



National Agromet Advisory Service Bulletin



Friday 16th September 2016

(For the period 16th to 20th September 2016)



Issued by

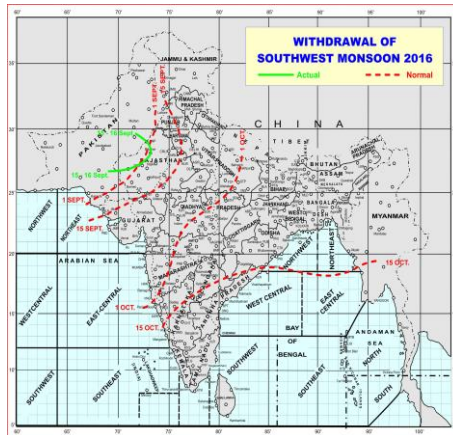
*National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.*

Weblink For

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

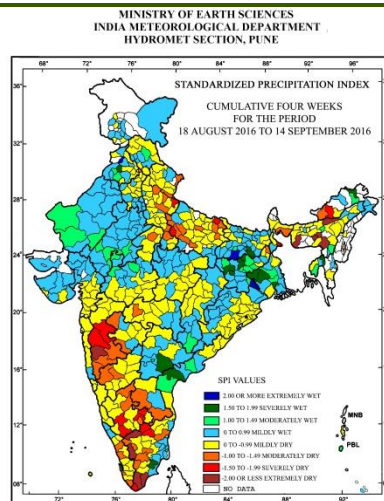
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

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 15 September 2016; Southwest monsoon was vigorous over Marathwada, North Interior Karnataka, Coastal Andhra Pradesh and Telangana; active over Konkan & Goa, Madhya Maharashtra and South Interior Karnataka.

Standardised Precipitation Index Four Weekly for the Period 18th August to 14th September 2016

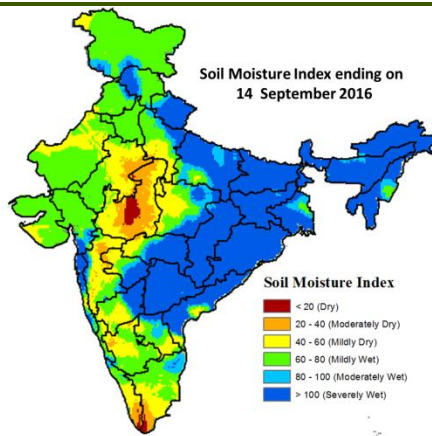


- Extremely/severely wet conditions experienced in Upper Siang district of Arunachal Pradesh; North Tripura district of Tripura; Bankura, Purulia, Kolkata districts of West Bengal; Hazaribag, Koderma, Lohardaga, East Singhbhum, Latehar districts of Jharkhand; Gaya, Jamui, Lakhisarai districts of Bihar; Kapurthala, Moga districts of Punjab; Guntur district of Andhra Pradesh; Nalgonda district of Telangana; Sivaganga district of Tamil Nadu & Puducherry.
- Extremely/Severely dry conditions experienced in most districts of Meghalaya; East Kameng district of Arunachal Pradesh; Shonitpur, Kamrup Metro., districts of Assam; South Dinajpur district of West Bengal; Kanpur Dehat, Maharajganj, Pilibhit districts of Uttar Pradesh; Ahmednagar, Pune, Satara districts of Maharashtra; Coimbatore, Dharmapuri, Kanyakumari, Tirunelveli, Toothukudi, Krishnagiri districts of Tamil Nadu & Puducherry; Bangalore Rural, Chamarajanagar, Hassan, Mysore, Chickballapur districts of Karnataka.
- Moderately dry conditions experienced in West Kameng district of Arunachal Pradesh; Cooch Behar district of West Bengal; Sahibganj district of Jharkhand; Faizabad, Farrukhabad, Fatehpur, Gorakhpur, Kannauj, Kanpur City, Kaushambi, Kushi Nagar, Mau, Unnao, Auraiya, Bijnor, Badaun, Jalaun, Rampur districts of Uttar Pradesh; Panchkula district of Haryana; Pithoragarh, Udham Singh Nagar districts of Uttarakhand; Gwalior district of Madhya Pradesh; Kolhapur, Sangli, Sholapur, Aurangabad, Osmanabad, Akola districts of

Maharashtra; Anantapur, Chittoor districts of Andhra Pradesh; Dindigul, Karur, Nilgiri, Theni, Viluppuram, Tirupur districts of Tamil Nadu & Puducherry; Bagalkote, Belgam, Bangalore Urban, Bellary, Chitradurga districts of Karnataka; Alappuzha, Malappuram, Thrissur, Trivandrum districts of Kerala.

- Rest of the country experienced moderately wet mildly dry/mildly wet conditions.

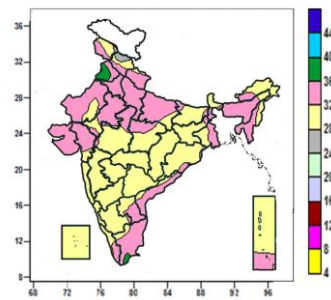
Soil Moisture Index for the week ending on 14th September 2016



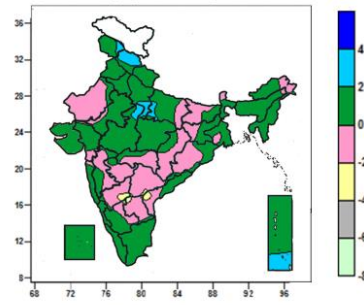
- Soil Moisture Index indicates dry/moderately dry condition in many parts of West Madhya Pradesh, some parts of Kerala, Tamil Nadu. Mildly dry condition in some parts of Madhya Pradesh, Maharashtra, Kerala, Karnataka, Tamil Nadu, Andhra Pradesh, Uttar Pradesh and Rajasthan. Mildly Wet condition in many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

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 14.09.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 14.09.2016



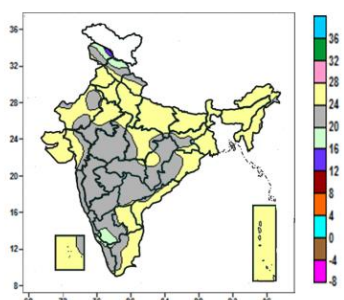
Mean Maximum Temperature (°C) Anomaly in India for the week ending 14.09.2016



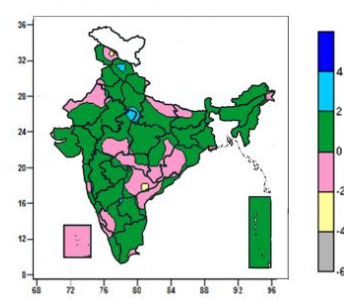
- Mean maximum temperature was between 36 to 40°C over many parts of Punjab and isolated pockets of Haryana, West Rajasthan and Tamil Nadu.
- Mean maximum temperature was between 28 to 36°C over rest of the country except some parts Himachal Pradesh and isolated pockets of Jammu & Kashmir, where it was between 24 to 28°C.

- Mean maximum temperature was above normal by 2 to 4°C over many parts of Himachal Pradesh, some parts of Andaman & Nicobar Islands and isolated pocket of Jammu & Kashmir, Uttar Pradesh and West Madhya Pradesh.
- It was normal to near normal over rest of the country except isolated pockets of Interior Karnataka, Telangana, Coastal Andhra Pradesh and Rayalaseema, where it was below normal by 2 to 4°C.

Actual Mean Minimum Temperature (°C) in India for the week ending 14.09.2016



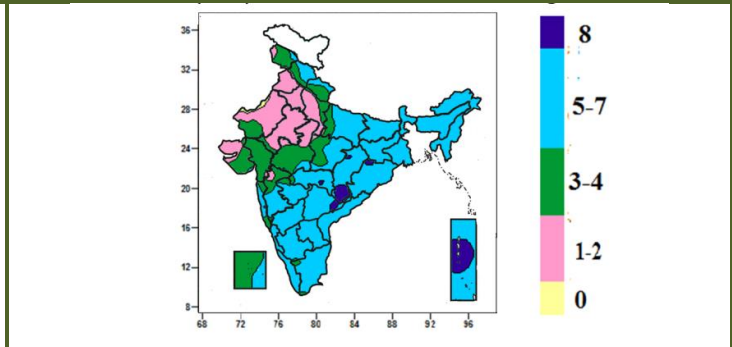
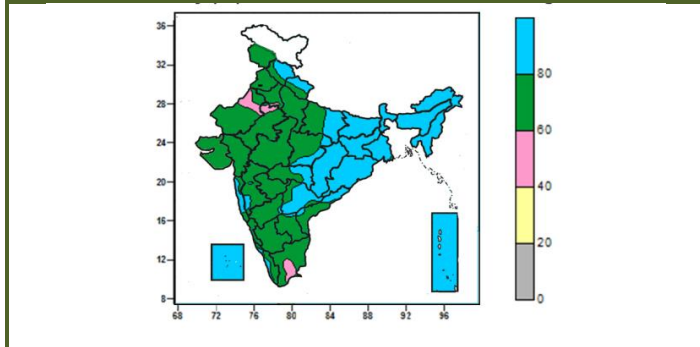
Mean Minimum Temperature (°C) Anomaly in India for the week ending 14.09.2016



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|---|--|
| <ul style="list-style-type: none"> • Mean minimum temperature was between 12 to 16⁰C over isolated pockets of Jammu & Kashmir. • Mean minimum temperature was between 16 to 20⁰C over some parts of Jammu & Kashmir, Himachal Pradesh, South Interior Karnataka and isolated pockets of Coastal Karnataka, Kerala and Tamil Nadu. • Mean minimum temperature was between 20 to 28⁰C over rest of the country. | <ul style="list-style-type: none"> • Mean minimum temperature was above normal between 2 to 4⁰C over isolated pockets of Himachal Pradesh, West Uttar Pradesh and West Madhya Pradesh. • Mean minimum temperature was normal to near normal over rest of the country except isolated pocket of isolated pockets of Jammu & Kashmir and Telangana, where it was below normal by 2 to 4⁰C. |
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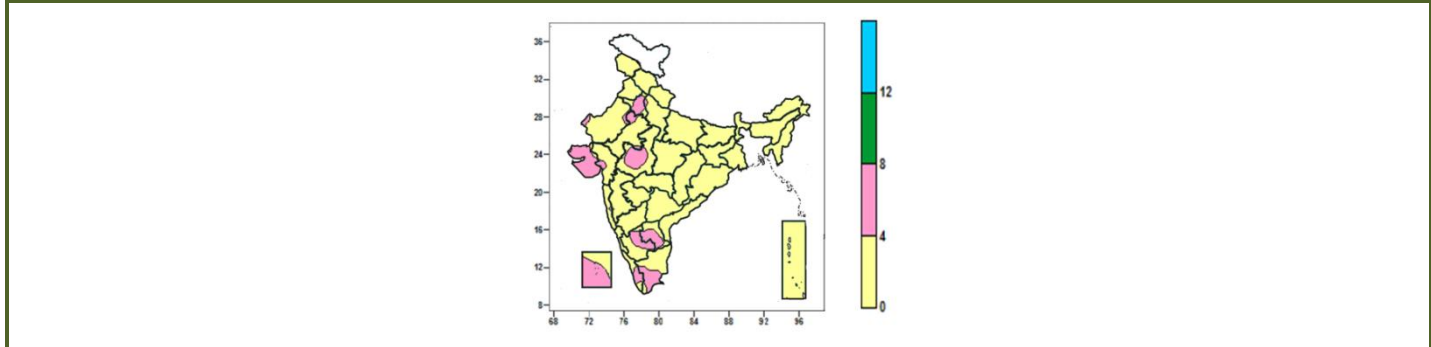
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 14.09.2016

| | |
|--|--|
| <p align="center">Relative Humidity (%) over India for the week ending 14.09.2016</p> | <p align="center">Cloud amount (okta) over India for the week ending 14.09.2016</p> |
|--|--|



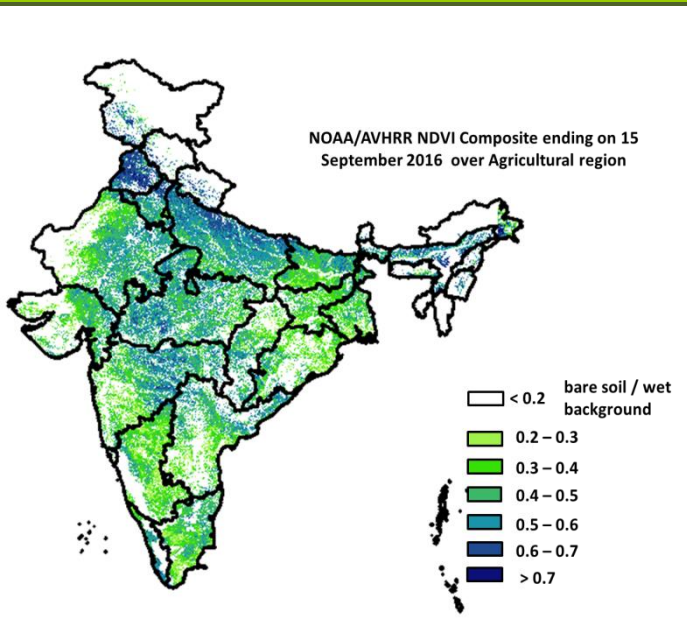
| | |
|---|---|
| <ul style="list-style-type: none"> • Mean Relative Humidity was above 80% over North East India, West Bengal & Sikkim, Bihar, Jharkhand, Chhattisgarh, Odisha, Lakshadweep and Andaman & Nicobar Islands, many parts of Himachal Pradesh, Uttarakhand, Konkan, Telangana, some parts of East Uttar Pradesh, East Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh and isolated pockets of Madhya Maharashtra, Kerala, North Interior Karnataka and Rayalaseema. • Mean Relative Humidity was between 60 to 80% over rest of the country except some parts of West Rajasthan, Tamil Nadu and isolated pockets of Haryana and East Rajasthan, where it was between 40 to 60%. | <ul style="list-style-type: none"> • Sky remained overcast (8 okta) over some parts of Chhattisgarh, Andaman & Nicobar Islands and isolated pockets of Odisha, Vidarbha, Telangana and Coastal Andhra Pradesh. • Sky remained generally cloudy (5-7okta) over rest of the country except Punjab, Haryana & Delhi, West Uttar Pradesh, Rajasthan, Gujarat Region, Goa, many parts of Jammu & Kashmir, Uttarakhand, Saurashtra & Kutch, West Madhya Pradesh, Lakshadweep, some parts of Himachal Pradesh, East Uttar Pradesh, East Madhya Pradesh, Madhya Maharashtra and isolated pockets of Vidarbha, Marathwada, South Interior Karnataka, Konkan, and Tamil Nadu, where it was partly cloudy/mainly clear sky/clear sky (3-4/1-2/0 okta). |
|---|---|

Wind speed (knots) over India for the week ending 14.09.2016



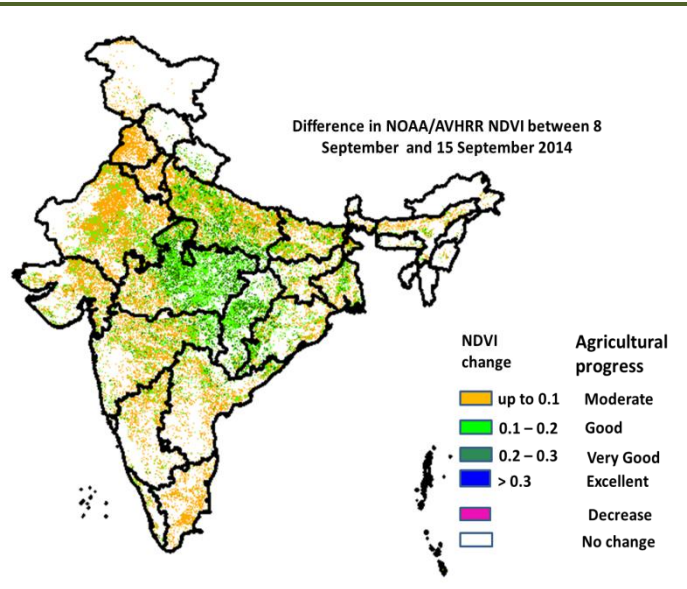
| |
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| <ul style="list-style-type: none"> • Mean wind speed was between 0 to 4 knots over the entire country except many parts of Haryana & Delhi, Saurashtra & Kutch, Rayalaseema, Lakshadweep, some parts of East Rajasthan, West Madhya Pradesh, South Interior Karnataka, Kerala, Tamil Nadu and isolated pockets of West Rajasthan, West Uttar Pradesh and Gujarat Region, where it was between 4 to 8 knots. |
|--|

NOAA/AVHRR NDVI COMPOSITE ENDING ON 15th 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 Northeast, where NDVI value are > 0.7, Agriculture vigour is good in Kerala, north Tamil Nadu, north Andhra Pradesh, north eastern parts of 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 8th and 15th SEPTEMBER 2016



- Very good progress in NDVI was observed in patches in Uttar Pradesh, Madhya Pradesh and Vidarbha region. Good progress was observed in Maharashtra, Madhya Pradesh, many patches in Rajasthan, patches in West Bengal, Bihar, north interior Karnataka, Chhattisgarh, Odisha where, NDVI change ranges from 0.1-0.2. Moderate progress in NDVI was observed in Rajasthan, Punjab, Haryana, Karnataka, West Bengal, Andhra Pradesh, Tamil Nadu and Gujarat.

- NOAA/AVHRR NDVI composite maps for the week ending on 15th September 2016 for different States are given in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 21st September 2016

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

5 Day Rainfall Forecast (MID DAY) 16th September 2016

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

% Station Reporting Rainfall

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

Weather Warning during next 5 days

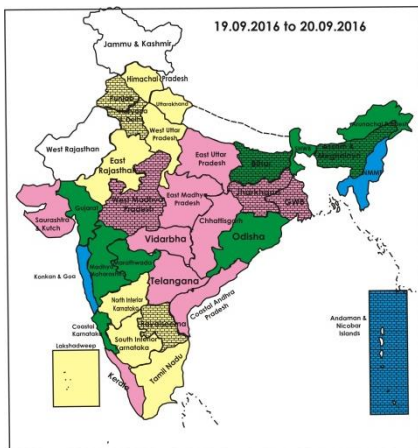
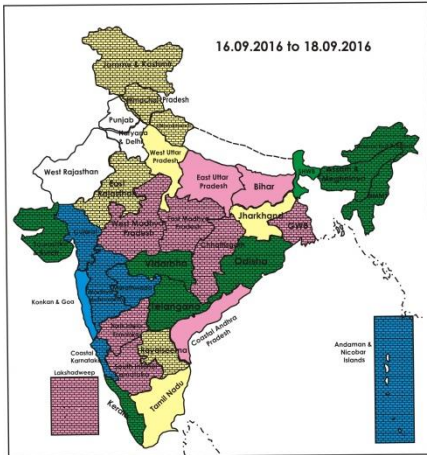
- 16 September (Day 1):** Heavy to very heavy rain at a few places with isolated extremely heavy falls very likely over Konkan & Goa; heavy to very heavy at isolated places over Madhya Maharashtra; heavy at isolated places over Vidarbha, south Gujarat region, Marathwada, North Interior Karnataka and Andaman & Nicobar Islands.
- 17 September (Day 2):** Heavy to very heavy rain at a few places with isolated extremely heavy falls very likely over Konkan & Goa; heavy to very heavy at isolated places over south Gujarat region and Madhya Maharashtra; heavy at isolated places over Vidarbha, Saurashtra & Kutch, Marathwada and Andaman & Nicobar Islands.
- 18 September (Day 3):** Heavy to very heavy rain at a few places with isolated extremely heavy falls very likely over Konkan & Goa; heavy to very heavy at isolated places over Madhya Maharashtra; heavy at isolated places over Gujarat and Madhya Maharashtra.
- 19 September (Day 4):** Heavy to very heavy rain at isolated places very likely over Konkan & Goa; heavy at isolated places over Nagaland, Manipur, Mizoram & Tripura, Gujarat and Madhya Maharashtra.
- 20 September (Day 5):** Heavy rain at isolated places very likely over Nagaland, Manipur, Mizoram &

Tripura, Konkan & Goa and Andaman & Nicobar Islands.

Weather Outlook for subsequent 2 days from 21st to 23rd September 2016

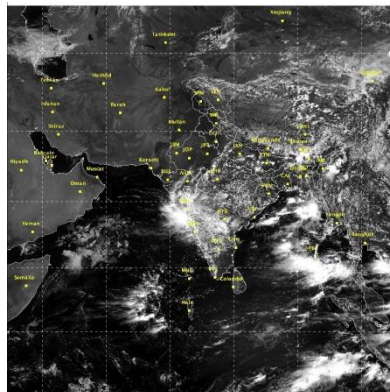
- Rain at many places very likely over east & northeast India and along west coast; at a few places over central & adjoining Peninsular India and Andaman & Nicobar Islands.
- Rain at isolated places over rest parts of the country except Punjab, Haryana and Rajasthan where weather very likely to be dry.

Weather Forecast Map (valid upto 0830 hours 21st 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

Satellite image dated, 16.09.2016 0600 UTC



Salient Advisories

- As rain/thundershowers likely at **most/many places** over Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat Region, Andaman & Nicobar Islands, Coastal Karnataka during the period, at **many places** over Sub-Himalayan West Bengal & Sikkim during the period, over Vidarbha on 16th and 17th, over Saurashtra & Kutch on 17th, over Arunachal Pradesh from 18th to 20th, over Assam & Meghalaya from 17th to 20th, at most/many places over Nagaland, Manipur, Mizoram and Tripura from 17th to 20th, over Kerala and Telangana on 16th and 17th, over Bihar on 20th, over Odisha from 18th to 20th 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.
- As **heavy to very heavy rain** very likely at a few places with isolated extremely heavy falls over Konkan & Goa on 16th to 18th, heavy to very heavy rainfall at isolated places on 19th, heavy to very heavy at isolated places over south Gujarat region and Madhya Maharashtra on 16th and 17th; **heavy** at isolated places over Andaman & Nicobar Islands on 16th, 17th & 20th, over Saurashtra & Kutch, Vidarbha and Marathwada on 17th and over Gujarat on 18th Sept. In Konkan, provide drainage and maintain water level of 7-8 cm in rice fields. Drain out excess water from cotton, soybean, groundnut, red gram and vegetable fields to avoid water stagnation in south Madhya Maharashtra, Marathawada and Vidarbha region. In East Vidarbha and Madhya Maharashtra (Western Ghat Region), drain out excess water from rice field. Provide adequate drainage in standing crop fields in Gujarat Region and Andaman & Nicobar Islands.
- In view of the prevailing/expected dry weather conditions in the following Sub divisions, farmers are advised to:
 - provide protective irrigation through rain guns or sprinklers to groundnut crop (June, July sown) which is suffering from stress conditions wherever irrigation is available or spray 2% Urea solution @ 20 g/litre of water to protect crops in Anantapur and Chittoor districts of **Royalaseema**.
 - apply irrigation to *kharif* crops like groundnut, guar and pulses showing wilting symptoms. Undertake hoeing and weeding operation in rainfed crops to create dust mulch for checking evaporation losses and also for control of weeds in Jaisalmer and Bikaner districts of **West Rajasthan**.
 - apply protective irrigation as per requirement in soybean, urad, maize and groundnut. Undertake hoeing & weeding operation in all *kharif* crops at vegetative stage and in vegetables in **West Uttar Pradesh**.
 - 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 & Kamshir**.
 - apply irrigation in rice and maintain 3 -5 cm water level in mid hill areas in Una, Hamirpur, Kangra and Chamba districts of **Himachal Pradesh**.
 - 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 Udham Singh Nagar district of **Uttarakhand**. Apply irrigation in jowar and bajra at flowering/grain formation stage.
 - maintain 5-7 cm water level in rice at flowering stage for higher yield and stop irrigation two weeks before harvesting in Fazilka, Ferozpur and Faridkot districts of **Punjab**. To avoid the shedding of flowers and bolls, maintain optimum moisture in cotton crop during flowering and boll formation stages. Also apply irrigation in maize at flowering/tasselling stage.
 - apply need based protective irrigation in late sown soybean and vegetables of **West Madhya Pradesh**.

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, Prakasam, Srikakulam, Vishakhapatnam, Vizianagaram and West Godavari district of Coastal Andhra Pradesh, Kurnool district of Rayalseema, all districts of Telangana, Chennai, Kancheepuram and Tiruvannamalai districts of Tamil Nadu, Udupi district of Coastal Karnataka, Bidar, Kalaburgi, Raichur and Yadgir district of North Interior Karnataka. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Coastal Karnataka during the period and at many places over Kerala and Telangana on 16th and 17th Sept., do not apply irrigation, fertilizers and plant protection measures to the standing crops.
 - **Kerala:**
 - In Kasaragod, Kannur, Kozhikode and Malappuram districts of Northern Zone and in Central Zone, maintain optimum water level in rice fields.
 - In Idukki and Wynad districts of High Altitude Zone, continue planting of cardamom and coffee seedlings. Continue harvesting of matured rice, vegetables, Nendran bananas in clear weather in Thiruvananthapuram district and continue harvesting of sugarcane in Pathanamthitta district and Viruppu rice in Kollam district.
 - In Kottayam district of Problem Area Zone, continue land preparation and sowing of *puncha* rice. Prevailing light rainfall and day temperature conditions are congenial for incidences of downy mildew, sucking pests/leaf feeding insects, and mosaic disease in cucurbits. If noticed, spray Mancozeb @ 0.2% to control downy mildew, apply Beauveria/Verticillium (*lecanicillium lecanii*) @10 g/litre of water to control sucking pests/leaf feeding insects and cut and remove the affected plant parts to control mosaic disease after current spells of rain.
 - In Kasaragod, Kannur, Kozhikode and Malappuram districts of Northern Zone, apply Azadirachtin @ 4ml/litre of water to control incidence of hairy caterpillar in bananas after current spells of rain.
 - In Thiruvananthapuram district, to control pod bug in cow pea, spray Oxuron 10 ml/litre of water or *Kanthari chilli* @ 10 g and garlic 210 g in 1 litre of water after current spells of rain.
 - **Karnataka:**
 - Undertake harvesting of black gram in clear weather in Ballary, Raichur, Kalaburgi and Koppal districts of North East Dry Zone.
 - In North East Transition Zone, sugarcane (4-5) plants of 5-6 feet high may be tied together to avoid lodging due to wind followed by earthing up. Carry out weeding/intercultural operations to conserve soil moisture and earthing-up of rows in pigeon pea. Complete harvesting of black gram in clear weather and keep the harvested produce at safe places.
 - In Eastern Dry Zone, undertake intercultural operation in maize to control the weeds and to increase the moisture availability to crops.
 - In Southern Transition Zone, apply irrigation in rice to maintain optimum water level.
 - Continue harvesting of green gram in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. To overcome the shortage of fodder to live stock, give preference to rabi sorghum during rabi season and/or take up sowing of fodder crops in some area and/or grow Gini grass on the bunds of the farm. In medium black to deep black soils, carry out sowing of sunflower in wider rows of 135 cm, to overcome moisture stress and get higher yields under sufficient moisture condition. Undertake hand weeding/intercultural operations in pigeon pea.
 - Complete harvesting of green gram in clear weather in Dharwad, Belagavi and Haveri districts of North Transition Zone. After harvesting of green gram incorporate the residue in the soil, which improves the soil fertility, infiltration rate and water holding capacity of the soil.
 - Due to high humidity and cloudy weather, there is chance of leaf spot disease in banana in Kodagu district of Southern Dry Zone; spray Blitox 3 g/litre of water for control on non rainy day. Invariably mix soap solution while spraying. Due to cloudy weather condition incidence of thrips and mite is observed in chilli crop in Chamrajnagar, Mandya, Mysore districts of Southern Dry Zone; to control, spray Roger @ 1.7 ml + Dicofol @ 2.5 ml per liter of water on a non rainy day.
 - Pod borer incidence was noticed in soybean crop in Bidar district; for control, spray Emamectin Benzoate 5 SG @ 0.4 ml per litre of water on non rainy day.

- Bud rot in coconut is observed in Coastal Zone; scrape the infected parts and apply a mixture of Metalaxyl plus Mancozeb at 2 g/litre or apply 1% Bordeaux paste, protect the infected part from rainfall.
- Brown plant hopper is noticed in rice crop in North East Dry Zone (Ballary, Raichur, Kalaburgi, Koppal districts); spray Chloropyriphos @ 2.0 ml or Monocrotophos @ 1.5 ml dissolved in one liter of water after current spells of rain.
- **Andhra Pradesh:**
 - In Rayalaseema, in Anantapur and Chittoor districts of Rayalaseema, provide protective irrigation through rain guns or sprinklers to groundnut crop (June, July sown) which is suffering from stress conditions wherever irrigation is available or spray 2% Urea solution @ 20 g/litre of water to protect crops. In fallow lands, undertake sowing of Sorghum, Bajra, Greengram, Cowpea, Horsegram 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, present weather conditions are favourable for sucking pests attack the on Blackgram and Greengram seedlings. To control, spray Acephate @ 1g or Monochrotophos @ 1.2 ml/litre of water during morning or evening time.
 - In Southern Zone, undertake sowing of crops like redgram, castor, green gram, cowpea, sorghum, bajra and horse gram when there is enough moisture in the soil.
 - In 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 or Orhynoxypyr @ 0.3 ml/litre of water.
 - 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 Quinolophos @ 2 ml/litre of water and to control sucking pests, spray Imidachlorprid @ 0.3 ml/litre of water.
- **Telangana:**
 - In Adilabad, Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), incidence of whorl maggot was noticed in rice and late wilt in maize. To control whorl maggot, spray Monocrotophos @ 1.6 ml/litre of water and to control late wilt, spray Copper oxychloride @ 3 g/litre of water after current spells of rain.
 - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), prevailing weather conditions (light to moderate rains) are congenial for the incidence of black arm bacterial disease in cotton. If noticed, spray Copper-Oxy-Chloride @ 30g + Plantomycin or Poshamycin 2 g in 10 litres of water for 2-3 times in 15 days interval time. Undertake plant protection methods 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 all the districts.
 - In Coimbatore, Tiruppur, Erode districts of Western Zone, continue nursery sowing Samba rice with medium duration rice variety. In the absence of wet nursery, direct dry seeding of medium duration rice can be undertaken with sufficient rain for samba season. 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.
 - 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. High cloud cover and moderate humidity expected during the coming days are conducive for the incidence of Moringa pod fly. To control: Soil application of Thiamethoxam 25 WG @ 200g a.i./ha on 150, 180 and 210 days after planting. placement of fermented tomato fruit trap @ 25/ha and need based foliar spray of Spinosad 45 SC @ 56g a.i./ha followed by Profenophos 50 EC @ 250g a.i./ha.
 - 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.
 - In Salem, Dharmapuri, Nammakal and Krishnagiri districts of North Western Zone, continue cultivation of pulses. Short term (60-65 days) varieties of black gram (Co-6), Vamban-6,8, green gram variety Co-8 (60 days), red gram varieties Co-7 (125 days), VBN -3 (105 days)
 - In Chennai district of North Eastern Zone, brown spot incidence was observed in rice. To control, spray Mancozeb @ 2.0g/litre of water 2 to 3 times at 10 - 15 day intervals, based on the intensity of the disease.
 - In Nilgiris district of High Altitude Hilly Zone, due to continuous rainfall, increase in head rot disease was observed in cabbage and cauliflower and is likely to increase. To prevent further spread, spray Copper Oxy Chloride @ 2g/litre of water on a non rainy day. Due to temperature fluctuation, farmers are advised to spray Cymoxanil 8 % + Mancozeb 64 % @ 2 ml /litre to control late blight in potato.
 - Suitable varieties for sowing are given in Annexure III.

❖ Animal Husbandry

- In the Southern Zone of Tamil Nadu, avoid stagnation of water near animal shed to prevent multiplication of vectors and to control spread of diseases. In the Western Zone, present weather is conducive for the initiation of foot and mouth disease in dairy animals and cattle. Vaccinate the animals.
- 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 Karnataka.

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



Banana



Rice



Groundnut



Jute

- **Realised Rainfall:** Rainfall occurred in Changlang, East Siang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari and West Siang districts of Arunachal Pradesh, Bongaigaon, Cachar, Chirang, Dibrugarh, Goalpara, Golghat, Hailakandi, Jorhat, Kamrup(Rural), Karimganj, Kokrajhar, Lakhimpur, Morigaon, Nagaon, Sibsagar and Tinsukia districts of Assam, East Garo Hills, East Khasi Hills, Ri-Bhoi and West Khasi Hills districts of Meghalaya, Aizwal, Lunglei, Saiha and Serchhip districts of Mizoram, Imphal West district of Manipur, Dimapur, Kohima and Phek districts of Nagaland and all districts of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Arunachal Pradesh from 18th to 20th, over Assam & Meghalaya from 17th to 20th and at most/many places over Nagaland, Manipur, Mizoram and Tripura from 17th to 20th Sept., do not apply irrigation, application of plant protection measures and fertilizers to the standing crops.
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of Upper Bramhaputra Valley Zone of Assam, continue sowing of green gram and black gram and nursery sowing of early cauliflower, radish, brinjal.
 - In Karimganj, Hailakandi and Cachar districts of Barak Valley Zone of Assam, farmers are advised to top dress of Urea @ 6 kg per bigha 25-30 days after transplanting of *Sali* rice. Before top dressing of urea, undertake weeding in the fields.
 - In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue land preparation and sowing of black gram and green gram and early varieties radish. Planting of coconut can be done in this month in low lying areas. Continue nursery raising of winter vegetables. To avoid damping off of seedlings, the seed beds should be drenched with 0.01% Captan or 4% Formalin solution and covered with polythene sheet or gunny bag for 2 days. Before sowing, seed should be treated with Captan or Bavistin @ 3 g/kg of seed (dry treatment).
 - In Marigaon and Nagaon districts of Central Bramhaputra Valley Zone of Assam, continue land preparation for 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 Bramhaputra Valley Zone of Assam, undertake sowing of brinjal, pumpkin and radish and planting of coconut one year old seedling under lowland condition.
 - 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 after 1-2 bright sunny days. Also continue harvesting of pulses. Undertake sowing of black gram and green gram in rice fallow of *jhum* fields without delay.
 - In Hill Zone, infestation of rice hispa and blast may occur in tillering stage. Spraying with Quinalphos @ 10ml/5 litre of water should be done if infestation is noticed. Also Carbendazim @ 1g/litre of water may be sprayed to control blast disease.
 - In Arunachal Pradesh, there is chance of attack of leaf folder and gundhi bug on wetland rice at tillering stage. Spray Triazophos 40 EC @ 4ml/litre of water against leaf folder and hang dead frog in the field against gundhi bug.
 - In Meghalaya, warm weather with intermittent rain is congenial for the development of leaf spot in groundnut. Spray Carbendazim (0.05%) + Mancozeb (0.2%) at 2-3 weeks intervals if dark spots are seen on the leaf. Also to prevent leaf spot disease in ginger/turmeric, apply Bordeaux mixture (5:5:50) after 4-5 weeks of sowing or Captan @ 1.5 g/litre of water. Spray/ drench 1% Bordeaux mixture or Dithane M-45 (2.5g/litre) in ginger and turmeric after current spells of rain to prevent rhizome rot.
 - In Central Bramhaputra Valley Zone of Assam, due to prevailing weather conditions, there is chance of attack of

army worm in *Sali* rice fields. Spray Chloropyriphos 20 EC/Quinalphos 25EC @ 2.5-3.0 ml/litre of water after current spells of rain.

- In Upper Bramhaputra 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.

▪ **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. In ginger, soil around the plants should be worked with the help of khurpi as it helps to break the fibrous roots and thereby supports new growth. Soil near the rhizomes becomes loose and friable and helps in proper development of rhizomes.
- In Manipur, continue sowing of onion in the upland areas. Land preparation for sowing of french bean, broad bean and pea may be done. Weeding may be done in rice fields and apply 33 kg Urea/ha at panicle initiation stage after drainage of water. Continue nursery raising for rabi vegetables.
- In Mizoram, undertake harvesting of matured banana. To control banana rhizome weevil, apply insecticide like Imidacloprid @ 0.5 ml or Phosolone @ 1.5 ml or Acephate 1.0 g per litre of water at 50% egg hatching stage.
- In Tripura, maintain adequate drainage in groundnut fields particularly in lowland where chances of stagnant water due to rain is more. Continue 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 Tripura, due to cloudy and humid weather, there is chance of attack of blast in Aman rice. Apply Tricyclazole 75 WP @ 0.6 gm/litre of water or Carbendazim 50 WP (Bavistin) @ 1 gm per litre of water against blast disease. The attack of white gurb in groundnut may be controlled by soil application of 10% Phorate @ 10 kg/ha. Undertake plant protection methods after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Northeastern states, farmers are advised to vaccinate domestic live stocks like cattle, goat and pigs 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.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Groundnut



Rice



Green gram

- **Realised Rainfall:** Rainfall occurred in Mumbai Suburban, Palghar, Raigad, Sindhudurg and Thane districts of Konkan & Goa, Latur, Nanded and Osmanabad districts of Marathwada, all districts of Vidarbha except Akola, Amraoti, Buldhana and Washim districts, in Navsari, Valsad and Dangs districts of Gujarat Region. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers likely at most/many places over Konkan & Goa, Madhya Maharashtra, Marathwada and Gujarat Region during the period, at many places over Vidarbha on 16th and 17th and over Saurashtra & Kutch on 17th Sept., do not apply irrigation, plant protection measures and fertilizers to the standing crops.
- As heavy to very heavy rain very likely at a few places with isolated extremely heavy falls over Konkan & Goa on 16th to 18th, heavy to very heavy rainfall at isolated places on 19th, heavy to very heavy at isolated places over south Gujarat region and Madhya Maharashtra on 16th and 17th, heavy at isolated places over Saurashtra & Kutch vidarbha and over Marathwada on 17th and over Gujarat on 18th Sept., drain our excess water from cotton, soybean, groundnut, red gram and vegetable fields to avoid water stagnation in south Madhya Maharashtra, Marathawada and Vidarbha region. In East Vidarbha and Madhya Maharashtra (Western Ghat Region), drain out excess water from rice field. Provide adequate drainage in standing crop fields in Gujarat Region.

▪ **Maharashtra:**

- In Konkan, provide drainage and maintain water level of 7-8 cm in rice field (panicle initiation/flowering stage).

In Madhya Maharashtra, in view of expected rain, keep the harvested produce of green gram and black gram in safer place. Maintain water level of 5-7 cm in transplanted rice fields (tillering/panicle initiation stage) in Western Ghat Region. Undertake compartmental bunding in fallow land for moisture conservation. Also undertake field preparation for sowing of *rabi* jowar with realized and expected rainfall.

- In Marathwada, in view of expected rain keep the harvested produce of green gram and black gram in safer place. Undertake preparatory tillage for *rabi* crops after harvest of *kharif* crops. Undertake compartmental bunding in fallow land for moisture conservation. Also in view of expected rainfall undertake preparatory tillage for *rabi* crops.
- In Vidarbha, in view of expected rain keep the harvested produce of green gram and black gram in safer place. Maintain 5-7 cm water level in transplanted rice fields (tillering/ panicle initiation stage) in Nagpur, Bhandara, Gondia, Chandrapur and Gadchiroli districts. Undertake compartmental bunding in fallow land for moisture conservation. Also in view of expected rainfall undertake preparatory tillage for *rabi* crops.
- As rain is expected in Marathwada, monitor the grape vine yards, if there is incidence of powdery mildew; spray Trichoderma @ 3 to 5 ml per litre water after current spell of rain.
- As rain is expected in Madhya Maharashtra, monitor the cucurbitaceous crops, if there is incidence of downey mildew; spray Copper Oxylchloride @ 25 g or Mancozeb 64% + Metalaxil 8% combined fungicide @ 20 g per 10 litres of water after current spell of rain.

▪ **Gujarat:**

- Undertake harvesting of matured bajra, continue picking of matured pods of green gram on a non rainy day in North Gujarat Zone. Keep harvested produce at safe places. Carry out hand weeding/intercultural operations in castor and vegetable crops in Kutch district, in maize, urd bean, fennel and vegetable crops in North Gujarat Zone.
- Continue bed preparation for seedling of *rabi* vegetable crops like chilli, tomato and brinjal in South Gujarat Zone. Spray Nephathalic Acetic acid @7 ml /10 litres of water in cotton to reduce flower dropping and immature cotton bolls.
- Continue picking of matured pods of green gram. Maintain optimum water level in rice fields.
- Undertake sowing of late *kharif* okra, apply light irrigation after sowing, maintain optimum water level in rice field in Navsari, Valsad and Dangs districts of South Gujarat Heavy Rainfall Zone.
- 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 prevailing weather conditions, there is chance of white fly/aphid in cluster bean and green gram and leaf spot in groundnut in Kutch district and in vegetable crops in North Gujarat Zone; 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 in Kutch district and in North Gujarat Zone; for control of leaf spot in groundnut in Kutch district, spray Carbandazim 5 g, Mencozeb 27 g, Clorothalonil 27 g, Hexaconazol 5 ml / 10 litres of water at 30-35 DAS and three spray at interval of 12-15 days.
- Heavy infestation of semilooper is observed in castor in North Saurashtra Zone; for control, spray Quinalphos @ 20 ml in 10 litres of water on a non rainy day.
- Due to cloudy weather condition, there is chance of incidence of mite in pigeon pea and castor semilooper in castor in South Saurashtra Zone; for control of mite in pigeon pea, spray Diacofol @ 15 ml in 10 litres of water and for control of castor semi-looper in castor, spray Quinalphos (1.5 % powder) @ 20 ml or Carbaryl @ 40 g in 10 litres of water on a non rainy day.

❖ **Animal Husbandry**

- In prevailing hot and humid weather provide food to animals before 10 am and after 5 pm, provide plenty of water to avoid water stress to live stock, provide mineral mixture powder 40 g per day. Provide 6-8 kg good quality dryroughage with 15-20 kg green fodder to the animals in Gujarat.

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



Red gram



Okra



Maize



Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim except South Dinajpur, in Bankura, Howrah, East & West Midnapore, Purulia and South 24-Parganas districts of Gangetic West Bengal, in all districts of Odisha except Dhenkanal, Jagatsinghpur, Kendrapara and Nayagarh, in

all districts of Bihar except Khagaria, and Madhubani, in all districts of Jharkhand except Deoghar, Dumka, Garhwa, Jamtara and West Singhbhum. Weather remained mainly dry over rest of the region.

• **Advisories:**

➤ As rain/thundershowers likely at most/many places over Andaman & Nicobar Islands, many places over Sub-Himalayan West Bengal & Sikkim during the period, over Bihar on 20th, over Odisha from 18th to 20th Sept., do not apply irrigation, plant protection measures and fertilizers to the standing crops.

➤ As heavy rain very likely at isolated places over Andaman & Nicobar Islands on 16th, 17th & 20th Sept., provide adequate drainage in standing crop fields.

▪ **Odisha:**

➤ In East and South Eastern Coastal Plain Zone, undertake sowing of pre-rabi pulse crops like green gram, black gram, horse gram in the fallow up and up-medium lands. Continue sowing of early cole crops like cabbage and cauliflower. Continue transplanting of brinjal and planting of marigold.

➤ 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 oxychloride 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 75WG @ 200g/ha in 500 litres of water after current spells of rain.

➤ In East and South Eastern Coastal Plain Zone, white ant attack has been found in Groundnut in rainfall deficit areas. Go for thorough soil drenching with Chloropyriphos @ 2 ml/litre of water after current spells of rain.

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

▪ **West Bengal:**

➤ In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, undertake seedbed preparation for early winter vegetables. Farmers can cultivate radish, broccoli, onion, cabbage, cauliflower etc. in the nursery bed. Farmers are advised to keep 5-7cm water in the fields of Aman rice.

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

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

➤ In Purba Medinipur and South 24 Parganas of Coastal Saline Zone, in betel vine arrange proper aeration. If sheath blight incidence is found above threshold level in high yielding Aman paddy variety, spray Propiconazole @ 1.5ml/litre of water with sticker.

➤ In Laterite and Red Soil Zone, in the present weather condition, stem borer attack may be found in rice. If the stem borer damage (Dead heart) is exceeding more than 5%, spray Chlorpyrifos 20% EC @ 2ml/litre of water.

➤ In Old Alluvial Zone, under the present weather condition, to prevent the infestation of Rice bug in rice field, spray Carbaryl @ 2.5g/litre of water at evening hour.

▪ **Andaman and Nicobar Islands:**

➤ In North, South and Middle Andaman, undertake planting hybrid napier @ 9 hills/m² in plain land and terraces for fodder purpose. Maintain 5-10 cm water level in main fields.

➤ In Nicobar, prepare raised nursery bed in well drained areas and sow the seeds of brinjal (400 to 500 g) and chilli (500 to 800 g) for transplanting in one hectare area.

▪ **Bihar:**

➤ In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, undertake sowing of rabi Arhar. Before sowing seed must be treated with Carbendizin @ 2g/kg of seed. Maintain 5 cm standing water in rice field. Undertake top dressing of 1/3rd urea (44 kg/ha) after 2nd hand weeding at 40-45 days after transplanting.

➤ In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain

Zone, continue sowing of pointed guard, cauliflower, radish, and chili. Undertake weeding in cauliflower, chilli, tomato, brinjal and onion crop in upland areas after current spells of rain.

- 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 after current spells of rain.

▪ **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.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Terai Zone of West Bengal, vaccinate cattle against BQ and HS (BQ, HS Vaccine/ HS+BQ).
- In Jharkhand, to prevent liver fluke in cattle (Symptom –Anorexia, Diarrhoea and swelling of brisket region), the cattle should give Oxcyclozanide (10-15 mg /kg body weight) or Rufoxinide (7.5 mg /kg body weight) after consulting veterinarian.

CENTRAL INDIA [M.P., CHHATTISGARH]



Maize



Rice



Soybean



Green gram

- **Realised Rainfall:** Rainfall occurred in Anuppur, Balaghat, Rewa and Singrauli districts of East Madhya Pradesh, in all districts of Chhattisgarh except Baloda Bazar and Koriya. Weather remained mainly dry over rest of the region.

• **Advisories:**

▪ **Madhya Pradesh:**

- In West Madhya Pradesh, apply need based protective irrigation in late sown soybean and vegetables.
- In Chhindwara and Betul districts, continue nursery preparation for tomato, chilli, brinjal, early cauliflower and raising of papaya seedlings. In Hoshangabad and Narsinghpur districts, undertake 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, undertake field preparation for sowing of radish, fenugreek, spinach, for vegetable purpose mustard, coriander and turnip.
- In Indore and Ujjain districts, continue nursery preparation for cauliflower and transplanting of onion. Apply split dose of nitrogen in maize.
- In Barwani and Khargone, districts, continue harvesting of matured green gram.
- In Jabalpur, Rewa, Satna districts, continue nursery preparation for cauliflower. Undertake weed control in rice and strengthen the bunds for retaining water.
- In Grid Zone, due to cloudy weather there are chances of attack of fruit borer in brinjal and okra, spray Dimethoate @ 1.5 ml/litre of water on a non rainy day.
- In Nimar Valley Zone, due to humid weather there are chances of powdery mildew disease in black gram and

green gram, Spray Corbendazim @ 1g/litre per acre on a non rainy day.

- In Bundelkhand Zone, due to humid weather there are chances of attack of leaf feeder and tobacco caterpillar in soybean, spray Quinolphos 25 E.C. @ 2.0 ml per litre of water on a non rainy day.

▪ **Chhattisgarh:**

- In Central Chhattisgarh, continue sowing of horse gram and niger. Keep inputs ready for sowing of *rabi* crops like chickpea, wheat, linseed, toria etc.
- In South Chhattisgarh, undertake intercultural operations in rice and apply 2nd dose of Urea. Undertake earthing in tuber crops and apply split dose of Nitrogen on a non rainy day.
- In Chhattisgarh, due to humid weather attack of blast is observed in rice crop, spray Tricyclazole @ 120 g/acre on a non rainy day 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, create smoke in cattle house to prevent cattle from mosquitoes.

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



Groundnut

Maize

Rice

Okra

- **Realised Rainfall:** Rainfall occurred in Reasi and Samba districts of Jammu & Kashmir, Bilaspur, Kangra, Mandi and Una districts of Himachal Pradesh, Chamoli, Champawat, Garhwal Pauri, Nainital, Pithorgarh, Rudraprayag and Udhamasinghnagar districts of Uttarakhand, Ropar district of Punjab, New Delhi, North Delhi, North West Delhi districts of Delhi, Ambedkarnagar, Bahiraich, Barabanki, Chandauli, Faizabad, Gazipur, Gonda, Gorakhpur, Hardoi, Jaunpur, Kheri, Lucknow, Maharajganj, Mau, Mirzapur, Pratapgarh, Rai bareilly, Sant Kabir nagar, Sant Ravidas nagar, Shrawasti, Siddharth nagar, Sitapur, Sonbhadra, Sultanpur and Varanasi districts of East Uttar Pradesh, Bareilly and Shahajahanpur districts of West Uttar Pradesh. Weather remained mainly dry over rest of the region.

• **Advisories:**

▪ **Rajasthan:**

- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, apply protective irrigation to kharif crops like groundnut, guar and pulses showing wilting symptoms. Undertake hoeing and weeding operation in rainfed crops to create dust mulch for checking evaporation losses and also for control of weeds. Undertake land preparation for sowing of early varieties of radish (PusaRashmi) and nursery sowing of early varieties of cabbage and cauliflower.
- In East Rajasthan, Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone, undertake weeding and hoeing operation in maize, moong, urad and cotton crops.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, undertake land preparation for sowing of early pea.
- In Dungarpur and Banswara districts of Southern Humid Plain Zone, apply irrigation in rice as per requirement and apply top dressing of urea.
- In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of sucking pests and alternaria leaf spots in cotton and bacterial leaf blight in paddy, for control spray Emidachloprid 17.8 SL @ 200 ml per hectare or Dimethoate 30 EC @ 1 litre per hectare for control of sucking pests and spray solution of Propineb @ 2 g or Mancozeb @ 3 g per litre of water for alternaria leaf spots in cotton and for control of bacterial leaf blight in paddy spray Streptocycline @ 1g & Copper Oxychloride @ 30 g per 10 litres of water.
- In Alwar, Bharatpur, Dhaultpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of grasshopper in kharif crops and pod borer in sesame crop, for control grasshopper apply Quinalphos dust 1.5% @ 20 to 25 kg per hectare and for control of pod borer in sesame, apply Monocrotophos 36 WSC @ 1 litre per hectare.
- In Alwar, Bharatpur, Dhaultpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of yellow mosaic virus in bhindi, for control spray Malathion 50 EC @ 1 ml per litre of water.
- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, prevailing weather condition is congenial for attack of sucking pests (jassids, white fly, thrips etc) and bacterial leaf blight in guar and pulses and pod borers in

pulses, for control spray Acitamidrid or Thiamethoxam @ 3 g per 10 litre of water for sucking pests in guar and pulses, and spray Streptocycline @ 2.5 gm along with Copper Oxychloride @ 30 gm per 10 litres of water for control bacterial leaf blight in guar and spray Quinalphos @ 2 ml per litre of water or Monocrotophos @ 1.5 ml per litre of water for pod borers in pulses.

- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, prevailing weather condition is congenial for flower drop in cucurbits (bottle gourd, ridge gourd etc..) for control, spray Planofix @ 0.25 ml per litre of water.
- In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, prevailing humid weather condition is congenial for attack of sucking pest in cucurbits vegetables, for control spray Emidachloprid 0.005 % @ 3 ml per 10 litres of water.
- In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, prevailing weather condition is congenial for attack of mosaic virus in tomato, for control spray Malathion 50 EC @ 1 ml. per litre of water per hectare.
- In Arid Western Plain Zone, in in Barmer, Churu, Jalore, Jodhpur, Pali districts, prevailing weather condition is congenial for attack of might in cucurbits vegetables, for control spray Ethion 50 EC @ 0.6 ml per litre of water.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf curl & mosaic disease in chilli crop, for control uproot & burn affected plants & spray Dimethoate 30 EC @ 1.0 ml per litre water.
- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of little leaf disease in brinjal in which leaf remain small & appear in cluster, for control remove affected plants & spray Malathion 50 EC @ 1 ml per litre 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 Knol Khol. 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 gm 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. 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.
- 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 young larvae in gregarious phase. If population is high, spray Quinalphos @ 0.03% or Dichlorvos @ 0.05% on a non rainy day.
- Weather is congenial for attack of blast on paddy crop in Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, to control, spray Trycycloazole(beam) @ 0.06% on a non rainy day.

▪ **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. Undertake sowing of Knol-khol with varieties like purple vienna and white vienna during the month.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, carry out intercultural operations in late transplanted paddy. 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. Undertake sowing of early variety of pea like Arkil in mid hills.
- In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, continue sowing of radish, rai and French bean. Continue sowing of toria, pea and garlic. Undertake harvesting of garlic, potato, cauliflower in clear weather.
- 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 Propiconajol 25 EC @ 500 ml or Hexaconazole 5 EC @ 1 litre/ha.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, in mid hill areas, maintain 3 -5 cm water level in rice. Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot, broccoli, lettuce. Continue transplanting of brinjal, tomato, chilli cauliflower and cabbage on raised

bed if seedlings are ready. Continue nursery sowing of mid season cauliflower and cabbage in poly house in mid hill and lower region and sowing and transplanting of tomato and capsicum. Transplanting of ageti cauliflower and cabbage nursery in fields. Continue plantation of new tea plants or for infilling of gaps with new plants. Apply mulch in ginger, turmeric, colocasia crops. Continue picking in tea at 8 days interval to maintain the quality and productivity. Lopping of shade tress advised in tea orchards.

- 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.
- 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 blight in potato, for control spray Redomil 0.25% @ 25g per 10 liters of water.
- In Mild Hills Sub-Humid Zone, in Kullu and Mandi districts, present weather is conducive for attack of mite in apple, for control spray Magister @ 50 ml or Omite @ 200 ml in 200 litres of water.
- In Mild Hills Sub-Humid Zone, in Kullu and Mandi districts, present weather is conducive for attack of mealy bug in pomegranate, for control spray Emidachlopid @ 200 ml per 200 litres of water.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, in present weather conditions, rouging of viral infested crop should be done in chilli, for control uprooted infected crop and bury in the soil. After rouging, spraying of Emidaclopid @ 0.3 ml per litre of water is advised on a non rainy day to control the vector.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of red pumpkin beetle in cucurbitaceous crops, for control spray Dichlorvos 76 EC (DDVP) @ 1 ml per litre of water or Malathion 50 EC @ 1 ml per litres of water.
- 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, present weather is conducive for attack of fruit fly in cucurbitaceous crops, for control spray Rogor @ 2 ml + 10 gm sugar or jaggery per litre of water at 50 litres per hectare.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, in sub tropical climate, present weather is conducive for attack of mite and jassids in okra, chilli and cucurbitaceous crops, for control of mite, spray Phosmite @ 1.5 to 2 ml per litre of water and for control of jassid spray Dimethoate 30 EC @ 2 ml per litre of water.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of fruit rot disease in tomato crop, for control spray Mancozeb @ 250 g or Rhedomil gold @ 250 g in 100 litres of water at 8-10 days interval.

▪ **Punjab, Haryana and Delhi:**

- In Punjab, in Fazilka, Ferozepur and Faridkot districts, farmers are advised to 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. Complete sowing of cotton, transplanting of paddy and undertake sowing of fodder crops. Undertake sowing of radish, turnip and carrot.
- In Central Plain Zone of Punjab, undertake sowing of fodder crops and planting of fruit crops like citrus, mango, litchi, guava etc.
- In Gurdaspur district of Punjab, continue sowing of maize. Undertake planting of ever green 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 transplanting of rice, sowing of arhar, green gram and black gram. Complete the sowing of guar/bajra and 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 on a non rainy day. Undertake planting the fruits crops.
- In Eastern Zone of Haryana, continue transplanting of rice and continue sowing of fodder crops such as guar, maize and bajra.
- In Western Semi-Arid Zone of Delhi, complete the sowing of maize. Continue sowing of sweet corn, baby corn and fodder crops such as sorghum, bajra and cluster bean. Undertake transplanting of early cauliflower, tomato, chilli and brinjal on raised bed and sowing of radish, spinach, carrot and coriander. Undertake transplanting of onion seedling in the prepared fields.
- 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 on a non rainy day.

- In Undulating Plain Zone of Punjab, as weather is congenial for the infection sheath blight in rice, keep the water channels & ridges free from weeds to prevent initial infection, spray Tilt @ 0.1% and repeat after 15 days if required.
- Due to isolated drain fall and possible dry weather with high temperature in Undulating Plain Zone of Punjab there may be chances of increase of whitefly population in pulses, spray Triazophos @ 600 mL/acre on a non rainy day.
- In Western, Central and Western Plain Zone of Punjab due to high humidity and cloudy 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, due to humid weather conditions, there may be increase in population of insect pests of cotton. Monitor the insect, if pest's population is above ETL, spray Emidachlopid 17.8 % SC @ 1.0 ml/3 litre or triazophos 40 EC @ 1.0 ml/litre of water and Spinosad 1.0 ml/3 litre of water on a non rainy day. Monitor brown plant hopper (BPH) in paddy, spray Emidachlopid 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.

▪ **Uttar Pradesh:**

- In Central Plain Zone of Uttar Pradesh, maintain 3 - 5cm water in the fields. To control stem borer in paddy crop, release Trichograma parasite at an interval of 8-10 days. Continue sowing of toria and cabbage, select the best variety of Toria, like TA-9, Bhawani, PT-30, PT-507. Undertake sowing of potato. Continue transplanting of mid season brinjal, tomato, cauliflower and capsicum. Continue nursery sowing of tomato, cabbage and knol khol and sowing of radish.
- In Eastern Plain Zone of Uttar Pradesh, maintain 3 - 5cm water in the paddy fields.
- In Western Plain Zone of West Uttar Pradesh, apply need based protective irrigation in soybean, urad, maize and groundnut. Continue transplanting of brinjal, tomato, chilli, cauliflower and cabbage on raised bed if seedlings are ready. Undertake hoeing & weeding operation in all *kharif* crops and vegetables.
- In Bundelkhand Zone of West 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 khaira in paddy, for control spray Zinc Sulphate @ 5 kg or Urea @ 20 kg in 1000 litres of water per hectare on an on rainy day.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of head rot in sunflower crop, for control spray Mancozeb 0.3% at the time of head formation.
- 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 gm. per hectare in 500 to 600 litres of water and for control khaira spray Zinc Carbamet 75% @ 2 kg per hectare on an on rainy day.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of stem borer, brown plant hopper, gall midge, leaf folder and jassids in paddy, for control spray Chlorpyrifos 20 EC or Quinalphos 25 EC @ 1.5 litre per 500 to 600 litres of water per hectare on an on rainy day.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of pod borer/sucking pest in Urad and Mung, for control, spray Quinalphos 25 EC @ 1.5 litres per 600 to 700 litres of water per hectare on an on rainy day.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of damping of disease in chilli, for control, spray Captan @ 2.5 kg or Thiram @ 3 kg in 500 to 600 litres of water at interval of 10 to 12 days on an on rainy day.
- In Western Plain Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of fruit borer, diamond back moth in vegetables like brinjal, cauliflower, cabbage, tomato etc, for control use pheromone trap @ 3 to 4 per acre. If insect population is above ETL, spray Spinosad @ 1.0 ml per 4 litres of water on a non rainy day.
- In Western Plain Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mite and jassids in of bhindi, brinjal and chilli crop, for control mite, spray Phosmite @ 2 ml per litre of water and for control of jassid spray Dimethoate 30 EC @ 2 ml per liter of water on a non rainy day.
- Suitable varieties for sowing are given in Annexure III.

❖ **Horticulture:**

- In Central Plain Zone of Uttar Pradesh, Apply Urea @ 55 g per banana plant at the distance of 50 cm away from the bananaplants.
- In Central Plain Zone of Uttar Pradesh due to prevailing weather condition, there may be chances of attack of necrosis disease in aonla, for control spray Boric acid @ 6 g per litre of water at an interval of 15 days after

current spells of rain.

- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf curl & mosaic in Papaya, for control uproot & burn the affected plants and spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 ml per litre of water.
- 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 citrus canker on citrus plants, for control spray Malathion @ 10 ml or Metasystox @ 10 ml per 10 litres of water.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue sowing of cole crops on raised seed beds.
- In Nainital district of Bhabar and Tarai Zone, proper drainage of water should be maintained in standing crop of potato. Collect the seeds of seed bearing fruits like Aadu, Plum, Khubani etc and keep them for root setting. Preparation for budding should be started for grafting in the temperate fruit trees.
- In Udham Singh Nagar district of Bhabar and Tarai Zone, if brinjal crop is affected more than 15% by Stem Borer, then 2 ml systemic insecticide should be used to save the crop otherwise affected branch should be cut up to 0.5 cm below the hole, made by stem borer insect. After some time new branch will grow in that part.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, complete harvesting of walnut and continue gap filling in old orchards.

❖ **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.

❖ **Apiculture:**

- In Himachal Pradesh, to control mites attack on honeybees, dust Sulphur on sealed brood in the colony and not on larvae. For protection from ants put the legs of apiary into water so that ants could not attack apiary.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, in case of insufficient nectar or honey in the apiary, artificial feeding may be given to honey bee colonies.

❖ **Floriculture**

- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, continue sowing of marigold seed.
- 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.

❖ **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 | 31.08.16 | | 07.09.16 | | 14.09.16 | |
|--------------------------|-------------|--------|-------------|--------|-------------|--------|
| | Actual (mm) | % dep. | Actual (mm) | % dep. | Actual (mm) | % dep. |
| Arunachal Pradesh | | | | | | |
| Anjaw | ** | ** | ** | ** | ** | ** |
| Changlang | 22.6 | -52 | 127.1 | 138 | 37.2 | -66 |
| Dibang Valley | ** | ** | ** | ** | ** | ** |
| East Kameng | 23.9 | -64 | 46.2 | -26 | 24.3 | -68 |

| | | | | | | |
|----------------------------|-------|------|-------|------|-------|------|
| East Siang | 113.0 | -19 | 568.0 | 350 | 174.2 | 9 |
| Kurung Kumey | ** | ** | ** | ** | ** | ** |
| Lohit | 65.7 | -24 | 135.8 | 73 | 65.4 | -27 |
| Lower Dibang Valley | 61.3 | 27 | 463.0 | 1320 | 233.1 | 146 |
| Lower Subansari | ** | ** | ** | ** | ** | ** |
| Papumpare | 28.2 | -73 | 190.3 | 22 | 167.4 | 94 |
| Tawang | 1.0 | -99 | 22.0 | -80 | 66.0 | -40 |
| Tirap | 25.4 | -77 | 116.2 | 2 | 76.4 | -35 |
| Upper Siang | 118.0 | 35 | 273.4 | 98 | 191.2 | 2 |
| Upper Subansari | 46.5 | 12 | 88.6 | 201 | 88.0 | 306 |
| West Kameng | 4.2 | -96 | 53.4 | -51 | 17.1 | -85 |
| West Siang | 7.6 | -87 | 214.0 | 261 | 98.1 | 22 |
| Assam&Meghalaya | | | | | | |
| Assam | | | | | | |
| Baksa | 28.1 | -78 | 109.1 | 16 | 21.1 | -81 |
| Barpeta | 16.4 | -87 | 202.4 | 115 | 11.4 | -90 |
| Bongaigaon | 19.6 | -82 | 101.3 | 10 | 54.6 | -44 |
| Cachar | 173.2 | 76 | 154.4 | 54 | 134.4 | 38 |
| Chirang | 14.8 | -87 | 86.6 | -6 | 68.6 | -29 |
| Darrang | ** | ** | ** | ** | ** | ** |
| Dhemaji | ** | ** | ** | ** | ** | ** |
| Dhubri | 37.6 | -63 | 39.4 | -42 | 19.5 | -79 |
| Dibrugarh | 59.2 | -22 | 110.0 | 40 | 58.1 | -38 |
| Goalpara | 2.1 | -97 | 58.5 | -10 | 59.6 | 4 |
| Golaghat | 14.5 | -77 | 120.8 | 117 | 52.6 | -1 |
| Hailakandi | 64.1 | -19 | 135.5 | 88 | 128.0 | 27 |
| Jorhat | 26.8 | -62 | 170.8 | 145 | 35.1 | -54 |
| Kamrup(Rural) | 44.7 | -9 | 33.4 | -30 | 72.0 | 64 |
| Kamrup(Metro) | 43.5 | -11 | 15.2 | -68 | 11.7 | -73 |
| Karbi Anglong | 73.6 | 47 | 63.5 | 52 | 28.6 | -43 |
| Karimganj | 84.0 | 6 | 144.0 | 34 | 121.7 | 9 |
| Kokrajhar | 23.8 | -86 | 154.8 | 60 | 37.4 | -64 |
| Lakhimpur | 99.4 | 8 | 175.1 | 69 | 121.8 | 10 |
| Morigaon | 50.6 | -24 | 111.8 | 124 | 136.0 | 133 |
| N.C.Hills | 19.0 | -63 | 100.7 | 85 | 19.5 | -27 |
| Nagaon | 69.4 | 0 | 57.4 | 4 | 54.3 | -9 |
| Nalbari | 34.6 | -53 | 119.0 | 120 | 5.3 | -88 |
| Sonitpur | 21.0 | -70 | 59.5 | 9 | 19.7 | -70 |
| Sibsagar | 61.1 | -9 | 121.7 | 119 | 72.3 | 37 |
| Tinsukia | 88.9 | 10 | 153.6 | 80 | 96.9 | 14 |
| Udalgiri | 50.2 | -14 | 93.1 | 89 | 26.8 | -58 |
| Meghalaya | | | | | | |
| East Garo Hills | 20.4 | -66 | 144.4 | 110 | 46.6 | -54 |
| East Khasi Hills | 24.8 | -87 | 449.7 | 210 | 67.9 | -66 |
| Jaintia Hills | 0.0 | -100 | 1.0 | -99 | 0.0 | -100 |
| Ribhoi | 40.8 | -50 | 64.6 | -15 | 39.7 | -48 |
| South Garo Hills | 0.0 | -100 | 3.0 | -96 | 3.0 | -97 |
| West Garo Hills | 9.4 | -88 | 34.7 | -49 | 0.4 | -99 |
| West Khasi Hills | 39.0 | -69 | 5.0 | -96 | 60.0 | -51 |

| | | | | | | |
|-------------------------|-------|------|-------|-------|-------|------|
| NMMT | | | | | | |
| Mizoram | | | | | | |
| Aizwal | 141.9 | 43 | 31.1 | -71 | 150.7 | 63 |
| Champhai | ** | ** | ** | ** | ** | ** |
| Kolasib | ** | ** | ** | ** | ** | ** |
| Lawngtlai | ** | ** | ** | ** | ** | ** |
| Lunglei | 139.0 | 40 | 54.0 | -45 | 77.5 | -12 |
| Mamit | ** | ** | ** | ** | ** | ** |
| Saiha | 0.0 | -100 | 1.0 | -99 | 104.0 | 19 |
| Serchhip | 116.9 | 31 | 73.6 | -19 | 112.0 | 47 |
| Manipur | | | | | | |
| Bishnupur | ** | ** | ** | ** | ** | ** |
| Chandel | ** | ** | ** | ** | ** | ** |
| Churachandpur | ** | ** | ** | ** | ** | ** |
| Imphal east | 32.5 | -48 | 37.6 | -23 | 9.3 | -79 |
| Imphal west | 205.1 | 380 | 254.2 | 405 | 160.6 | 561 |
| Senapati | ** | ** | ** | ** | ** | ** |
| Tamenglong | ** | ** | ** | ** | ** | ** |
| Thoubal | ** | ** | 1.0 | -97.0 | 20.0 | -3 |
| Ukhrul | ** | ** | ** | ** | ** | ** |
| Nagaland | | | | | | |
| Dimapur | 146.0 | 144 | 50.2 | 1 | 45.9 | 10 |
| Kephire | ** | ** | ** | ** | 27.0 | -50 |
| Kohima | 129.5 | 65 | 61.0 | -20 | 57.3 | -17 |
| Longleng | ** | ** | ** | ** | ** | ** |
| Mokokchung | ** | ** | ** | ** | 11.0 | -85 |
| Mon | ** | ** | ** | ** | ** | ** |
| Paren | ** | ** | ** | ** | ** | ** |
| Phek | 3.0 | -96 | 8.0 | -90 | 36.0 | -48 |
| Tuensang | ** | ** | ** | ** | ** | ** |
| Wokha | ** | ** | ** | ** | ** | ** |
| Zunheboto | ** | ** | ** | ** | ** | ** |
| Tripura | | | | | | |
| Dhalai | 66.0 | -3 | 67.3 | 18 | 144.0 | 130 |
| NorthTripura | 150.8 | 93 | 61.6 | -5 | 141.9 | 74 |
| SouthTripura | 104.5 | 29 | 110.5 | 91 | 60.7 | -1 |
| West Tripura | 50.9 | -28 | 50.4 | -24 | 38.8 | -35 |
| Himachal Pradesh | | | | | | |
| Bilaspur | 36.4 | -34 | 35.2 | -18 | 35.9 | -21 |
| Chamba | 45.9 | -44 | 14.9 | -83 | 8.0 | -86 |
| Hamirpur | 27.5 | -63 | 25.3 | -55 | 29.1 | -17 |
| Kangra | 68.9 | -23 | 24.7 | -72 | 39.8 | -37 |
| Kinnaur | 6.3 | -59 | 16.6 | -9 | 0.0 | -100 |
| Kullu | 81.2 | 174 | 22.3 | -6 | 2.8 | -89 |
| Lahaul and Spiti | 14.6 | -46 | 3.8 | -86 | 1.5 | -94 |
| Mandi | 72.2 | 30 | 23.4 | -54 | 65.3 | 52 |
| Shimla | 54.2 | 75 | 9.3 | -73 | 4.9 | -85 |
| Sirmaur | 27.3 | -68 | 24.7 | -58 | 8.2 | -86 |
| Solan | 29.3 | -47 | 34.5 | -31 | 14.1 | -70 |

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|--------------------------|-------|------|------|------|------|------|
| Una | 56.3 | 4 | 8.0 | -83 | 43.8 | 39 |
| Punjab | | | | | | |
| Amritsar | 45.5 | 60 | 6.6 | -76 | 0.1 | -99 |
| Barnala | 35.0 | 111 | 0.0 | -100 | 0.0 | -100 |
| Bhatinda | 123.5 | 795 | 0.0 | -100 | 0.0 | -100 |
| Faridkot | 135.5 | 868 | 0.0 | -100 | 0.0 | -100 |
| Fatehgarh Saheb | 11.7 | -58 | 3.8 | -85 | 0.7 | -98 |
| Ferozpur | 45.2 | 132 | 9.8 | -60 | 0.0 | -100 |
| Gurdaspur | 70.6 | 55 | 39.4 | -4 | 12.8 | -60 |
| Hoshiarpur | 38.5 | 15 | 0.0 | -100 | 6.7 | -81 |
| Jalandhar | 96.7 | 254 | 9.3 | -74 | 1.0 | -97 |
| Kapurthala | 213.5 | 1006 | 35.5 | 36 | 0.0 | -100 |
| Ludhiana | 17.5 | -35 | 2.0 | -93 | 2.8 | -91 |
| Mansa | 27.2 | 89 | 0.0 | -100 | 0.0 | -100 |
| Moga | 165.6 | 800 | 0.0 | -100 | 0.0 | -100 |
| Muktesar | 44.5 | 195 | 0.0 | -100 | 0.0 | -100 |
| Nawashahar | 15.2 | -67 | 16.7 | -57 | 0.8 | -98 |
| Patiala | 24.0 | -33 | 4.3 | -87 | 0.0 | -100 |
| Ropar | 21.1 | -43 | 36.7 | 7 | 41.7 | 25 |
| Sangrur | 17.9 | -12 | 0.9 | -97 | 0.0 | -100 |
| Mohali | 3.0 | -90 | 0.0 | -100 | 0.0 | -100 |
| TarnTaran | 54.0 | 186 | 0.0 | -100 | 0.0 | -100 |
| Haryana,Chd,Delhi | | | | | | |
| Haryana | | | | | | |
| Ambala | 48.0 | -16 | 16.7 | -62 | 1.0 | -98 |
| Bhiwani | 84.3 | 241 | 1.3 | -93 | 0.0 | -100 |
| Chandigarh | 16.9 | -57 | 0.1 | -99 | 12.0 | -74 |
| Faridabad | 38.3 | -10 | 70.0 | 28 | 0.0 | -100 |
| Fatehabad | 57.0 | 288 | 0.0 | -100 | 0.0 | -100 |
| Gurgaon | 52.5 | 68 | 30.3 | -9 | 0.0 | -100 |
| Hissar | 36.8 | 87 | 0.3 | -99 | 0.0 | -100 |
| Jhajar | 71.1 | 171 | 13.3 | -56 | 0.0 | -100 |
| Jind | 59.0 | 125 | 0.0 | -100 | 0.0 | -100 |
| Katihah | 77.7 | 217 | 0.0 | -100 | 0.0 | -100 |
| Karnal | 44.4 | 10 | 7.6 | -69 | 1.9 | -93 |
| Kurukshetra | 44.6 | 35 | 6.7 | -75 | 0.0 | -100 |
| Mahendragarh | 41.6 | 53 | 0.7 | -96 | 0.0 | -100 |
| Mewat | 44.3 | 16 | 37.8 | -7 | 0.0 | -100 |
| Palwal | 26.8 | -9 | 43.5 | 81 | 0.0 | -100 |
| Panchkkula | 2.5 | -96 | 8.0 | -86 | 3.7 | -93 |
| Panipat | 24.0 | -21 | 4.6 | -85 | 0.8 | -97 |
| Rewari | 76.3 | 175 | 5.0 | -83 | 0.0 | -100 |
| Rohtak | 43.8 | 4 | 0.8 | -97 | 0.0 | -100 |
| Sirsa | 78.3 | 350 | 0.0 | -100 | 0.0 | -100 |
| Sonepat | 21.5 | -39 | 6.0 | -81 | 0.0 | -100 |
| Yamunanagar | 58.2 | 5 | 9.0 | -81 | 3.8 | -92 |
| Delhi | | | | | | |
| Central Delhi | 23.0 | -40 | 0.0 | -100 | 0.0 | -100 |
| East Delhi | 0.0 | -100 | 0.0 | -100 | 0.0 | -100 |

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|----------------------------|-------|------|------|------|-------|------|
| New Delhi | 59.6 | 54 | 6.1 | -86 | 333.3 | 1045 |
| North Delhi | 54.4 | 41 | 2.0 | -96 | 500.0 | 1618 |
| North East Delhi | 5.0 | -87 | 1.0 | -98 | 0.0 | -100 |
| North West Delhi | 0.0 | -100 | 0.0 | -100 | 333.3 | 1045 |
| South Delhi | 10.4 | -73 | 10.2 | -77 | 0.0 | -100 |
| South West Delhi | 47.9 | 24 | 18.9 | -58 | 0.0 | -100 |
| West Delhi | 7.0 | -82 | 0.0 | -100 | ** | ** |
| Jammu & Kashmir | | | | | | |
| Anantnag | 36.9 | 151 | 6.2 | -53 | 12.0 | -13 |
| Badgam | 20.8 | 106 | 0.0 | -100 | 1.8 | -91 |
| Bandipore | ** | ** | ** | ** | ** | ** |
| Baramula | 36.4 | 151 | 16.6 | 23 | 6.2 | -60 |
| Doda | 52.0 | 210 | 12.8 | -12 | 8.4 | -63 |
| Ganderbal | 48.2 | 397 | 15.8 | 95 | 0.0 | -100 |
| Jammu | 56.9 | 6 | 24.1 | -42 | 18.3 | -60 |
| Kargil | ** | ** | ** | ** | ** | ** |
| Kathua | 39.7 | -28 | 53.6 | -10 | 3.2 | -95 |
| Kistwar | ** | ** | ** | ** | ** | ** |
| Kulgam | 15.6 | 6 | 1.2 | -91 | 2.0 | -85 |
| Kupwara | 18.9 | 145 | 0.0 | -100 | 2.0 | -76 |
| Ladakh(Leh) | 6.5 | 183 | 0.0 | -100 | 0.1 | -96 |
| Poonch | ** | ** | ** | ** | ** | ** |
| Pulwama | 28.6 | 109 | 0.0 | -100 | 2.6 | -81 |
| Rajouri | 66.6 | 59 | 0.0 | -100 | 20.0 | -39 |
| Ramban | 29.0 | 73 | 24.0 | 66 | 4.8 | -79 |
| Reasi | 63.8 | -22 | 45.4 | -14 | 90.3 | 82 |
| Samba | 49.4 | -8 | 43.5 | 4 | 41.5 | -9 |
| Shopian | ** | ** | ** | ** | ** | ** |
| Srinagar | 42.8 | 341 | 4.5 | -44 | 2.0 | -77 |
| Udhampur | 55.6 | -32 | 63.6 | 20 | 25.6 | -46 |
| East Madhya Pradesh | | | | | | |
| Anuppur | 68.4 | -2 | 58.2 | -15 | 37.4 | -47 |
| Balaghat | 85.1 | 6 | 29.8 | -64 | 33.4 | -45 |
| Chhatarpur | 47.8 | -25 | 14.1 | -83 | 2.1 | -96 |
| Chindwara | 64.0 | 10 | 21.5 | -60 | 1.5 | -97 |
| Damoh | 54.0 | -20 | 22.5 | -65 | 0.0 | -100 |
| Dindori | 90.0 | 49 | 73.1 | 15 | 4.2 | -93 |
| Jabalpur | 146.9 | 73 | 16.5 | -77 | 0.0 | -100 |
| Katni | 42.6 | -39 | 19.4 | -71 | 0.0 | -100 |
| Mandla | 79.7 | 0 | 18.9 | -74 | 18.9 | -71 |
| Narsingpur | 103.2 | 37 | 23.5 | -66 | 8.6 | -87 |
| Panna | 7.2 | -89 | 11.4 | -84 | 13.5 | -82 |
| Rewa | 14.4 | -74 | 11.9 | -85 | 48.8 | -31 |
| Sagar | 75.7 | -4 | 13.2 | -78 | 0.0 | -100 |
| Satna | 16.4 | -68 | 7.1 | -89 | 11.3 | -81 |
| Seoni | 148.1 | 148 | 15.9 | -73 | 5.2 | -91 |
| Shahdol | 33.6 | -49 | 32.5 | -52 | 13.9 | -77 |
| Sidhi | 25.2 | -62 | 30.0 | -62 | 8.2 | -88 |

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|----------------------------|-------|-----|------|-----|-------|------|
| Singrauli | 8.3 | -83 | 6.8 | -90 | 62.8 | 24 |
| Tikamgarh | 49.5 | -7 | 1.5 | -98 | 0.0 | -100 |
| Umaria | 66.2 | -14 | 25.1 | -62 | 8.7 | -88 |
| West Madhya Pradesh | | | | | | |
| Agar | 93.3 | -6 | 46.2 | -52 | 0.0 | -100 |
| Alirajpur | 17.4 | -73 | 20.3 | -62 | 0.0 | -100 |
| Asoknagar | 13.0 | -76 | 24.0 | -55 | 0.0 | -100 |
| Badwani | 14.9 | -66 | 5.0 | -89 | 0.0 | -100 |
| Betul | 27.0 | -46 | 34.9 | -42 | 2.7 | -96 |
| Bhind | 5.6 | -89 | 20.4 | -60 | 0.0 | -100 |
| Bhopal | 82.9 | 13 | 54.3 | -23 | 0.0 | -100 |
| Burhanpur | 13.5 | -75 | 78.3 | 31 | 2.5 | -91 |
| Datia | 8.8 | -82 | 0.3 | -99 | 0.0 | -100 |
| Dewas | 19.8 | -72 | 47.7 | -30 | 0.0 | -100 |
| Dhar | 9.1 | -86 | 19.9 | -62 | 0.0 | -100 |
| Guna | 19.5 | -71 | 14.4 | -78 | 0.0 | -100 |
| Gwalior | 3.0 | -94 | 2.6 | -96 | 0.0 | -100 |
| Harda | 44.4 | -36 | 29.2 | -65 | 1.6 | -97 |
| Hoshangabad | 55.6 | -40 | 34.2 | -64 | 2.1 | -97 |
| Indore | 11.5 | -81 | 40.2 | -29 | 0.0 | -100 |
| Jhabua | 34.9 | -42 | 33.6 | -36 | 0.0 | -100 |
| Khandwa | 18.3 | -68 | 12.7 | -81 | 0.0 | -100 |
| Khargone | 7.9 | -86 | 41.8 | -34 | 0.0 | -100 |
| Mandsaur | 17.4 | -68 | 20.7 | -67 | 3.3 | -91 |
| Morena | 7.4 | -83 | 1.7 | -97 | 0.0 | -100 |
| Neemuch | 50.0 | 0 | 60.7 | 1 | 0.3 | -99 |
| Raisen | 60.4 | -27 | 15.1 | -79 | 0.0 | -100 |
| Rajgarh | 24.6 | -66 | 30.3 | -53 | 0.4 | -99 |
| Ratlam | 18.2 | -72 | 52.7 | -13 | 0.0 | -100 |
| Sehore | 43.3 | -48 | 24.6 | -68 | 0.2 | -99 |
| Shajapur | 7.0 | -88 | 60.5 | -4 | 0.0 | -100 |
| Sheopur Kalani | 63.5 | 53 | 25.5 | -39 | 1.0 | -97 |
| Shivpuri | 34.6 | -30 | 29.8 | -51 | 0.0 | -100 |
| Ujjain | 22.0 | -69 | 48.0 | -11 | 0.0 | -100 |
| Vidisha | 16.6 | -78 | 3.7 | -94 | 0.0 | -100 |
| Chhattisgarh | | | | | | |
| Balod | 50.6 | -12 | 49.0 | -4 | 138.5 | 102 |
| Baloda Bazar | 22.6 | -59 | 27.4 | -45 | 28.2 | -59 |
| Balrampur | 67.0 | -1 | 46.5 | -39 | 35.0 | -53 |
| Bastar | 87.5 | 12 | 67.8 | -6 | 188.6 | 226 |
| Bemetara | 36.2 | -42 | 42.2 | -22 | 69.9 | 34 |
| Bijapur | 181.7 | 100 | 60.1 | -25 | 72.0 | 18 |
| Bilaspur | 49.5 | -16 | 36.8 | -39 | 46.5 | -32 |
| Dantewara | 100.4 | 5 | 74.9 | 14 | 214.0 | 306 |
| Dhamtari | 38.4 | -30 | 55.0 | -6 | 151.4 | 103 |
| Durg | 25.8 | -55 | 1.2 | -98 | 123.0 | 79 |
| Gariaband | 50.5 | -25 | 39.6 | -40 | 151.7 | 111 |
| Janjgir | 13.0 | -82 | 61.4 | -16 | 47.2 | -31 |

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|---------------------------|-------|------|-------|------|-------|------|
| Jashpurnagar | 28.7 | -67 | 34.8 | -55 | 64.7 | -25 |
| Kabirdham | 101.0 | 66 | 10.6 | -79 | 33.4 | -29 |
| Kanker | 83.0 | 9 | 41.1 | -29 | 189.1 | 157 |
| Kondagaon | 159.6 | 95 | 51.6 | -28 | 99.4 | 40 |
| Korba | 51.0 | -35 | 71.3 | -9 | 69.9 | -7 |
| Koriya | 55.9 | 9 | 34.1 | -49 | 24.1 | -66 |
| Mahasumund | 50.7 | -20 | 91.8 | 45 | 127.2 | 82 |
| Mungeli | 101.2 | 73 | 4.6 | -92 | 66.4 | -3 |
| Narayanpur | 166.1 | 108 | 34.0 | -48 | 95.8 | 43 |
| Raigarh | 54.0 | -14 | 102.8 | 49 | 95.8 | 15 |
| Raipur | 58.8 | 6 | 9.9 | -81 | 109.3 | 51 |
| Rajnandgaon | 62.8 | -3 | 19.3 | -70 | 76.6 | 25 |
| Sukma | 131.8 | 88 | 108.0 | 52 | 162.3 | 192 |
| Surajpur | 25.5 | -59 | 20.0 | -76 | 18.9 | -67 |
| Surguja | 63.3 | -6 | 105.6 | 33 | 35.2 | -53 |
| East Uttar Pradesh | | | | | | |
| Allahabad | 26.8 | -50 | 21.3 | -54 | 8.5 | -88 |
| Ambedkar Nagar | 5.0 | -89 | 0.0 | -100 | 88.0 | 46 |
| Azamgarh | 11.4 | -79 | 29.0 | -51 | 22.5 | -69 |
| Bahraich | 64.7 | 6 | 0.4 | -99 | 77.1 | 6 |
| Ballia | 5.3 | -90 | 95.7 | 159 | 27.7 | -49 |
| Balrampur | 60.0 | -19 | 4.2 | -93 | 10.6 | -83 |
| Banda | 20.3 | -63 | 5.9 | -91 | 22.8 | -57 |
| Barabanki | 22.7 | -58 | 9.8 | -84 | 34.0 | -57 |
| Basti | 2.7 | -95 | 49.0 | -11 | 16.1 | -73 |
| Chandauli | 35.0 | -30 | 12.0 | -75 | 53.0 | -35 |
| Deoria | 3.0 | -95 | 50.0 | 3 | 23.0 | -58 |
| Faizabad | 3.7 | -92 | 6.5 | -90 | 44.6 | -31 |
| Farrukhabad | 13.6 | -75 | 13.0 | -71 | 13.9 | -72 |
| Fatehpur | 1.9 | -96 | 14.1 | -72 | 10.8 | -84 |
| Gazipur | 19.9 | -61 | 24.7 | -49 | 89.6 | 18 |
| Gonda | 33.3 | -40 | 3.7 | -94 | 79.5 | 12 |
| Gorakhpur | 17.3 | -74 | 20.5 | -68 | 40.7 | -47 |
| Hardoi | 54.1 | -4 | 21.8 | -55 | 54.2 | -13 |
| Jaunpur | 7.6 | -85 | 37.9 | -29 | 41.7 | -49 |
| Kannauj | 0.0 | -100 | 10.3 | -79 | 17.0 | -70 |
| Kanpur City | 5.1 | -88 | 1.3 | -97 | 13.8 | -71 |
| Kanpur Dehat | 6.1 | -89 | 0.3 | -99 | 1.0 | -98 |
| Kaushambi | 1.4 | -97 | 0.8 | -98 | 0.0 | -100 |
| Kheri | 48.8 | -17 | 19.8 | -61 | 121.2 | 79 |
| Kushi nagar | 0.0 | -100 | 40.0 | -19 | 2.6 | -96 |
| Lucknow | 23.3 | -56 | 2.5 | -95 | 54.0 | -4 |
| Maharajganj | 7.0 | -89 | 11.7 | -80 | 38.5 | -45 |
| Mau | 0.0 | -100 | 11.0 | -76 | 43.5 | -48 |
| Mirzapur | 21.3 | -61 | 28.7 | -51 | 43.5 | -51 |
| Pratapgarh | 14.0 | -76 | 24.0 | -55 | 32.0 | -53 |
| RaiBareilly | 1.6 | -97 | 7.4 | -84 | 34.3 | -38 |
| Sahuji Maharajnagar | 16.0 | -76 | 29.5 | -52 | 0.0 | -100 |
| Sant Kabirnagar | 0.0 | -100 | 19.0 | -62 | 34.0 | -43 |

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|---------------------------|------|------|-------|------|------|------|
| Sant Ravidas Nagar | 0.0 | -100 | 37.0 | -21 | 31.0 | -62 |
| Shrawasti | 29.3 | -52 | 3.2 | -94 | 44.6 | -39 |
| Sidharthnagar | 6.1 | -90 | 13.2 | -76 | 66.3 | 13 |
| Sitapur | 49.7 | -19 | 17.2 | -70 | 74.9 | 0 |
| Sonbhadra | 41.0 | -19 | 31.2 | -45 | 72.0 | -14 |
| Sultanpur | 10.3 | -82 | 0.5 | -99 | 56.1 | 2 |
| Unnao | 0.0 | -100 | 9.0 | -80 | 22.5 | -63 |
| Varanasi | 27.4 | -52 | 26.8 | -55 | 35.4 | -60 |
| West Uttar Pradesh | | | | | | |
| Agra | 10.3 | -82 | 26.4 | -30 | 16.0 | -58 |
| Aligarh | 29.5 | -39 | 6.8 | -83 | 3.0 | -93 |
| Auraiya | 2.0 | -96 | 4.7 | -89 | 0.0 | -100 |
| Badaun | 18.4 | -72 | 12.0 | -75 | 1.8 | -95 |
| Baghpat | 45.8 | 17 | 31.8 | 33 | 0.0 | -100 |
| Bareilly | 12.7 | -81 | 10.4 | -80 | 39.2 | -23 |
| Bijnor | 9.0 | -85 | 12.3 | -75 | 2.7 | -94 |
| Bulandsahar | 61.0 | 22 | 28.9 | -27 | 0.0 | -100 |
| Etah | 20.0 | -53 | 6.0 | -84 | 0.0 | -100 |
| Etawah | 17.3 | -67 | 0.0 | -100 | 0.0 | -100 |
| Firozabad | 39.1 | -23 | 4.7 | -87 | 9.6 | -78 |
| GBNagar | 77.0 | 167 | 150.0 | 491 | 0.0 | -100 |
| Ghaziabad | 34.3 | -32 | 26.6 | -31 | 0.0 | -100 |
| Hamirpur | 33.5 | -40 | 10.8 | -79 | 8.3 | -85 |
| Jalaun | 13.0 | -78 | 7.2 | -84 | 0.0 | -100 |
| Jhansi | 38.5 | -32 | 6.7 | -89 | 10.2 | -79 |
| Jotiba Phule Nagar | 44.0 | -29 | 45.0 | 10 | 0.0 | -100 |
| Kanshiramnagar | 93.0 | 70 | 42.0 | -18 | 0.0 | -100 |
| Lalitpur | 19.0 | -76 | 8.5 | -86 | 0.0 | -100 |
| Mahamaya Nagar | 14.5 | -67 | 80.0 | 145 | 0.0 | -100 |
| Mahoba | 7.8 | -86 | 2.8 | -94 | 0.0 | -100 |
| Mainpuri | 18.7 | -54 | 0.0 | -100 | 4.5 | -90 |
| Mathura | 45.8 | -3 | 63.8 | 111 | 0.0 | -100 |
| Meerut | 31.6 | -33 | 31.6 | -33 | 0.0 | -100 |
| Moradabad | 5.2 | -92 | 80.0 | 67 | 13.0 | -71 |
| Muzzaffarnagar | 39.3 | -1 | 7.5 | -82 | 5.7 | -86 |
| Pilibhit | 1.1 | -98 | 2.0 | -97 | 22.6 | -69 |
| Rampur | 18.7 | -72 | 8.2 | -83 | 7.2 | -80 |
| Saharanpur | 26.7 | -45 | 0.0 | -100 | 0.0 | -100 |
| Shahjahanpur | 14.0 | -79 | 46.4 | -1 | 48.1 | -22 |
| Uttarakhand | | | | | | |
| Almora | 14.2 | -69 | 5.2 | -87 | 23.8 | -42 |
| Bageshwar | 23.5 | -48 | 13.5 | -66 | 20.3 | -51 |
| Chamoli | 47.3 | -7 | 34.9 | -22 | 70.2 | 85 |
| Champawat | 1.5 | -98 | 0.0 | -100 | 77.5 | 1 |
| Dehradun | 17.9 | -84 | 103.7 | 30 | 20.3 | -76 |
| Garhwal Pauri | 23.2 | -70 | 30.6 | -53 | 32.6 | -42 |
| Garhwal Tehri | 16.4 | -74 | 8.9 | -86 | 21.1 | -57 |
| Haridwar | 7.2 | -88 | 19.3 | -68 | 12.3 | -68 |

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|------------------|------|------|-------|-----|-------|-----|
| Nainital | 13.5 | -85 | 17.9 | -77 | 118.2 | 65 |
| Pithorgarh | 32.1 | -68 | 21.8 | -78 | 53.9 | -33 |
| Rudraprayag | 60.6 | -40 | 32.8 | -60 | 66.2 | -17 |
| Udham Sing Nagar | 6.4 | -91 | 15.6 | -70 | 31.2 | -50 |
| Uttarkashi | 48.9 | -34 | 22.8 | -65 | 0.1 | -99 |
| Bihar | | | | | | |
| Araria | 30.2 | -59 | 101.6 | 43 | 132.2 | 71 |
| Arwal | 40.3 | -4 | 187.4 | 420 | 62.2 | -6 |
| Aurangabad | 9.6 | -82 | 53.2 | -7 | 120.4 | 85 |
| Banka | 5.4 | -88 | 94.0 | 118 | 48.7 | -9 |
| Begusarai | 7.4 | -89 | 184.7 | 230 | 40.9 | -23 |
| Bhabua | 17.1 | -65 | 58.8 | -15 | 46.6 | -46 |
| Bhagalpur | 24.4 | -48 | 92.8 | 76 | 31.7 | -45 |
| Bhojpur | 22.6 | -61 | 140.3 | 182 | 64.9 | 2 |
| Buxar | 18.2 | -67 | 25.6 | -55 | 82.4 | 7 |
| Darbhanga | 6.6 | -88 | 136.0 | 194 | 67.7 | 34 |
| East Champaran | 1.5 | -98 | 83.0 | 63 | 128.1 | 131 |
| Gaya | 13.5 | -72 | 206.8 | 308 | 84.3 | 68 |
| Gopalganj | 1.1 | -98 | 53.3 | 13 | 83.2 | 17 |
| Jahanabad | 0.8 | -98 | 158.0 | 272 | 98.1 | 64 |
| Jamui | 35.7 | -38 | 162.9 | 205 | 51.0 | -9 |
| Kathihar | 30.1 | -45 | 126.6 | 174 | 36.9 | -52 |
| Khagadia | 11.5 | -81 | 83.0 | 52 | 13.6 | -79 |
| Kishanganj | 75.1 | -32 | 185.4 | 102 | 115.8 | 31 |
| Lakhisarai | 16.1 | -71 | 185.8 | 245 | 104.8 | 87 |
| Madhepura | 50.0 | -27 | 136.3 | 93 | 83.1 | 14 |
| Madhubani | 36.3 | -54 | 105.8 | 104 | 25.1 | -56 |
| Monghyar | 48.6 | -14 | 138.2 | 157 | 31.4 | -44 |
| Muzaffarpur | 4.1 | -94 | 111.4 | 161 | 81.1 | 41 |
| Nalanda | 1.3 | -98 | 70.7 | 47 | 96.1 | 67 |
| Nawada | 5.9 | -87 | 68.3 | 42 | 85.7 | 54 |
| Patna | 11.2 | -79 | 128.3 | 160 | 101.7 | 62 |
| Purnea | 14.2 | -83 | 90.3 | 38 | 67.8 | -17 |
| Rohtas | 0.7 | -99 | 26.1 | -52 | 104.1 | 68 |
| Saharsha | 13.5 | -81 | 174.1 | 147 | 67.1 | -3 |
| Samstipur | 6.2 | -88 | 127.3 | 133 | 70.5 | 18 |
| Saran | 10.3 | -81 | 53.2 | 6 | 81.1 | 21 |
| Sheikpura | 4.1 | -92 | 53.1 | 23 | 123.1 | 118 |
| Sheohar | 0.0 | -100 | 41.6 | -14 | 120.6 | 163 |
| Sitamarhi | 17.8 | -74 | 91.4 | 90 | 106.8 | 133 |
| Siwan | 8.4 | -85 | 63.8 | 28 | 99.0 | 19 |
| Supaul | 51.4 | -20 | 135.1 | 196 | 70.6 | 27 |
| Vaishali | 18.1 | -68 | 88.7 | 71 | 61.6 | -2 |
| West Champaran | 29.6 | -67 | 104.8 | 91 | 102.1 | 52 |
| Jharkhand | | | | | | |
| Bokaro | 7.8 | -88 | 88.4 | 3 | 98.6 | 62 |
| Chatra | 12.7 | -75 | 57.0 | -15 | 86.4 | 56 |
| Deoghar | 0.8 | -99 | 131.9 | 168 | 20.4 | -65 |
| Dhanbad | 5.2 | -92 | 150.0 | 121 | 67.4 | -5 |

| | | | | | | |
|-----------------------|------|------|-------|-----|-------|------|
| Dumka | 9.7 | -82 | 99.9 | 51 | 28.2 | -59 |
| East Singbhum | 3.3 | -94 | 266.3 | 292 | 64.3 | 5 |
| Garhwa | 37.0 | -19 | 30.0 | -63 | 15.5 | -76 |
| Giridih | 2.8 | -95 | 142.5 | 131 | 90.1 | 39 |
| Godda | 19.4 | -60 | 73.0 | 61 | 55.2 | -14 |
| Gumla | 48.5 | -19 | 41.9 | -39 | 119.4 | 51 |
| Hazaribagh | 12.3 | -79 | 113.8 | 79 | 127.3 | 103 |
| Jamtara | 1.2 | -98 | 113.8 | 66 | 12.6 | -85 |
| Khunti | 20.7 | -71 | 87.0 | 4 | 46.5 | -39 |
| Koderrna | 0.0 | -100 | 138.0 | 122 | 111.7 | 108 |
| Latehar | 43.0 | -22 | 73.1 | 3 | 181.8 | 157 |
| Lohardagga | 36.6 | -24 | 57.4 | -15 | 107.5 | 84 |
| Pakur | 15.9 | -77 | 95.8 | 31 | 40.8 | -51 |
| Palamau | 9.0 | -84 | 38.3 | -45 | 103.6 | 53 |
| Ramgarh | 13.6 | -76 | 68.0 | -5 | 66.8 | 3 |
| Ranchi | 12.1 | -81 | 49.7 | -30 | 63.7 | -7 |
| Sahebganj | 40.4 | -35 | 4.4 | -93 | 56.6 | -32 |
| Saraikela | 10.6 | -83 | 172.6 | 127 | 30.5 | -56 |
| Simdega | 73.4 | -6 | 27.7 | -67 | 81.6 | -13 |
| West Singbhum | 4.7 | -93 | 121.5 | 76 | 14.1 | -78 |
| East Rajasthan | | | | | | |
| Ajmer | 27.3 | 4 | 21.1 | -24 | 0.0 | -100 |
| Alwar | 51.7 | 42 | 9.6 | -78 | 0.0 | -100 |
| Banswara | 20.2 | -71 | 34.6 | -44 | 0.2 | -99 |
| Baran | 25.4 | -51 | 17.0 | -69 | 3.4 | -89 |
| Bharatpur | 26.0 | -40 | 21.5 | -54 | 0.0 | -100 |
| Bhilwara | 45.5 | 22 | 40.4 | -5 | 1.9 | -92 |
| Bundi | 71.5 | 82 | 60.0 | 22 | 2.2 | -92 |
| Chittorgarh | 46.9 | -15 | 46.2 | -21 | 1.3 | -96 |
| Dausa | 26.6 | -25 | 31.8 | -20 | 0.0 | -100 |
| Dholpur | 9.8 | -78 | 24.3 | -43 | 0.0 | -100 |
| Dungarpur | 27.1 | -42 | 11.7 | -76 | 0.0 | -100 |
| Jaipur | 48.2 | 36 | 20.5 | -37 | 0.6 | -97 |
| Jhalawar | 38.7 | -39 | 35.4 | -51 | 3.9 | -88 |
| Jhunjhunu | 65.1 | 144 | 5.1 | -78 | 0.0 | -100 |
| Karauli | 29.2 | -20 | 14.2 | -64 | 0.2 | -99 |
| Kota | 46.7 | -10 | 81.1 | 33 | 1.0 | -97 |
| Pratapgarh | 13.6 | -79 | 58.0 | -16 | 0.0 | -100 |
| Rajsamand | 53.9 | 54 | 28.7 | -25 | 0.3 | -99 |
| Sawai Madhopur | 75.3 | 88 | 24.4 | -32 | 0.0 | -100 |
| Sikar | 60.6 | 136 | 9.3 | -55 | 0.0 | -100 |
| Sirohi | 86.6 | 45 | 38.6 | -45 | 0.0 | -100 |
| Tonk | 42.8 | 26 | 22.3 | -39 | 0.0 | -100 |
| Udaipur | 32.0 | -20 | 19.4 | -58 | 0.2 | -99 |
| West Rajasthan | | | | | | |
| Barmer | 47.5 | 203 | 3.6 | -79 | 0.0 | -100 |
| Bikaner | 62.1 | 293 | 7.3 | -51 | 0.0 | -100 |
| Churu | 67.3 | 240 | 1.6 | -91 | 0.0 | -100 |
| Hanumangarh | 66.1 | 341 | 4.7 | -61 | 0.0 | -100 |

| | | | | | | |
|-----------------------------|-------|-----|------|------|-------|------|
| Jaisalmer | 58.6 | 566 | 1.1 | -90 | 0.0 | -100 |
| Jalore | 87.4 | 328 | 13.9 | -54 | 0.0 | -100 |
| Jodhpur | 47.2 | 171 | 12.8 | -21 | 0.0 | -100 |
| Nagaur | 32.1 | 30 | 22.1 | 11 | 0.0 | -100 |
| Pali | 75.9 | 167 | 22.4 | -38 | 0.0 | -100 |
| Sri Ganganagar | 32.9 | 194 | 11.2 | -24 | 0.0 | -100 |
| Gujarat Region | | | | | | |
| Ahmedabad | 61.8 | 50 | 22.0 | -45 | 0.0 | -100 |
| Anand | 48.3 | -11 | 24.3 | -58 | 0.7 | -98 |
| Aravalli | 36.8 | -42 | 9.3 | -84 | 0.0 | -100 |
| Banaskantha | 72.1 | 103 | 20.2 | -43 | 0.0 | -100 |
| Broach | 32.3 | -35 | 9.0 | -82 | 9.7 | -72 |
| Chhota Udepur | 60.0 | -15 | 45.8 | -41 | 2.5 | -95 |
| DNH | 87.7 | -32 | 13.8 | -89 | 84.1 | 43 |
| Dahod | 52.8 | -18 | 29.8 | -56 | 0.7 | -98 |
| Daman | 25.9 | -80 | 14.2 | -89 | 123.9 | 111 |
| Dangs | 42.2 | -66 | 25.8 | -82 | 50.5 | -33 |
| Gandhinagar | 55.4 | 27 | 18.0 | -70 | 0.0 | -100 |
| Kheda | 68.1 | 23 | 17.0 | -75 | 0.0 | -100 |
| Mahisagar | 32.1 | -49 | 23.8 | -64 | 0.3 | -99 |
| Mehsana | 62.9 | 43 | 12.9 | -72 | 0.0 | -99 |
| Narmada | 26.5 | -65 | 24.4 | -63 | 9.7 | -78 |
| Navsari | 36.6 | -64 | 24.2 | -78 | 102.4 | 47 |
| Panchmahal | 40.4 | -41 | 23.6 | -64 | 0.1 | -99 |
| Patan | 102.4 | 220 | 8.4 | -74 | 0.0 | -100 |
| Sabarkantha | 45.6 | -10 | 19.9 | -65 | 0.0 | -100 |
| Surat | 56.1 | -19 | 24.4 | -69 | 25.8 | -44 |
| Tapi | 23.6 | -76 | 18.8 | -80 | 15.8 | -66 |
| Vadodara | 20.7 | -69 | 19.3 | -66 | 0.0 | -100 |
| Valsad | 53.3 | -60 | 17.9 | -87 | 98.2 | 41 |
| S K & Diu region | | | | | | |
| Amreli | 46.7 | 59 | 2.7 | -91 | 10.2 | -45 |
| Bhavnagar | 53.8 | 55 | 28.2 | -16 | 6.6 | -70 |
| Botad | 149.8 | 327 | 39.0 | 51 | 0.0 | -100 |
| Devbhoomi Dwarka | 36.5 | 72 | 0.8 | -95 | 0.0 | -100 |
| Diu | 30.7 | 37 | 6.0 | -70 | 0.0 | -100 |
| Gir Somnath | 73.3 | 94 | 1.5 | -96 | 0.0 | -100 |
| Jamnagar | 97.3 | 176 | 2.3 | -89 | 0.0 | -100 |
| Junagarh | 82.0 | 147 | 4.2 | -86 | 2.4 | -91 |
| Kutch | 55.7 | 119 | 0.1 | -99 | 0.0 | -100 |
| Morbi | 62.6 | 78 | 0.0 | -100 | 0.0 | -100 |
| Porbandar | 49.4 | 65 | 0.2 | -99 | 0.0 | -100 |
| Rajkot | 89.2 | 183 | 4.3 | -82 | 0.0 | -100 |
| Surendranagar | 121.0 | 249 | 16.2 | -55 | 0.0 | -100 |
| Maharashtra | | | | | | |
| Konkan & Goa | | | | | | |
| Mumbai City | 217.6 | 133 | 17.2 | -81 | 6.0 | -91 |
| Mumbai Suburban | 159.7 | 57 | 27.7 | -77 | 47.2 | -31 |
| North Goa | 167.7 | -16 | 47.5 | -46 | 28.1 | -56 |

| | | | | | | |
|---------------------------|-------|-----|-------|-----|-------|-----|
| Raigad | 167.7 | 10 | 45.8 | -68 | 31.0 | -63 |
| Ratnagiri | 139.1 | -3 | 48.3 | -62 | 18.4 | -75 |
| Sindhudurg | 104.4 | -18 | 37.0 | -59 | 40.8 | -39 |
| South Goa | 87.4 | -8 | 33.5 | -61 | 23.3 | -58 |
| Thane | 89.3 | -25 | 40.5 | -67 | 44.5 | -35 |
| Madhya Maharashtra | | | | | | |
| Ahmednagar | 12.8 | -51 | 0.7 | -97 | 4.6 | -85 |
| Dhule | 15.0 | -47 | 0.2 | -99 | 5.0 | -74 |
| Jalgaon | 32.8 | -17 | 28.8 | -29 | 1.9 | -93 |
| Kolhapur | 24.5 | -66 | 9.0 | -84 | 2.8 | -91 |
| Nandurbar | 13.5 | -74 | 12.0 | -74 | 14.6 | -56 |
| Nasik | 18.8 | -64 | 13.3 | -75 | 18.9 | -58 |
| Pune | 12.1 | -67 | 6.0 | -85 | 7.5 | -74 |
| Sangli | 2.9 | -86 | 3.1 | -82 | 14.7 | -42 |
| Satara | 12.8 | -58 | 5.3 | -81 | 2.9 | -88 |
| Solapur | 13.3 | -47 | 4.5 | -83 | 17.7 | -50 |
| Marathwada | | | | | | |
| Aurangabad | 22.0 | -45 | 24.9 | -36 | 4.2 | -86 |
| Beed | 44.8 | 23 | 19.6 | -51 | 14.4 | -56 |
| Hingoli | 34.5 | -29 | 28.3 | -53 | 20.8 | -37 |
| Jalna | 62.3 | 59 | 59.3 | 39 | 12.0 | -58 |
| Latur | 57.0 | 17 | 28.0 | -45 | 75.5 | 95 |
| Nanded | 43.5 | -14 | 21.6 | -57 | 39.2 | 14 |
| Osmanabad | 24.4 | -37 | 5.7 | -85 | 34.7 | -12 |
| Parbhani | 46.7 | -9 | 22.6 | -59 | 29.5 | -10 |
| Vidarbha | | | | | | |
| Akola | 7.9 | -82 | 14.7 | -61 | 5.1 | -85 |
| Amraoti | 25.5 | -42 | 27.0 | -46 | 14.6 | -61 |
| Bhandara | 51.5 | -26 | 8.1 | -89 | 96.6 | 64 |
| Buldhana | 22.3 | -45 | 31.7 | -16 | 1.2 | -96 |
| Chandrapur | 50.9 | -28 | 13.6 | -82 | 161.0 | 180 |
| Gadchiroli | 126.6 | 56 | 35.2 | -55 | 182.5 | 258 |
| Gondia | 98.1 | 20 | 36.5 | -51 | 184.9 | 185 |
| Nagpur | 35.2 | -40 | 9.7 | -86 | 49.7 | 15 |
| Wardha | 34.6 | -32 | 28.5 | -57 | 39.9 | 22 |
| Washim | 21.1 | -41 | 27.5 | -49 | 11.2 | -72 |
| Yeotmal | 18.0 | -64 | 13.5 | -76 | 42.5 | 44 |
| Odisha | | | | | | |
| Angul | 37.5 | -53 | 56.7 | -19 | 40.9 | -40 |
| Balasore | 50.4 | -28 | 118.2 | 90 | 67.6 | -24 |
| Bargarh | 43.6 | -31 | 158.3 | 128 | 76.4 | -3 |
| Bhadrak | 29.4 | -61 | 69.0 | 23 | 47.5 | -23 |
| Bolangir | 34.6 | -59 | 146.8 | 112 | 62.7 | -15 |
| Boudh | 13.5 | -84 | 202.0 | 271 | 58.9 | -23 |
| Cuttack | 47.3 | -33 | 108.6 | 66 | 47.0 | -42 |
| Deogarh | 17.7 | -76 | 46.7 | -50 | 147.9 | 90 |
| Dhenkanal | 36.3 | -56 | 57.4 | -14 | 20.7 | -68 |
| Gajapati | 69.7 | 13 | 55.6 | 14 | 67.8 | 24 |






| | | | | | | |
|--|-------|-----|-------|-----|-------|-----|
| Ganjam | 38.1 | -38 | 37.1 | -17 | 38.5 | -33 |
| Jagatsingpur | 47.8 | -27 | 136.3 | 134 | 16.0 | -79 |
| Jajpur | 25.5 | -69 | 63.0 | -6 | 56.2 | -8 |
| Jharsuguda | 35.1 | -52 | 98.2 | 22 | 76.2 | 0 |
| Kalahandi | 64.1 | -4 | 112.5 | 84 | 104.2 | 24 |
| Kandhamal | 32.3 | -61 | 99.4 | 83 | 98.2 | 29 |
| Kendrapara | 64.7 | -14 | 118.3 | 82 | 11.5 | -84 |
| Keonjhar | 51.2 | -20 | 77.9 | 25 | 49.9 | -14 |
| Khurda | 50.3 | -28 | 74.0 | 28 | 50.5 | -35 |
| Koraput | 87.6 | 9 | 150.4 | 105 | 56.9 | -25 |
| Malkangiri | 53.0 | -32 | 116.6 | 47 | 115.4 | 74 |
| Mayurbhanj | 33.5 | -58 | 146.7 | 94 | 51.7 | -32 |
| Nawapara | 39.9 | -34 | 64.6 | 23 | 75.6 | 27 |
| Nawarangpur | 103.5 | 19 | 62.0 | -22 | 88.2 | 26 |
| Nayagarh | 35.1 | -48 | 61.6 | 2 | 28.8 | -53 |
| Puri | 47.8 | -33 | 102.0 | 66 | 45.1 | -41 |
| Rayagada | 62.9 | 15 | 72.1 | 27 | 31.1 | -43 |
| Sambalpur | 26.8 | -63 | 159.6 | 71 | 43.9 | -43 |
| Sonepur | 15.0 | -84 | 219.4 | 187 | 32.5 | -64 |
| Sundargarh | 33.0 | -55 | 116.3 | 64 | 73.4 | 4 |
| West Bengal & Andaman Nicobar Islands | | | | | | |
| A & N ISLAND | | | | | | |
| Nicobar | 88.9 | 32 | 140.0 | 98 | 47.7 | -33 |
| North & Middle Andaman | 61.0 | -45 | 174.1 | 56 | 68.5 | -35 |
| South Andaman | 183.9 | 74 | 192.4 | 99 | 197.8 | 102 |
| GWB | | | | | | |
| Bankura | 16.1 | -74 | 154.0 | 154 | 49.3 | -23 |
| Birbhum | 5.1 | -91 | 124.8 | 104 | 20.5 | -68 |
| Burdwan | 7.1 | -86 | 144.5 | 164 | 12.5 | -83 |
| East Midnapore | 15.5 | -83 | 101.5 | 33 | 37.9 | -62 |
| Hooghly | 10.8 | -81 | 135.2 | 87 | 13.6 | -76 |
| Howrah | 6.9 | -90 | 83.2 | 26 | 58.4 | -24 |
| Kolkata | 109.1 | 44 | 185.9 | 142 | 12.5 | -84 |
| Murshidabad | 13.2 | -75 | 75.3 | 25 | 16.7 | -73 |
| Nadia | 11.2 | -74 | 67.6 | 19 | 12.6 | -73 |
| 24 Pargana (N) | 15.2 | -74 | 68.6 | 18 | 23.4 | -69 |
| Purulia | 12.8 | -81 | 189.5 | 156 | 51.9 | -30 |
| 24 Pargana (S) | 25.1 | -73 | 89.6 | -7 | 35.4 | -62 |
| West Midnapore | 18.7 | -70 | 114.0 | 46 | 41.5 | -43 |
| SHWB & Sikkim | | | | | | |
| Cooch Behar | 118.2 | -21 | 105.4 | -10 | 47.0 | -60 |
| Darjeeling | 98.5 | -28 | 148.4 | 19 | 144.3 | 4 |
| East Sikkim | 37.4 | -57 | 84.8 | -23 | 65.6 | -29 |
| Jalpaiguri | 81.4 | -47 | 191.3 | 60 | 112.2 | -10 |
| Malda | 40.3 | -33 | 107.7 | 101 | 54.8 | -30 |
| North Dinajpur | 19.5 | -72 | 87.5 | 17 | 57.3 | -43 |
| North Sikkim | 84.0 | -11 | 126.1 | 9 | 80.2 | -21 |
| South Dinajpur | 4.5 | -91 | 35.7 | -40 | 27.1 | -62 |

| | | | | | | |
|--------------------------|-------|-----|-------|-----|------|------|
| South Sikkim | 78.1 | -11 | 124.7 | 14 | 54.3 | -41 |
| West Sikkim | ** | ** | ** | ** | ** | ** |
| Karnataka | | | | | | |
| Coastal Karnataka | | | | | | |
| Dakshina Kannada | 80.9 | -36 | 49.4 | -46 | 24.4 | -65 |
| Udupi | 102.1 | -25 | 86.1 | -24 | 30.9 | -67 |
| Uttara Kannada | 60.0 | -37 | 58.0 | -23 | 16.7 | -70 |
| N I Karnataka | | | | | | |
| Bagalkote | 0.9 | -94 | 2.4 | -86 | 12.8 | -41 |
| Belagavi | 9.4 | -54 | 1.7 | -89 | 12.2 | -23 |
| Bidar | 55.0 | 28 | 38.1 | 0 | 78.5 | 109 |
| Dharwad | 20.9 | 20 | 3.9 | -71 | 0.5 | -97 |
| Gadag | 23.1 | 32 | 4.1 | -75 | 21.2 | -7 |
| Haveri | 15.1 | -4 | 2.6 | -79 | 1.2 | -90 |
| Kalaburgi | 14.9 | -59 | 13.4 | -66 | 63.1 | 75 |
| Koppal | 22.5 | -5 | 2.4 | -88 | 4.1 | -84 |
| Raichur | 36.5 | 28 | 8.4 | -65 | 33.5 | 26 |
| Vijayapura | 21.9 | -11 | 3.5 | -85 | 9.9 | -66 |
| Yadgir | 58.2 | 79 | 3.9 | -88 | 36.6 | 7 |
| S I Karnataka | | | | | | |
| Ballari | 6.3 | -73 | 3.8 | -79 | 10.7 | -50 |
| Bangalore Rural | 8.3 | -71 | 11.6 | -60 | 9.2 | -70 |
| Bangalore Urban | 21.9 | -19 | 14.4 | -55 | 8.3 | -75 |
| Chamarajanagar | 6.4 | -55 | 0.6 | -96 | 1.4 | -93 |
| Chikaballapur | 4.5 | -81 | 17.2 | -35 | 2.2 | -92 |
| Chikkamagaluru | 23.5 | -55 | 30.0 | -27 | 5.1 | -81 |
| Chitradurga | 1.6 | -87 | 7.4 | -33 | 3.8 | -73 |
| Davangere | 10.4 | -31 | 10.9 | -15 | 2.3 | -86 |
| Hassan | 19.0 | 2 | 7.0 | -60 | 11.8 | -16 |
| Kodagu | 38.2 | -48 | 25.3 | -59 | 12.5 | -67 |
| Kolar | 16.6 | -17 | 1.0 | -96 | 7.9 | -73 |
| Mandya | 43.0 | 214 | 2.0 | -87 | 18.1 | -20 |
| Mysuru | 8.5 | -31 | 1.9 | -85 | 5.3 | -68 |
| Ramanagara | 54.8 | 115 | 6.6 | -76 | 0.0 | -100 |
| Shivamogga | 47.2 | -11 | 44.1 | 17 | 21.4 | -6 |
| Tumakuru | 24.6 | 43 | 12.0 | -40 | 11.4 | -55 |
| Kerala | | | | | | |
| Alappuzha | 55.1 | -14 | 9.1 | -83 | 8.6 | -86 |
| Kannur | 83.5 | -1 | 19.1 | -67 | 8.5 | -80 |
| Ernakulam | 76.4 | 20 | 30.4 | -48 | 9.7 | -85 |
| Idukki | 82.3 | -3 | 24.0 | -63 | 3.2 | -95 |
| Kasaragod | 67.6 | -31 | 35.7 | -54 | 12.8 | -77 |
| Kollam | 39.5 | -32 | 7.0 | -81 | 8.5 | -79 |
| Kottayam | 67.0 | -8 | 15.6 | -71 | 8.8 | -84 |
| Kozhikode | 49.9 | -25 | 11.1 | -80 | 5.1 | -89 |
| Malappuram | 30.1 | -50 | 12.6 | -72 | 0.6 | -98 |
| Palakkad | 22.8 | -54 | 9.9 | -76 | 2.8 | -91 |
| Pathanamthitta | 62.5 | -16 | 20.8 | -56 | 7.4 | -87 |
| Thiruvananthapuram | 14.5 | -47 | 4.7 | -79 | 0.4 | -99 |

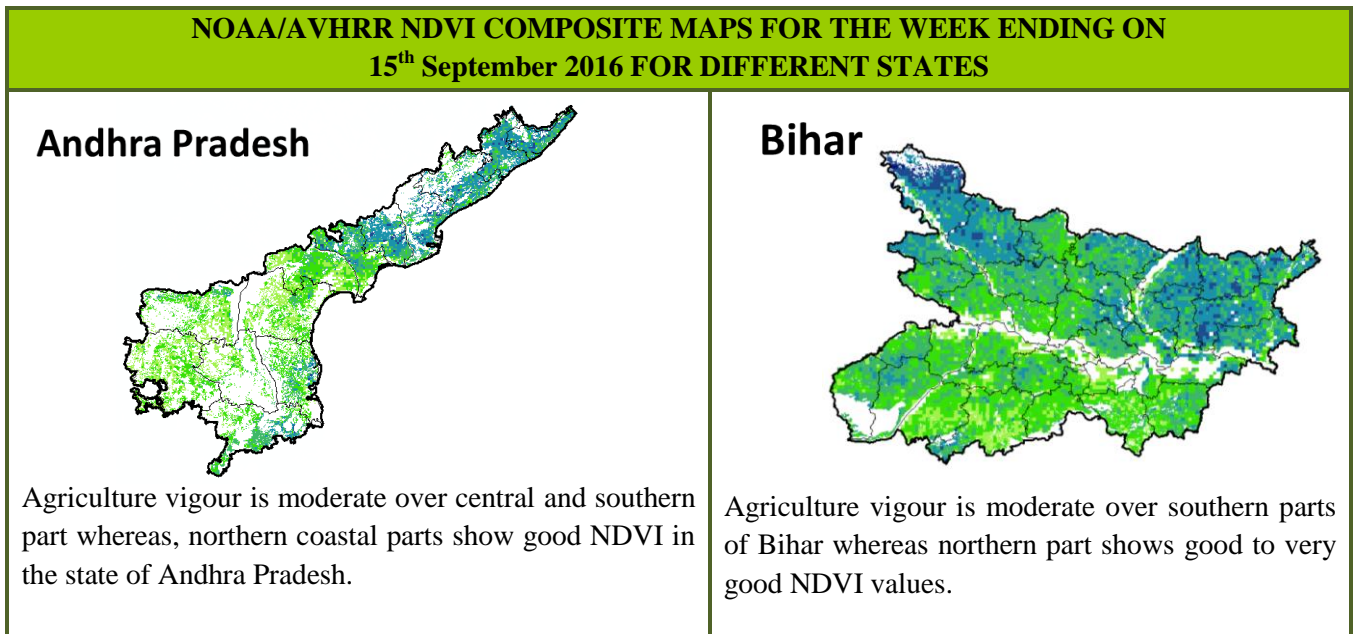
| | | | | | | |
|-------------------------------|-------|-----|------|-----|------|------|
| Thrissur | 30.6 | -55 | 14.2 | -74 | 0.5 | -99 |
| Wyand | 46.3 | -46 | 19.4 | -73 | 14.1 | -64 |
| Tamil Nadu | | | | | | |
| Ariyalur | 113.1 | 171 | 16.4 | -25 | 12.3 | -65 |
| Chennai | 35.1 | 8 | 51.7 | 123 | 42.2 | 80 |
| Coimbatore | 14.1 | 44 | 9.1 | 7 | 0.4 | -96 |
| Cuddalore | 73.7 | 110 | 27.1 | 29 | 7.9 | -73 |
| Dharmapuri | 32.7 | 26 | 2.5 | -89 | 2.2 | -94 |
| Dindigul | 19.9 | 5 | 11.5 | -47 | 4.0 | -86 |
| Erode | 26.1 | 43 | 7.6 | -47 | 3.2 | -85 |
| Kanchipuram | 73.1 | 92 | 28.3 | 0 | 35.5 | 12 |
| Kanyakumari | 3.6 | -73 | 0.3 | -98 | 0.0 | -100 |
| Karikal | 89.2 | 291 | 65.2 | 329 | 0.0 | -100 |
| Karur | 12.4 | -32 | 12.6 | -22 | 0.0 | -100 |
| Krishnagiri | 41.9 | 79 | 0.3 | -99 | 1.7 | -94 |
| Madurai | 21.5 | -14 | 33.8 | 35 | 0.0 | -99 |
| Nagapattinam | 77.5 | 189 | 26.4 | 72 | 1.6 | -93 |
| Namakkal | 35.0 | 42 | 12.6 | -28 | 5.6 | -83 |
| Nilgiris | 28.1 | -16 | 26.0 | -19 | 5.2 | -80 |
| Perambalur | 30.5 | -3 | 47.3 | 172 | 6.0 | -78 |
| Puducherry | 77.5 | 173 | 0.5 | -98 | 21.9 | -30 |
| Pudukottai | 56.8 | 69 | 53.1 | 159 | 5.5 | -79 |
| Ramanathapuram | 9.6 | -37 | 32.7 | 355 | 3.4 | -72 |
| Salem | 53.0 | 61 | 12.6 | -48 | 5.6 | -84 |
| Sivaganga | 89.0 | 265 | 73.3 | 347 | 7.7 | -71 |
| Thanjavur | 87.1 | 206 | 19.9 | 13 | 15.5 | -41 |
| Theni | 5.8 | -29 | 3.4 | -61 | 0.1 | -99 |
| Tirunelveli | 0.3 | -94 | 0.4 | -91 | 0.0 | -100 |
| Tirupur | 9.2 | 2 | 5.7 | -36 | 0.0 | -100 |
| Tiruvallur | 12.1 | -65 | 53.7 | 87 | 17.4 | -37 |
| Tiruvannamalai | 65.8 | 79 | 5.4 | -82 | 39.3 | -1 |
| Tiruvarur | 67.2 | 160 | 19.1 | 13 | 7.4 | -71 |
| Toothukudi | 0.6 | -88 | 1.8 | -70 | 0.0 | -100 |
| Trichy | 30.1 | 24 | 16.1 | -30 | 2.2 | -93 |
| Vellore | 48.4 | 64 | 9.0 | -70 | 10.9 | -66 |
| Villupuram | 52.0 | 36 | 5.3 | -75 | 6.4 | -82 |
| Virudhunagar | 10.3 | -35 | 8.9 | -28 | 10.1 | -45 |
| Andhra Pradesh | | | | | | |
| Coastal Andhra Pradesh | | | | | | |
| East Godavari | 65.8 | 57 | 66.2 | 72 | 49.3 | 47 |
| Guntur | 178.7 | 400 | 10.4 | -66 | 98.7 | 225 |
| Krishna | 145.0 | 258 | 16.8 | -55 | 24.0 | -28 |
| Nellore | 17.2 | -13 | 22.1 | 10 | 10.2 | -47 |
| Prakasam | 83.1 | 211 | 7.0 | -67 | 91.2 | 360 |
| Sirkakulam | 35.3 | -26 | 53.2 | 16 | 38.1 | -23 |
| Visakhapatnam | 70.4 | 70 | 30.7 | -23 | 49.4 | 22 |
| Vizianagram | 70.9 | 52 | 45.6 | 1 | 64.5 | 30 |
| West Godavari | 112.1 | 129 | 76.7 | 81 | 31.4 | -17 |

| Rayalaseema | | | | | | |
|--------------------|-------|-----|------|-----|-------|-----|
| Anantapur | 9.8 | -48 | 4.4 | -75 | 8.3 | -64 |
| Chittoor | 18.8 | -22 | 14.4 | -47 | 6.2 | -77 |
| Cuddapah | 60.0 | 154 | 13.8 | -37 | 18.7 | -15 |
| Kurnool | 51.7 | 92 | 2.8 | -89 | 33.1 | 32 |
| Telangana | | | | | | |
| Adilabad | 42.8 | -23 | 18.0 | -68 | 55.0 | 65 |
| Hyderabad | 84.8 | 132 | 97.2 | 191 | 83.3 | 136 |
| Karimnagar | 54.1 | 26 | 22.3 | -52 | 82.3 | 167 |
| Khammam | 80.8 | 51 | 68.0 | 48 | 47.7 | 25 |
| Mehabubnagar | 63.4 | 90 | 7.6 | -72 | 58.7 | 82 |
| Medak | 39.2 | 4 | 37.1 | 3 | 100.7 | 171 |
| Nalgonda | 140.0 | 301 | 24.4 | -22 | 107.7 | 243 |
| Nizamabad | 41.8 | -21 | 41.1 | -19 | 48.5 | 26 |
| Rangareddy | 99.0 | 208 | 53.0 | 50 | 67.6 | 58 |
| Warangal | 55.6 | 23 | 36.6 | -20 | 48.6 | 49 |

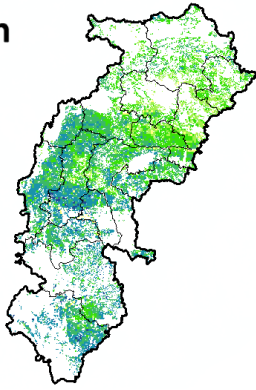
Legends

| | | | |
|---|----------------------------------|---|--------------------------------|
|  | (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

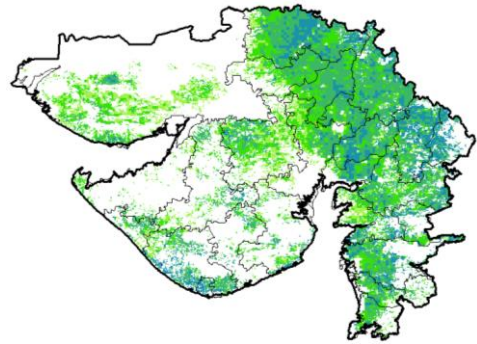


Chhattisgarh



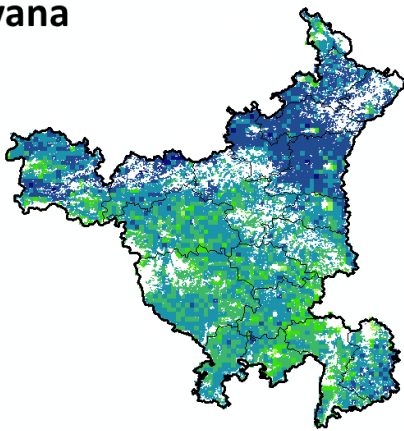
Agriculture vigour is moderate in northern region whereas, good vigour is seen in central and southern region of Chhattisgarh.

Gujarat



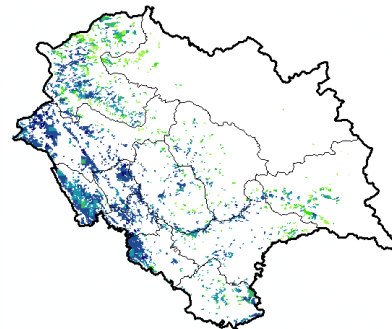
Moderate NDVI values are observed in patches in Saurashtra region whereas, good NDVI is observed in Gujarat.

Haryana



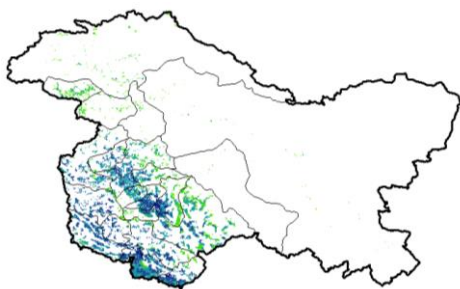
Agriculture vigour is moderate in patches over southern region whereas, good & very good agriculture vigour is observed in rest of the state.

Himachal Pradesh



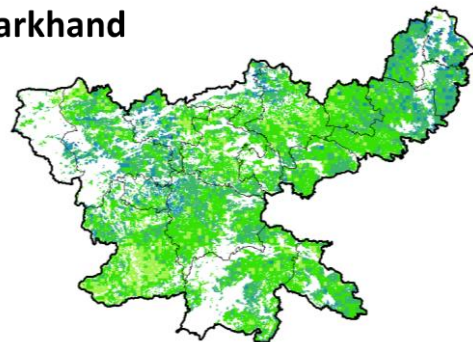
Agriculture vigour is good to very good over southern parts of Himachal Pradesh.

Jammu & Kashmir



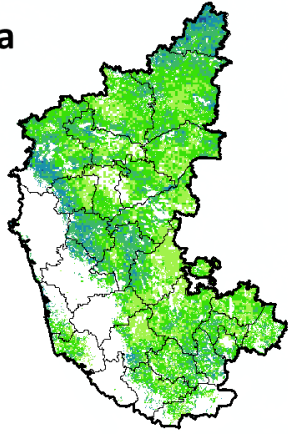
Agriculture vigour is good to very good over south western part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.

Jharkhand



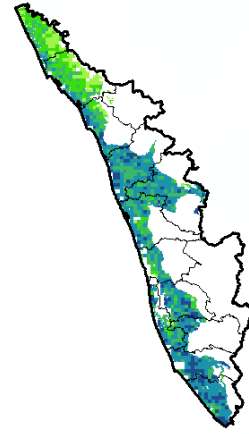
Agriculture vigour is moderate over entire state of Jharkhand whereas, few patches in north and east show good NDVI values.

Karnataka



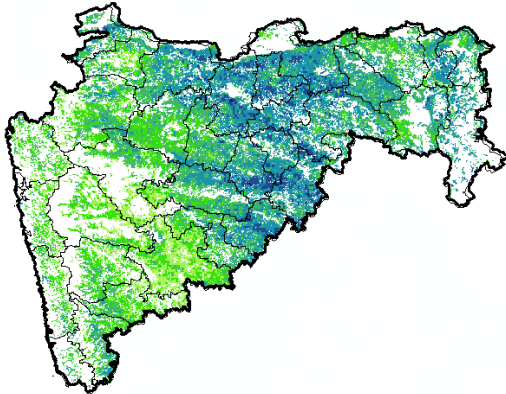
Agriculture vigour is moderate over southern region of the state whereas good vigour is observed in the central and northern regions.

Kerala



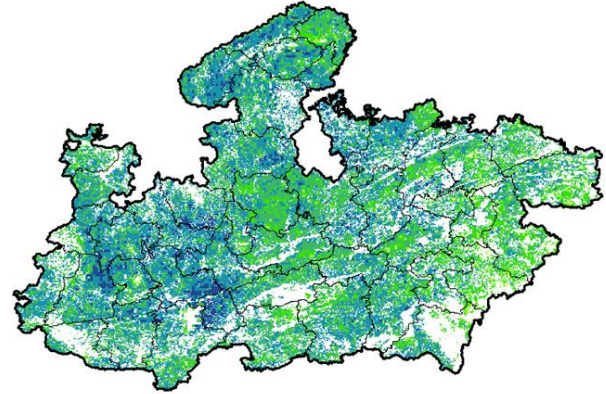
Agriculture vigour is good over entire state of Kerala except northern part which shows moderate NDVI values.

Maharashtra



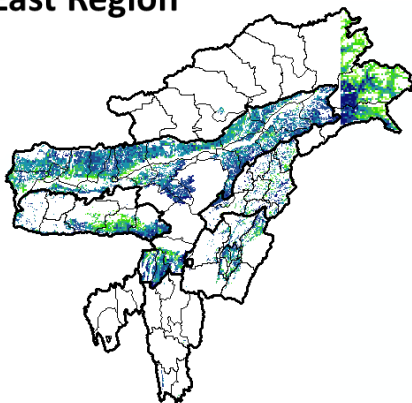
Agricultural vigour is moderate over western region of the state of Maharashtra whereas, good to very good vigour is observed in the central and eastern region.

Madhya Pradesh



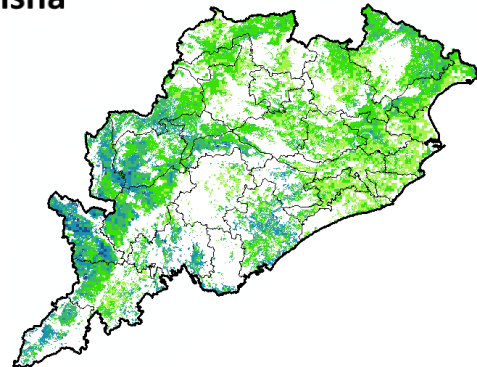
Agriculture vigour is moderate over central and eastern region of the state of Madhya Pradesh whereas, good & very good vigour is observed over western and northern region.

North East Region



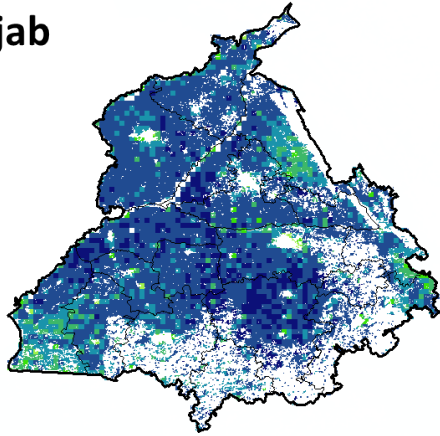
Agriculture vigour is good & very good over north-east states of country.

Odisha



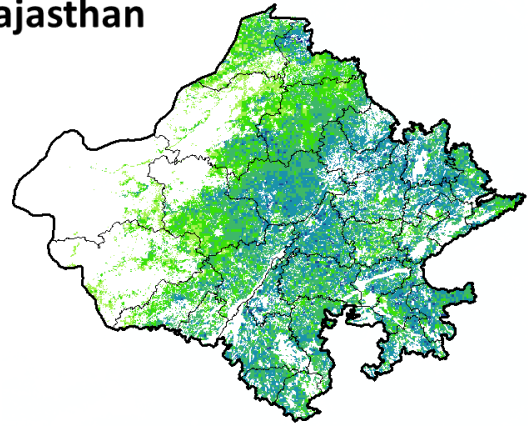
Agricultural vigour is moderate over eastern region of Odisha whereas, good to very good vigour is observed in western region.

Punjab



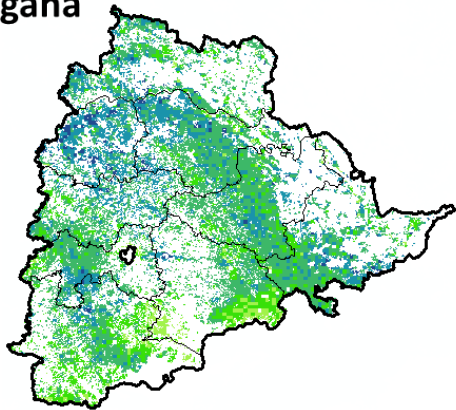
Agricultural vigour is very good over the entire state of Punjab except for few patches in south western region which shows moderate conditions.

Rajasthan



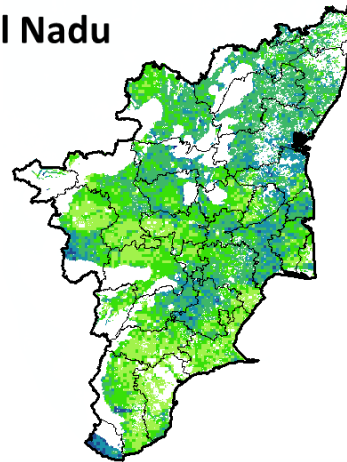
Agriculture vigour is moderate over western Rajasthan whereas, good vigour is observed over central and eastern region.

Telangana



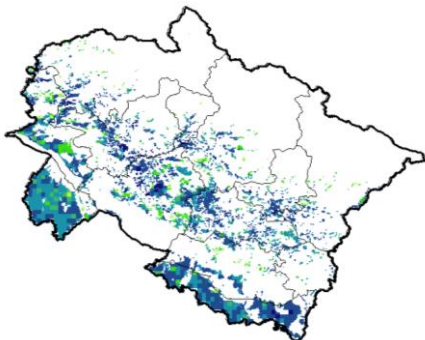
Agriculture vigour is good to moderate over entire state of Telangana whereas, good vigour is observed in patches in the north western region.

Tamil Nadu



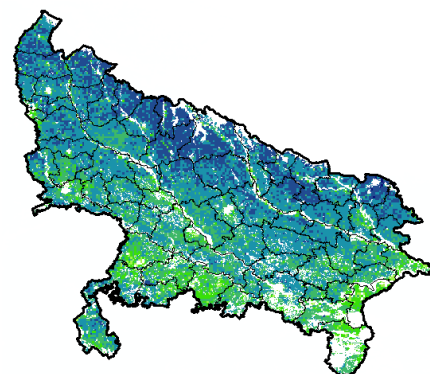
Agricultural vigour is good in patches of northern, southern and central part of Tamil Nadu, whereas rest of the part shows moderate NDVI.

Uttarakhand

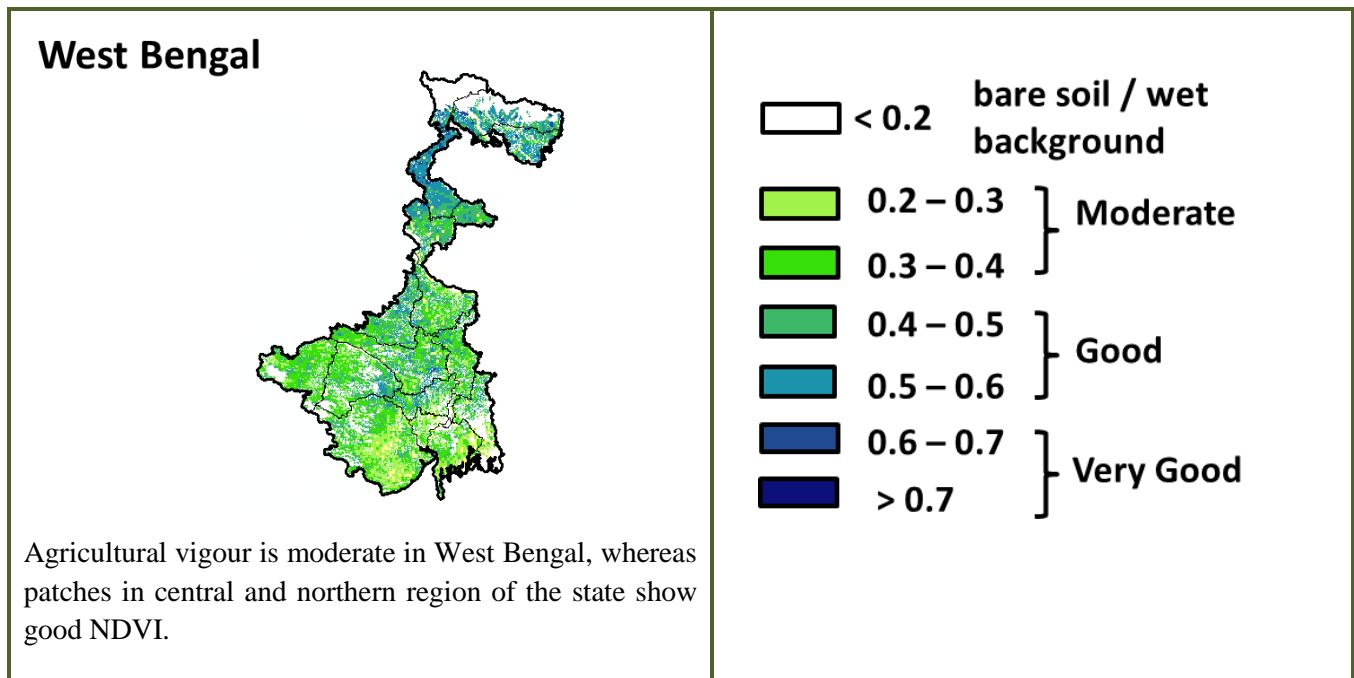


Agricultural vigour is good in state of Uttarakhand.

Uttar Pradesh



Agricultural vigour is good and very good over northern and north eastern part of the state whereas, moderate over the southern region of Uttar Pradesh.



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

Annexure III

Assam

Sali rice: Ranjit, Bahadur, Satyaranjan, Basundhara, Kushal, Mahsuri, Bhogali, Rangilee, Ketekijoha.

Satyaranjan and Basundhara (in double cropping areas having crop duration of 130-135 days).

Jalashree, Jalkunwari, Plawan (for flood affected areas).

Ranjit, Gitesh, Bahadur, Kushal, Piolee (long duration).

Satyaranjan, Bosundhora, T.T.B.-404, Mulagabharu, Kanaklata, Joymoti, IR-36, IR-64 etc and Disang, Luit, Kapilee,

Dikhow (medium duration).

Capsularis jute: JRC 321 and UPC 94.

Olitorious jute: Navin (JRO 524), Basudev(JRO 7835), Baisakhtissa(JRO 632), Bahagi (sel-2) and Tarun.

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti.

Ridge gourd: Pusa Nashdar or other local varieties like AAU-1, AAU-2, AAU-3 etc.

Sponge gourd: Pusa Chikni or other local varieties.

Banana: Dwarf Cavendish, Jahaji (Dwarf Cultivar), Cheni Champa, Malbhog, Chenichampa, Malbhog, Barjahaji (Medium Tall cultivars).

Papaya: Washington, Haflong, Rasi, Korg Honey Dew, Co-1, Co-2, Pusa Delicious, Pusa Majesty.

Guava: Alahabad Safeda, Lucknow-49, Chittidar, Seedless.

Fodder crops: Hybrid Napier, Setaria and Guinea.

Meghalaya

Sali/ kharif rice: Shhsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri.

Groundnut: ICGS 76, JL 24.

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

Nagaland

Low land rice: CAU R1, CAU R3, RCM-9 and RCM-11 (Short to medium duration), Gitesh (short duration variety).

Tripura

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

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

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: Bunny, Diana, Bhaskra, Namaskara, Tulasi, Sigma, Chiruta, Takat

Mango: Grow Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar,, Langra, Dusheri, Amrapalli, Mallika, Ratna, Ramkella, Rummani, Sindhu, Alphonso 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 kalia.

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) and hybrid 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 Chuhara, 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: Japanese White, Hill queen, French Radish;

Spinach: Pusa Bharti.

Amaranth: Pusalal Chaulai, Pusa Kiran.

Ladyfinger: Pusa A-4.

Radish: Japanese White, Hill queen, French Radish.

Spinach: All Green, Pusa Bharti;

Fenugreek: Pusa Kasuri;

Coriander: Pant Haritama, Hybrids.

Turnip: Pusa Swati, Local Red variety.

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

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 CO-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.