	-100
Bareilly	10.4	-80	39.2	-23	2.4	-92
Bijnor	12.3	-75	2.7	-94	0.0	-100
Bulandsahar	28.9	-27	0.0	-100	0.0	-100

Etah	6.0	-84	0.0	-100	2.0	-92
Etawah	0.0	-100	0.0	-100	3.3	-89
Firozabad	4.7	-87	9.6	-78	1.0	-97
GBNagar	150.0	491	0.0	-100	0.0	-100
Ghaziabad	26.6	-31	0.0	-100	0.0	-100
Hamirpur	10.8	-79	8.3	-85	17.0	-53
Jalaun	7.2	-84	0.0	-100	10.3	-69
Jhansi	6.7	-89	10.2	-79	3.4	-91
Jotiba Phule Nagar	45.0	10	0.0	-100	0.5	-98
Kanshiramnagar	42.0	-18	0.0	-100	13.0	-59
Lalitpur	8.5	-86	0.0	-100	17.0	-59
Mahamaya Nagar	80.0	145	0.0	-100	0.0	-100
Mahoba	2.8	-94	0.0	-100	24.6	-19
Mainpuri	0.0	-100	4.5	-90	0.5	-98
Mathura	63.8	111	0.0	-100	0.0	-100
Meerut	31.6	-33	0.0	-100	0.0	-100
Moradabad	80.0	67	13.0	-71	3.2	-90
Muzzaffarnagar	7.5	-82	5.7	-86	0.0	-100
Pilibhit	2.0	-97	22.6	-69	0.0	-100
Rampur	8.2	-83	7.2	-80	4.0	-90
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	46.4	-1	48.1	-22	0.8	-97
Uttarakhand						
Almora	5.2	-87	23.8	-42	1.2	-97
Bageshwar	13.5	-66	20.3	-51	0.0	-100
Chamoli	34.9	-22	70.2	85	9.9	-59
Champawat	0.0	-100	77.5	1	0.0	-100
Dehradun	103.7	30	20.3	-76	11.7	-79
Garhwal Pauri	30.6	-53	32.6	-42	3.8	-91
Garhwal Tehri	8.9	-86	21.1	-57	0.2	-99
Haridwar	19.3	-68	12.3	-68	0.1	-99
Nainital	17.9	-77	118.2	65	23.9	-63
Pithorgarh	21.8	-78	53.9	-33	28.1	-50
Rudraprayag	32.8	-60	66.2	-17	0.7	-98
Udham Sing Nagar	15.6	-70	31.2	-50	2.3	-95
Uttarkashi	22.8	-65	0.1	-99	6.9	-86
Bihar						
Araria	101.6	43	132.2	71	123.1	104
Arwal	187.4	420	62.2	-6	32.6	-28
Aurangabad	53.2	-7	120.4	85	55.1	34
Banka	94.0	118	48.7	-9	77.3	66
Begusarai	184.7	230	40.9	-23	64.7	27
Bhabua	58.8	-15	46.6	-46	31.2	-39
Bhagalpur	92.8	76	31.7	-45	77.0	72
Bhojpur	140.3	182	64.9	2	70.5	26
Buxar	25.6	-55	82.4	7	14.8	-67
Darbhanga	136.0	194	67.7	34	35.5	-2
East Champaran	83.0	63	128.1	131	58.2	12
Gaya	206.8	308	84.3	68	27.4	-31

Gopalganj	53.3	13	83.2	17	31.7	-52
Jahanabad	158.0	272	98.1	64	89.6	53
Jamui	162.9	205	51.0	-9	7.9	-82
Katihar	126.6	174	36.9	-52	67.2	18
Khagadia	83.0	52	13.6	-79	54.7	-18
Kishanganj	185.4	102	115.8	31	136.8	82
Lakhisarai	185.8	245	104.8	87	19.1	-63
Madhepura	136.3	93	83.1	14	65.5	39
Madhubani	105.8	104	25.1	-56	57.0	91
Monghyar	138.2	157	31.4	-44	165.8	219
Muzaffarpur	111.4	161	81.1	41	37.7	-33
Nalanda	70.7	47	96.1	67	35.0	-30
Nawada	68.3	42	85.7	54	29.5	-12
Patna	128.3	160	101.7	62	47.5	-17
Purnea	90.3	38	67.8	-17	44.5	-34
Rohtas	26.1	-52	104.1	68	16.4	-60
Saharsha	174.1	147	67.1	-3	42.0	-50
Samstipur	127.3	133	70.5	18	35.9	-40
Saran	53.2	6	81.1	21	25.4	-48
Sheikpura	53.1	23	123.1	118	0.0	-100
Sheohar	41.6	-14	120.6	163	52.7	17
Sitamarhi	91.4	90	106.8	133	73.5	63
Siwan	63.8	28	99.0	19	37.3	-46
Supaul	135.1	196	70.6	27	73.9	44
Vaishali	88.7	71	61.6	-2	47.1	-11
West Champaran	104.8	91	102.1	52	72.2	-4
Jharkhand						
Bokaro	88.4	3	98.6	62	32.2	-25
Chatra	57.0	-15	86.4	56	44.2	-27
Deoghar	131.9	168	20.4	-65	33.5	-37
Dhanbad	150.0	121	67.4	-5	46.3	-6
Dumka	99.9	51	28.2	-59	45.2	14
East Singbhum	266.3	292	64.3	5	82.7	127
Garhwa	30.0	-63	15.5	-76	7.2	-83
Giridih	142.5	131	90.1	39	53.2	27
Godda	73.0	61	55.2	-14	70.7	73
Gumla	41.9	-39	119.4	51	52.0	10
Hazaribagh	113.8	79	127.3	103	56.8	23
Jamtara	113.8	66	12.6	-85	61.2	17
Khunti	87.0	4	46.5	-39	12.8	-77
Koderrna	138.0	122	111.7	108	10.2	-73
Latehar	73.1	3	181.8	157	24.5	-26
Lohardagga	57.4	-15	107.5	84	18.6	-63
Pakur	95.8	31	40.8	-51	16.2	-79
Palamau	38.3	-45	103.6	53	7.0	-85
Ramgarh	68.0	-5	66.8	3	53.4	19
Ranchi	49.7	-30	63.7	-7	14.1	-67
Sahebganj	4.4	-93	56.6	-32	18.8	-74
Saraikela	172.6	127	30.5	-56	6.6	-86

Simdega	27.7	-67	81.6	-13	29.1	-35
West Singhbhum	121.5	76	14.1	-78	4.6	-87
East Rajasthan						
Ajmer	21.1	-24	0.0	-100	0.3	-95
Alwar	9.6	-78	0.0	-100	0.0	-100
Banswara	34.6	-44	0.2	-99	30.0	56
Baran	17.0	-69	3.4	-89	9.9	-47
Bharatpur	21.5	-54	0.0	-100	0.0	-100
Bhilwara	40.4	-5	1.9	-92	0.3	-97
Bundi	60.0	22	2.2	-92	1.8	-83
Chittorgarh	46.2	-21	1.3	-96	0.4	-97
Dausa	31.8	-20	0.0	-100	0.0	-100
Dholpur	24.3	-43	0.0	-100	0.0	-100
Dungarpur	11.7	-76	0.0	-100	7.7	-42
Jaipur	20.5	-37	0.6	-97	1.5	-83
Jhalawar	35.4	-51	3.9	-88	27.4	35
Jhunjhunu	5.1	-78	0.0	-100	0.0	-100
Karauli	14.2	-64	0.2	-99	0.0	-100
Kota	81.1	33	1.0	-97	4.5	-66
Pratapgarh	58.0	-16	0.0	-100	8.0	-63
Rajsamand	28.7	-25	0.3	-99	3.4	-67
Sawai Madhopur	24.4	-32	0.0	-100	0.0	-100
Sikar	9.3	-55	0.0	-100	5.9	-11
Sirohi	38.6	-45	0.0	-100	0.0	-100
Tonk	22.3	-39	0.0	-100	0.0	-100
Udaipur	19.4	-58	0.2	-99	5.1	-64
West Rajasthan						
Barmer	3.6	-79	0.0	-100	0.0	-100
Bikaner	7.3	-51	0.0	-100	0.0	-100
Churu	1.6	-91	0.0	-100	0.0	-100
Hanumangarh	4.7	-61	0.0	-100	0.0	-100
Jaisalmer	1.1	-90	0.0	-100	0.0	-100
Jalore	13.9	-54	0.0	-100	0.0	-100
Jodhpur	12.8	-21	0.0	-100	0.0	-100
Nagaur	22.1	11	0.0	-100	0.9	-85
Pali	22.4	-38	0.0	-100	0.0	-100
Sri Ganganagar	11.2	-24	0.0	-100	0.0	-100
Gujarat Region						
Ahmedabad	22.0	-45	0.0	-100	23.2	48
Anand	24.3	-58	0.7	-98	27.9	54
Aravalli	9.3	-84	0.0	-100	19.0	-14
Banaskantha	20.2	-43	0.0	-100	0.0	-100
Broach	9.0	-82	9.7	-72	75.3	250
Chhota Udepur	45.8	-41	2.5	-95	65.2	69
DNH	13.8	-89	84.1	43	152.7	266
Dahod	29.8	-56	0.7	-98	48.5	70
Daman	14.2	-89	123.9	111	236.6	467
Dangs	25.8	-82	50.5	-33	206.1	292
Gandhinagar	18.0	-70	0.0	-100	28.8	99

Kheda	17.0	-75	0.0	-100	39.8	95
Mahisagar	23.8	-64	0.3	-99	21.4	0
Mehsana	12.9	-72	0.0	-99	3.9	-77
Narmada	24.4	-63	9.7	-78	87.2	214
Navsari	24.2	-78	102.4	47	130.1	285
Panchmahal	23.6	-64	0.1	-99	27.5	-5
Patan	8.4	-74	0.0	-100	0.0	-100
Sabarkantha	19.9	-65	0.0	-100	8.7	-45
Surat	24.4	-69	25.8	-44	145.4	447
Tapi	18.8	-80	15.8	-66	132.2	339
Vadodara	19.3	-66	0.0	-100	70.2	166
Valsad	17.9	-87	98.2	41	172.1	354
S K & Diu region						
Amreli	2.7	-91	10.2	-45	194.0	972
Bhavnagar	28.2	-16	6.6	-70	147.4	857
Botad	39.0	51	0.0	-100	33.8	96
Devbhoomi Dwarka	0.8	-95	0.0	-100	9.0	92
Diu	6.0	-70	0.0	-100	142.1	1745
Gir Somnath	1.5	-96	0.0	-100	163.1	1065
Jamnagar	2.3	-89	0.0	-100	11.7	13
Junagarh	4.2	-86	2.4	-91	131.7	624
Kutch	0.1	-99	0.0	-100	8.5	46
Morbi	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.2	-99	0.0	-100	44.0	479
Rajkot	4.3	-82	0.0	-100	82.5	346
Surendranagar	16.2	-55	0.0	-100	11.5	10
Maharashtra						
Konkan & Goa						
Mumbai City	17.2	-81	6.0	-91	336.2	755
Mumbai Suburban	27.7	-77	47.2	-31	390.1	829
North Goa	47.5	-46	28.1	-56	124.7	123
Raigad	45.8	-68	31.0	-63	359.3	512
Ratnagiri	48.3	-62	18.4	-75	334.6	478
Sindhudurg	37.0	-59	40.8	-39	153.9	155
South Goa	33.5	-61	23.3	-58	92.4	67
Thane	40.5	-67	44.5	-35	235.7	381
Madhya Maharashtra						
Ahmednagar	0.7	-97	4.6	-85	129.1	356
Dhule	0.2	-99	5.0	-74	73.7	314
Jalgaon	28.8	-29	1.9	-93	107.9	429
Kolhapur	9.0	-84	2.8	-91	55.3	49
Nandurbar	12.0	-74	14.6	-56	102.9	324
Nasik	13.3	-75	18.9	-58	87.6	213
Pune	6.0	-85	7.5	-74	89.8	157
Sangli	3.1	-82	14.7	-42	34.0	-1
Satara	5.3	-81	2.9	-88	80.2	148
Solapur	4.5	-83	17.7	-50	79.8	82
Marathwada						






Aurangabad	24.9	-36	4.2	-86	78.2	187
Beed	19.6	-51	14.4	-56	122.0	198
Hingoli	28.3	-53	20.8	-37	92.0	205
Jalna	59.3	39	12.0	-58	74.8	185
Latur	28.0	-45	75.5	95	161.0	350
Nanded	21.6	-57	39.2	14	101.3	163
Osmanabad	5.7	-85	34.7	-12	139.9	207
Parbhani	22.6	-59	29.5	-10	143.6	294
Vidarbha						
Akola	14.7	-61	5.1	-85	58.7	145
Amraoti	27.0	-46	14.6	-61	69.5	158
Bhandara	8.1	-89	96.6	64	4.7	-86
Buldhana	31.7	-16	1.2	-96	47.4	105
Chandrapur	13.6	-82	161.0	180	45.5	54
Gadchiroli	35.2	-55	182.5	258	38.4	22
Gondia	36.5	-51	184.9	185	7.1	-78
Nagpur	9.7	-86	49.7	15	11.8	-63
Wardha	28.5	-57	39.9	22	41.0	44
Washim	27.5	-49	11.2	-72	45.4	41
Yeotmal	13.5	-76	42.5	44	51.4	80
Odisha						
Angul	56.7	-19	40.9	-40	6.7	-83
Balasore	118.2	90	67.6	-24	11.5	-77
Bargarh	158.3	128	76.4	-3	16.3	-51
Bhadrak	69.0	23	47.5	-23	21.9	-56
Bolangir	146.8	112	62.7	-15	14.2	-63
Boudh	202.0	271	58.9	-23	34.0	-29
Cuttack	108.6	66	47.0	-42	21.0	-52
Deogarh	46.7	-50	147.9	90	20.4	-38
Dhenkanal	57.4	-14	20.7	-68	9.9	-77
Gajapati	55.6	14	67.8	24	60.2	-17
Ganjam	37.1	-17	38.5	-33	34.1	-35
Jagatsingpur	136.3	134	16.0	-79	24.8	-42
Jajpur	63.0	-6	56.2	-8	21.8	-64
Jharsuguda	98.2	22	76.2	0	31.1	-20
Kalahandi	112.5	84	104.2	24	43.0	2
Kandhamal	99.4	83	98.2	29	31.6	-34
Kendrapara	118.3	82	11.5	-84	3.5	-94
Keonjhar	77.9	25	49.9	-14	7.4	-85
Khurda	74.0	28	50.5	-35	17.6	-69
Koraput	150.4	105	56.9	-25	60.7	0
Malkangiri	116.6	47	115.4	74	35.7	-16
Mayurbhanj	146.7	94	51.7	-32	14.1	-72
Nawapara	64.6	23	75.6	27	50.5	58
Nawarangpur	62.0	-22	88.2	26	50.8	2
Nayagarh	61.6	2	28.8	-53	42.8	-20
Puri	102.0	66	45.1	-41	9.3	-81
Rayagada	72.1	27	31.1	-43	29.3	-41
Sambalpur	159.6	71	43.9	-43	16.3	-50

Sonepur	219.4	187	32.5	-64	10.1	-70
Sundargarh	116.3	64	73.4	4	22.4	-39
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	140.0	98	47.7	-33	233.1	160
North & Middle Andaman	174.1	56	68.5	-35	124.2	13
South Andaman	192.4	99	197.8	102	184.7	65
GWB						
Bankura	154.0	154	49.3	-23	13.7	-67
Birbhum	124.8	104	20.5	-68	29.5	-46
Burdwan	144.5	164	12.5	-83	62.5	27
East Midnapore	101.5	33	37.9	-62	23.6	-55
Hooghly	135.2	87	13.6	-76	23.6	-49
Howrah	83.2	26	58.4	-24	24.3	-51
Kolkata	185.9	142	12.5	-84	40.6	-14
Murshidabad	75.3	25	16.7	-73	39.5	-20
Nadia	67.6	19	12.6	-73	32.9	-21
24 Pargana (N)	68.6	18	23.4	-69	10.0	-82
Purulia	189.5	156	51.9	-30	14.1	-66
24 Pargana (S)	89.6	-7	35.4	-62	32.0	-36
West Midnapore	114.0	46	41.5	-43	2.5	-94
SHWB & Sikkim						
Cooch Behar	105.4	-10	47.0	-60	46.9	-59
Darjeeling	148.4	19	144.3	4	143.4	34
East Sikkim	84.8	-23	65.6	-29	129.2	83
Jalpaiguri	191.3	60	112.2	-10	180.0	45
Malda	107.7	101	54.8	-30	44.2	-10
North Dinajpur	87.5	17	57.3	-43	83.8	7
North Sikkim	126.1	9	80.2	-21	182.3	119
South Dinajpur	35.7	-40	27.1	-62	112.2	76
South Sikkim	124.7	14	54.3	-41	109.3	55
West Sikkim	**	**	**	**	**	**
Karnataka						
Coastal Karnataka						
Dakshina Kannada	49.4	-46	24.4	-65	52.9	-10
Udupi	86.1	-24	30.9	-67	65.0	-10
Uttara Kannada	58.0	-23	16.7	-70	45.3	-17
N I Karnataka						
Bagalkote	2.4	-86	12.8	-41	37.1	-11
Belagavi	1.7	-89	12.2	-23	21.3	-34
Bidar	38.1	0	78.5	109	121.3	209
Dharwad	3.9	-71	0.5	-97	14.5	-64
Gadag	4.1	-75	21.2	-7	19.6	-53
Haveri	2.6	-79	1.2	-90	16.5	-50
Kalaburgi	13.4	-66	63.1	75	105.3	116
Koppal	2.4	-88	4.1	-84	25.3	-49
Raichur	8.4	-65	33.5	26	112.9	167
Vijayapura	3.5	-85	9.9	-66	85.1	98

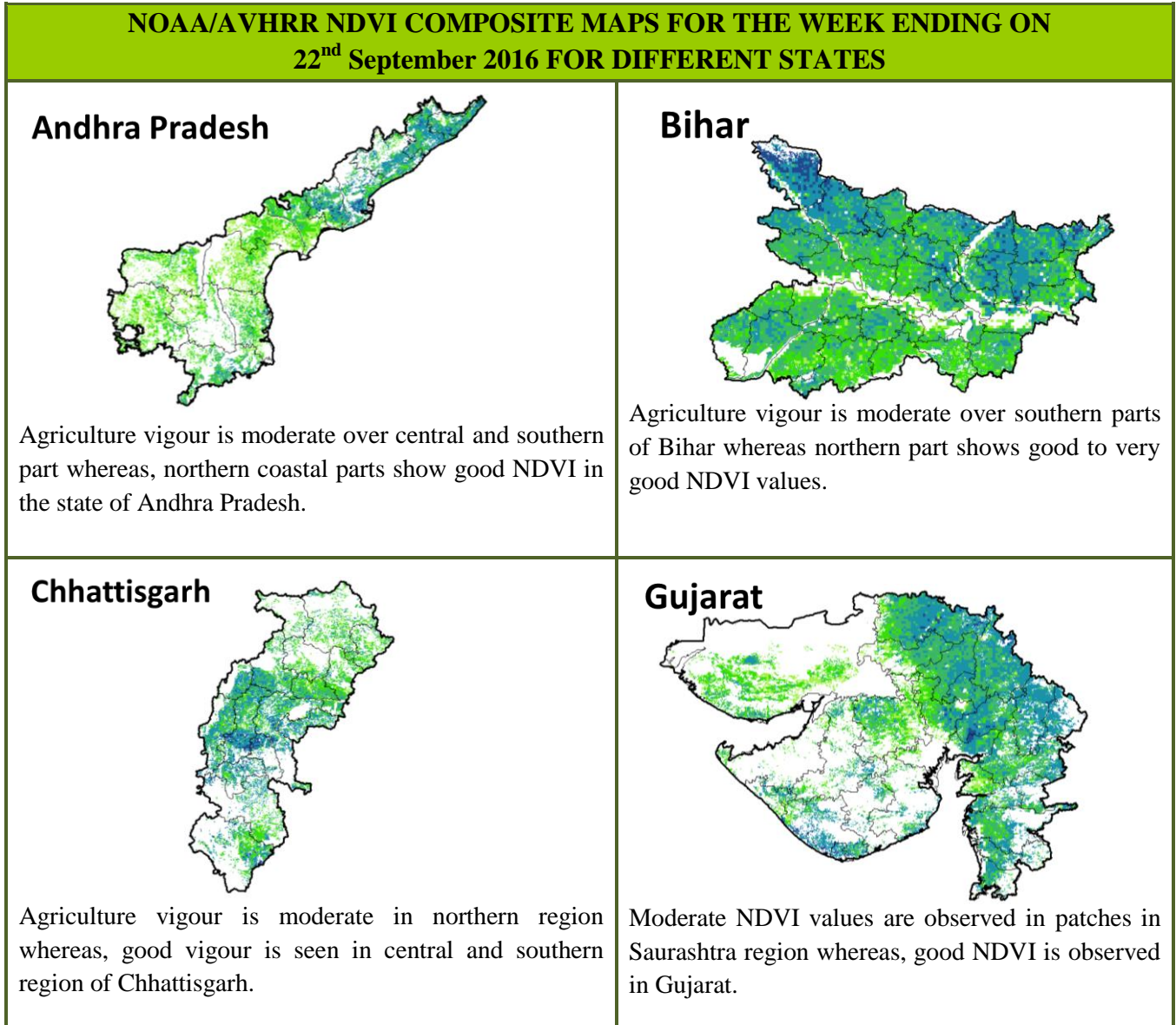
Yadgir	3.9	-88	36.6	7	84.8	78
S I Karnataka						
Ballari	3.8	-79	10.7	-50	18.0	-62
Bangalore Rural	11.6	-60	9.2	-70	7.7	-87
Bangalore Urban	14.4	-55	8.3	-75	14.3	-75
Chamarajanagar	0.6	-96	1.4	-93	8.1	-80
Chikaballapur	17.2	-35	2.2	-92	12.0	-76
Chikkamagaluru	30.0	-27	5.1	-81	29.3	-32
Chitradurga	7.4	-33	3.8	-73	14.3	-59
Davangere	10.9	-15	2.3	-86	23.9	-43
Hassan	7.0	-60	11.8	-16	3.8	-89
Kodagu	25.3	-59	12.5	-67	37.1	-20
Kolar	1.0	-96	7.9	-73	9.9	-80
Mandya	2.0	-87	18.1	-20	1.8	-95
Mysuru	1.9	-85	5.3	-68	2.8	-91
Ramanagara	6.6	-76	0.0	-100	7.2	-89
Shivamogga	44.1	17	21.4	-6	56.0	81
Tumakuru	12.0	-40	11.4	-55	11.0	-77
Kerala						
Alappuzha	9.1	-83	8.6	-86	9.9	-84
Kannur	19.1	-67	8.5	-80	69.2	74
Ernakulam	30.4	-48	9.7	-85	27.6	-59
Idukki	24.0	-63	3.2	-95	28.5	-55
Kasaragod	35.7	-54	12.8	-77	36.1	-29
Kollam	7.0	-81	8.5	-79	19.8	-61
Kottayam	15.6	-71	8.8	-84	20.7	-64
Kozhikode	11.1	-80	5.1	-89	49.4	-3
Malappuram	12.6	-72	0.6	-98	35.7	-22
Palakkad	9.9	-76	2.8	-91	38.6	11
Pathanamthitta	20.8	-56	7.4	-87	21.7	-63
Thiruvananthapuram	4.7	-79	0.4	-99	3.8	-89
Thrissur	14.2	-74	0.5	-99	24.0	-59
Wyand	19.4	-73	14.1	-64	14.1	-72
Tamil Nadu						
Ariyalur	16.4	-25	12.3	-65	0.0	-100
Chennai	51.7	123	42.2	80	83.3	199
Coimbatore	9.1	7	0.4	-96	17.8	-15
Cuddalore	27.1	29	7.9	-73	4.1	-89
Dharmapuri	2.5	-89	2.2	-94	1.5	-97
Dindigul	11.5	-47	4.0	-86	0.5	-98
Erode	7.6	-47	3.2	-85	0.9	-97
Kanchipuram	28.3	0	35.5	12	43.5	18
Kanyakumari	0.3	-98	0.0	-100	0.4	-98
Karikal	65.2	329	0.0	-100	0.0	-100
Karur	12.6	-22	0.0	-100	0.1	-99
Krishnagiri	0.3	-99	1.7	-94	1.3	-98
Madurai	33.8	35	0.0	-99	9.1	-72
Nagapattinam	26.4	72	1.6	-93	4.8	-81
Namakkal	12.6	-28	5.6	-83	0.8	-98

Nilgiris	26.0	-19	5.2	-80	8.6	-78
Perambalur	47.3	172	6.0	-78	0.0	-100
Puducherry	0.5	-98	21.9	-30	17.5	-42
Pudukottai	53.1	159	5.5	-79	11.6	-63
Ramanathapuram	32.7	355	3.4	-72	0.1	-99
Salem	12.6	-48	5.6	-84	0.4	-99
Sivaganga	73.3	347	7.7	-71	7.0	-68
Thanjavur	19.9	13	15.5	-41	2.8	-91
Theni	3.4	-61	0.1	-99	0.7	-96
Tirunelveli	0.4	-91	0.0	-100	0.0	-100
Tirupur	5.7	-36	0.0	-100	12.3	-39
Tiruvallur	53.7	87	17.4	-37	76.6	151
Tiruvannamalai	5.4	-82	39.3	-1	4.0	-92
Tiruvarur	19.1	13	7.4	-71	1.6	-94
Toothukudi	1.8	-70	0.0	-100	0.1	-99
Trichy	16.1	-30	2.2	-93	0.8	-98
Vellore	9.0	-70	10.9	-66	17.9	-63
Villupuram	5.3	-75	6.4	-82	8.6	-81
Virudhunagar	8.9	-28	10.1	-45	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	66.2	72	49.3	47	35.0	-14
Guntur	10.4	-66	98.7	225	48.7	54
Krishna	16.8	-55	24.0	-28	66.7	83
Nellore	22.1	10	10.2	-47	20.8	-28
Prakasam	7.0	-67	91.2	360	18.6	-36
Sirkakulam	53.2	16	38.1	-23	48.1	-13
Visakhapatnam	30.7	-23	49.4	22	64.7	37
Vizianagram	45.6	1	64.5	30	79.5	41
West Godavari	76.7	81	31.4	-17	74.9	94
Rayalaseema						
Anantapur	4.4	-75	8.3	-64	11.0	-75
Chittoor	14.4	-47	6.2	-77	12.7	-68
Cuddapah	13.8	-37	18.7	-15	50.8	33
Kurnool	2.8	-89	33.1	32	64.8	74
Telangana						
Adilabad	18.0	-68	55.0	65	48.9	27
Hyderabad	97.2	191	83.3	136	142.0	239
Karimnagar	22.3	-52	82.3	167	61.4	59
Khammam	68.0	48	47.7	25	37.9	6
Mehabubnagar	7.6	-72	58.7	82	68.4	94
Medak	37.1	3	100.7	171	95.9	105
Nalgonda	24.4	-22	107.7	243	53.9	55
Nizamabad	41.1	-19	48.5	26	76.9	109
Rangareddy	53.0	50	67.6	58	92.9	119
Warangal	36.6	-20	48.6	49	98.4	169

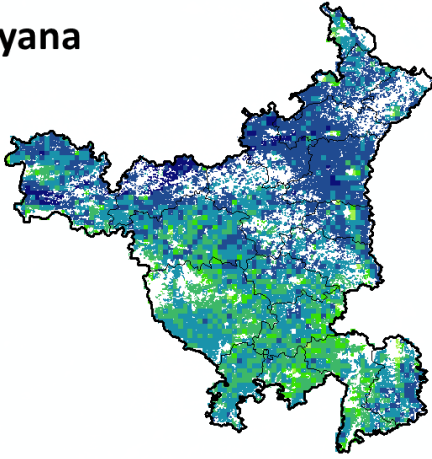
Legends

	(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

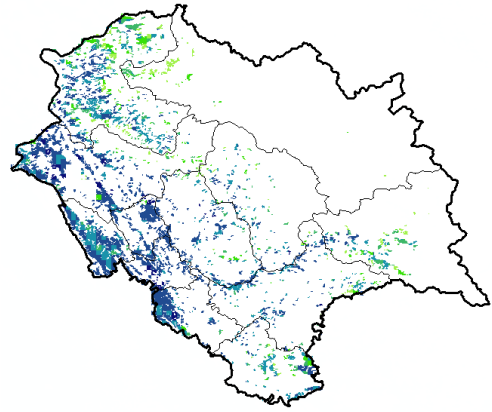


Haryana



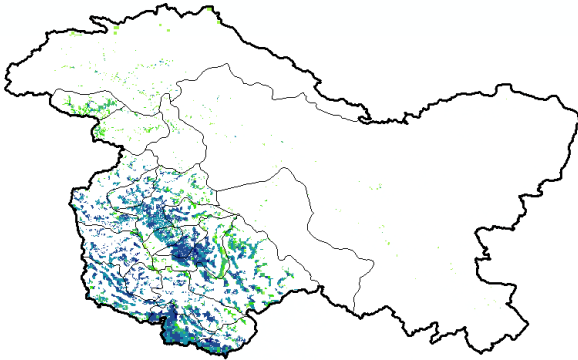
Agriculture vigour is moderate in patches over southern region whereas, good & very good agriculture vigour is observed in rest of the state.

Himachal Pradesh



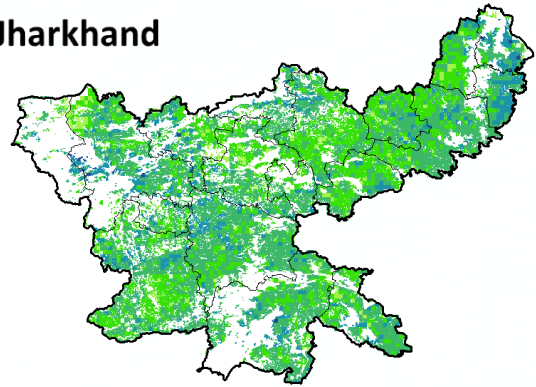
Agriculture vigour is good to very good over southern parts of Himachal Pradesh.

Jammu & Kashmir



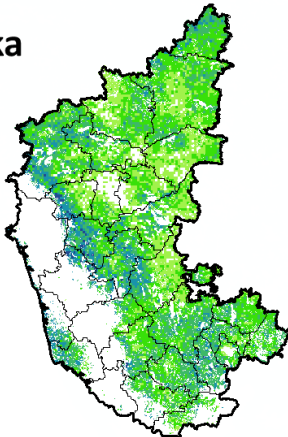
Agriculture vigour is good to very good over south western part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.

Jharkhand



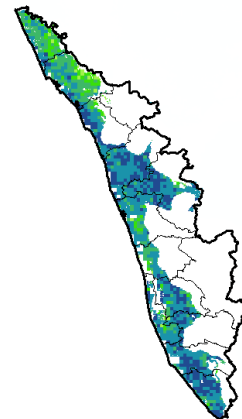
Agriculture vigour is moderate over entire state of Jharkhand whereas, few patches in north and east show good NDVI values.

Karnataka



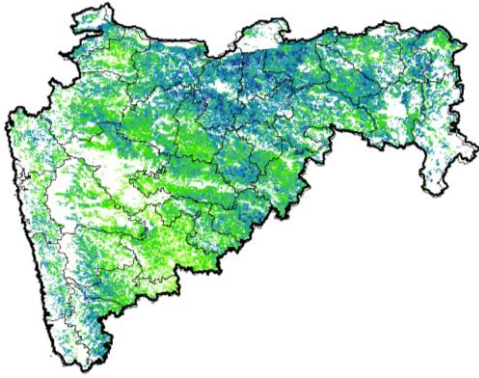
Agriculture vigour is moderate over northern region of the state whereas good vigour is observed in the central and patches in southern regions.

Kerala



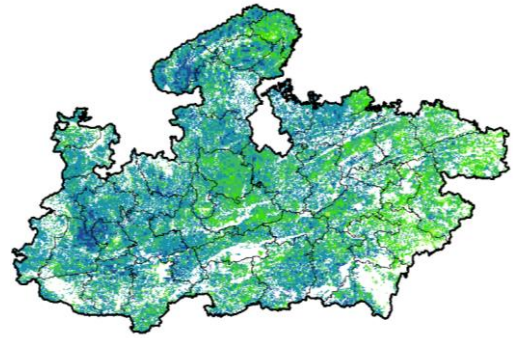
Agriculture vigour is good over entire state of Kerala except northern part which shows moderate NDVI values.

Maharashtra



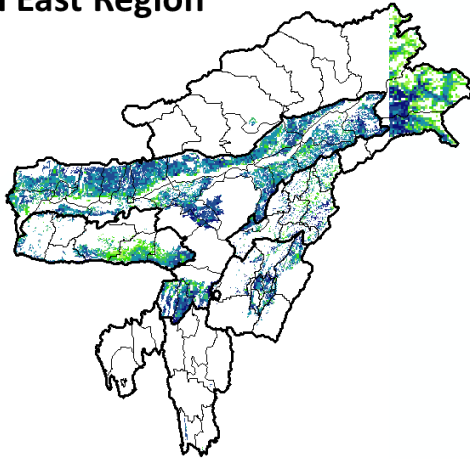
Agricultural vigour is moderate over madhya Maharashtra whereas, good to very good vigour is observed in the coastal, central and eastern regions.

Madhya Pradesh



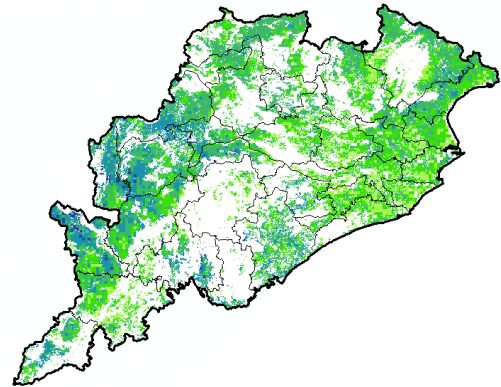
Agriculture vigour is moderate over eastern region of the state of Madhya Pradesh whereas, good & very good vigour is observed over central, western and northern region.

North East Region



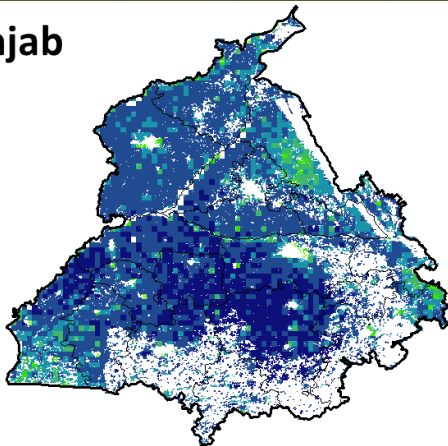
Agriculture vigour is good & very good over north-east states of country.

Odisha



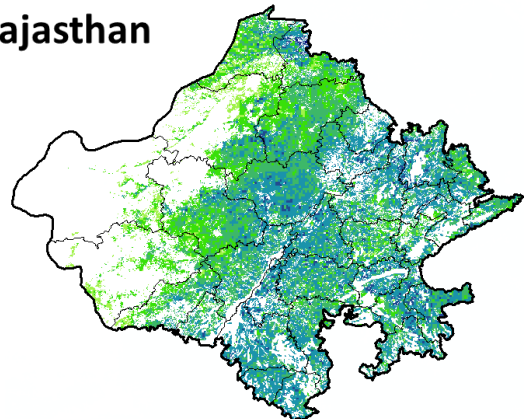
Agriculture vigour is moderate over eastern region of Odisha whereas, good to very good vigour is observed in western region.

Punjab

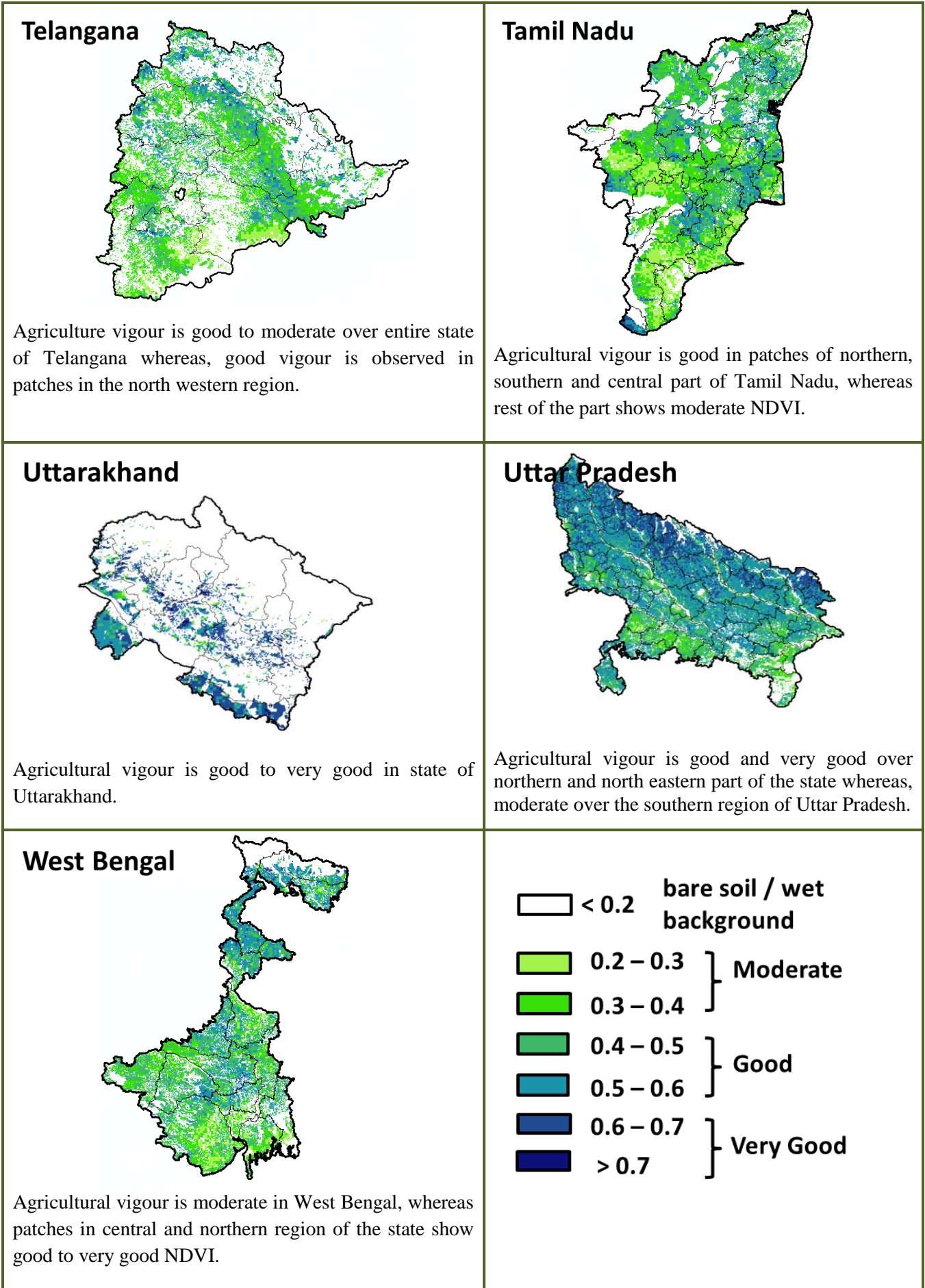


Agriculture vigour is very good over the entire state of Punjab except for few patches in south western region which shows moderate conditions.

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.
Pigeon pea/ cow pea/ arhar : T-21.
Black papper : Panniyur-1, and 2, Kalluvali, Karimunda, kottandam, Balankotta.
Sesame : Gauri, Binayak, RT-1, Punjab Til No-1 .
Greengram : Pratap, SGC 16, SGC 20, IPM-02-3, T-44, Kopergaon, K-851, ML-56, ML-131
Black gram : PU-31, KU 301, SBC 40, SBC 47, T-9, T-27, Pant U-19, T-122.
Cauliflower : Early Kunwari, Pusa Ketki, Pusa Dipali.
Winter brinjal: Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samra.
Pumkin: Arke Suryamukhi, Arka Chandan.
Radish : Pusa Desi, Pusa Chetki.
Potatao : Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri.

Arunachal Pradesh

Green Gram: KU-301, IPM-02-03, PDM-139, SM9-165.
Black Gram: SBC-40.

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

Coconut: Eastcoastal, Hazari
Banana :Mortoman, Chapa, Kathali, Singapuri,
Mustard:Varuna, Sita and Bhagirathi.
Jute : Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali etc.
Aman rice: Medium duration MTU-7029, MTU1001, Pratiksha, and for long duration CR1017, CR1018, Cr1019, Sabita.
Paddy : IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002.

Odisha

Maize: Navjot, Shakti, Decan-107, Decan-109,
Hybrid: Megan-G,Megan,MM-1107,Highshell, Prabal, Proagro 4643, Bio9681, Pinnacle, DMH-7705,
Rice: *Early:* Jogesh, Siddant, Hazaridhan, Mandakini, Jyotirmayee, Virendra
Medium: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Kharavela, Naveen, Abhisek
Late: Barsadhan, Ranidhan, Pooja, Mrinalini, RGL-2837, Moti, Ketakijoha, Padmini,Kanchana, Mahanadi, Jagabandhu
Hybrid varieties: CR Dhan 701, NK 5251, JKRH 401, Ajay, Rajalaxmi, Arize 6444G
Cotton: Suraj, Supriya, B.S.-30, B.S.-279, Surabhi, Sujata
Hybrid: Sunny, Diana, Bhaskra, Namaskara, Tulasi, Sigma, Chiruta, Takat
Mango:Grow Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar,, Langra, Dusheri, Amrapalli, Mallika,
Ratna, Ramkella, Rummani, Sindhu, Alphanso and Keshar, etc.
Ragi: Divyasingh, AKP-2, AKP-3, AKP-7, Godavari, Neelachal, Bhairavi, Shubhra, and Chilika.
Banana: Hampa, Patakpura, Bantal, Robusta and Kabuli etc.
Greengram:K-851, PDM-11, PDM-54, OUM-11-5
Blackgram : T-9, Pant U-11, Pant U-19, Pant, U-30, and cowpea –Cowpea-,SEB-2, Pusa Barsati
Soyabean:Ankur, Gourav, P. K. 73-163 and T-49.
Sesame:Prachi, Kalika, Kanak, Vinayak etc.

Bihar

Kharif onion: Agri Found Dark Red (ADR), N-53, Bhima super, Arka kalian.
Turmeric: Rajendra Sonia and Rajendra Sonali.
Ginger : Maran and Nadia.
Kharif Paddy: Seeta, Santosh, Saroj, Rajshri, Prabhat, Rajendra suvasni, Rajendra kasturi and Rajendra bhagwati.
Jute : JRO 8432, JRO 66, JRO 128 JRO 204 and JRO 66.
Bottle gourd: Pusa Naveen, Pusa Samridhi,
Bitter gourd: Pusa Visesh, Pusa-2 mosumi, Pumpkin- Pusa Visvash, Pusa Vikash,
Ridge gourd: Pusa Chikni,
Cucumber: Pusa Uday, Pusa Barkha

Jharkhand

Rice: Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111, Sahbhagi and Vandana,IR 36, 64, Lalat, Naveen, Sahbhagi, BR 10, Kanak, Rajendra Dhan 202, Sughanda, Birsa Vikash Sugandh Dhan 2, Birsa Vikash Dhan 203.
Maize:Suwan Composite 1(100 days) andhybrid variety- HQPM 1 (100 days), Composite variety- Birsa Makka 1 (80-85 days) and hybrid variety- Kanchan (80-85 days), Birsa vikash Makka 2(70-80 Days).
Red gram:Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days).
Groundnut: AK 12-24, Birsa moongfali 1, 2, 3 and bold type – Birsa bold (BAU 13).

Urad: T 9, Pant U 19, 30, 35 and Birsa urd 1.
Moong: Pusa Vishal, S M L 668, K 885, P S 16 , Pant Moong 2 and P D M 11.
Sweet potato: Birsa sakarkand-1 and Sri Bhadra.

Jammu & Kashmir

Paddy (Sub Tropical Zone): Basmati370, Ranbir Basmati, China-1039,K-39,K-343,Giza-1.
Maize: Vivek-25,Vivek QOM-9 HM-5 and HQPM-1.

Uttarakhand

Sugarcane: Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148, COS-96268 etc.
Okra(Bhabar and Tarai Zone): Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti
Paddy: Sharbati,Pusa1121,Pusa1,Pusa44,NDR 359.
Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.
Dwarfs variety of paddy: Narendra-118, Narendra-97, Pant Sankar Dhan-1 and Pant Sankar Dhan-10.
Pigeon pea: Pant Arhar-3, Pant Arhar-291, UPAS-120, Pusa-992.
Maize: Tarun, Navin, Kiran, Navjot, Pratap maize-1, Pusa sankul-3& 4 Kg seed of chilly crop.
Soyabean: P.S.-1042, P.S.-1241, P.S.-1347, P.S.-1225, P.S.-19.
Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.
Okra: Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti.
Radish: PushaChetki.

Himachal Pradesh

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

East Uttar Pradesh

Kharif Maize: ganga-11, sartaj, H.Q.P.M.-5, H.Q.P.M.-8, Pro-316, Bio-9681, Wai-1402 K, Prabhat, hybrid varieties G-1, 5 and selective varieties of Tarun, Navin, Kanchan, Sweta and Jaunpuri for early sowing.
Rice: Narendra-359, Malvia dhan-36, Narendra dhan-2026, Narendra dhan-2064, Narendra dhan-2065, Narendra dhan-3112, Sarju-52, Pant dhan-4, seeta, Jalamagna, jalanidhi, jalparia, chakia 59.
Hybrid varieties : Pro. Agro-6444(2001) Eraese, P.H.B.-71, Narendra sankar dhan-2,3, K.R.H.-2, P.R.H.-10, U.S.-312, R.H.-312, V.S.R.-202, R.H.-1531,
Scented varieties: Type-3, Pusa basmati-1, Malvia sugandh-105, Malvia sugandh-4-3, Narendra sugandh or Narendra usar dhan-1, Narendra usar dhan-2,C.L.R.-10, or Narendra usar dhan-2008
Turmeric: Kasturi, Paspu, Amlapuram, Madhukar, Sugna, Rajendra
Ginger -suprabha, suruchi, surbhi and Himgiri
Urad Bean: Pant U-19, Azad URD-1, KU 91-2, Shekhar-1, KU-301
Arahar: Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, paras manak, UPAS 120.
Moong: Type-27, 56

West Uttar Pradesh

Ladies finger: VRO-6, VRO-5.
Sugarcane: ko.sha 88230, ko.sha 8436, ko 0238, ko.sha 07250 or U.P. 0512.
Barseem: V.L.1,V.L.10, maskavi, jai,K-8027, K-9565, Mandakini.
Onion: pusa red, pusa white.
Sugarcane: The mid and late maturing varieties of sugarcane: CO Pant 211, Co Sa 687 and Co Sa 8436.
The varieties recommended in areas with poor water drainage: B.O.54 and B.O.91.
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.
Rice: Pusa-44, T.R-112 and T.R-113.
Onion: Punjab Naroya, Punjab White and PRO 6.
Radish: Punjab Pasand and Japanese white.
Turnip: L-1.
Carrot: Punjab Black Beauty, Punjab Carrot Red and PC-34.
Tomato: TH-1, Punjab Ratta, Punjab NR 7, Punjab Chhuhara, Punjab Upma, Castle Rock.
Rice:Hybrid varieties: K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10
High yielding varieties: Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509, Pusa improved basmati, Pusa sugandha-5, Pusa sugandha-4 (Pusa 1121), Ranvir basmati and Taravadi basmati.
Pigeon pea: Pusa 2001, Pusa 992, Paras, Manak.
Maize: PMH1, Parbhat, PMH2

Paddy : PR-124, PR-123, PR-121, PR-122, PR-114, PR 113,PR-126,PR-115.

Okra: Punjab-8 and Punjab-7

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.

Bottle Gourd- Pusa Naveen, PusaSamridhi

Bitter Gourd- PusaVisesh, Pusa-2 mosumi

Pumpkin- PusaVisvash, PusaVikash

Ridge Gourd- PusaChikni

Cucumber- PusaUday, PusaBarkha

East Rajasthan:

pearl millet: HHB 67, HHB 60, Raj 171, ICMH 356 and ICTP 8201(improved varieties)

Raj-171, ICTP-8203, RHB-173, RHB-177, RHB-121, HHB-67(improved varieties)

Sorghum: CSH-6, CSH-9, CSV-10, CSV-15.

TG37-A, DH-86, Pratap Mungfali-1.

Rice: P.R. 106, B.K.190, Mahisugandha(Basmati)

kharif onion: N-53 & Agrifound dark red

Maize: Aravali Makka-1, Pratap Makka-1, Pratap Makka-5, Pratap Hybrid Maize-1, Pratap Hybrid Maize-2 and bio-9637.

Hybrid varieties are-Mahi Dhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap

HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9

Ageti-76, Bassi Selected, Mahi Kanchan

Greengram:RMG-62, RMG-268. RMG-492 & RMG-344, IPM-02-3.

Cowpea: FS-68, RC-19 and RC-101.

Moth: RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)

West Rajasthan

Green fodder: Jwar/Bajra mixed with guar. popular varieties for Jwar are Raj Chari-1, Raj Chari -2, MP Chari, SSG 59-3, MSFH-3, MSFH-4 and Hara Sona; for Bajra: Raj Bajra Chari-2, Co -8, AvikaBajra Chari-19 and Giant bajra; for Guar: RGC-986, Bundel guar-1, Bundel Guar-2 and Bundel Guar-3.

Pearl millet: R.H.B.-177, ICTP-8203, RHB-121, RHB-173, RHB-154, GHB-538, HHB-67(improved varieties)

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

Groundnut: HNG-123, HNG-69, ICHG-00440, HNG-10, TG-37 A, Girnar-2, R.G.-425, GG-20, TG-39.

Sorghum: Girnar-2, RG-425, HNG-10, GG-20, TG-37-A, TG-39.

Narma cotton:R.S.T.-9, R.S.-810, R.S.-2013, Bikanerinarma, R.S.875, MaruVikas(Raj. H.H.16)

BT Narma cotton:M.R.C.H.6304, M.R.C.H.6025, R.C.H.650, Bioseed-6588, Bioseed-6488, R.C.H.-314, J.K.C.H. 1947, M.R.C.-7017 (BG-II) or N.E.C.H.6.

Madhya Pradesh

Cauliflower: Golden Anker and Pusa Mukta.

Cabbage: Pusa Synthetic ,Pusa Subhadra and Pusa Him Jyoti .

Radish: Pusa Kesar and Pusa Meghali.

Toria: Jawahar -1, PT-303.

Chhattisgarh

Tomato: Pusa early dwarf, Sweet 72, Pusa rubi, Pusa Gurab, Mangala, Naveen,Laxmi 5005 & NS 815.

Brinjal:Punjab Shadabahar, K S 331, P H 5, P H 6 ,KS224 ,A R B H -543.

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.