

# National Agromet Advisory Service Bulletin

**Friday 15<sup>th</sup> May 2015**

**(For the period 15<sup>th</sup> to 19<sup>th</sup> May 2015)**



**Issued by**

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



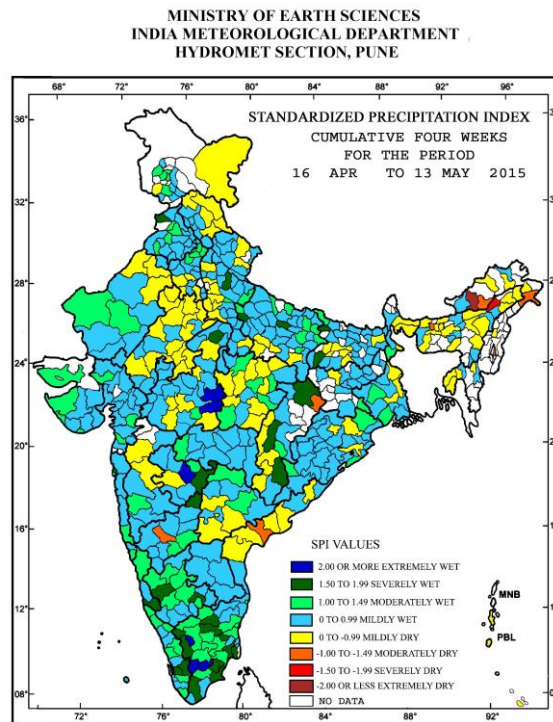
## Forecast for the 2015 Monsoon Onset over Kerala

The southwest monsoon is likely to set over Kerala on 30<sup>th</sup> May with a model error of  $\pm 4$  days.

### Monsoon Watch

Conditions are becoming favorable for the onset of Southwest Monsoon over Nicobar Islands & adjoining Sea areas during next 3- 4 days.

## Standardised Precipitation Index Four Weekly for the Period 16<sup>th</sup> April to 13<sup>th</sup> May 2015



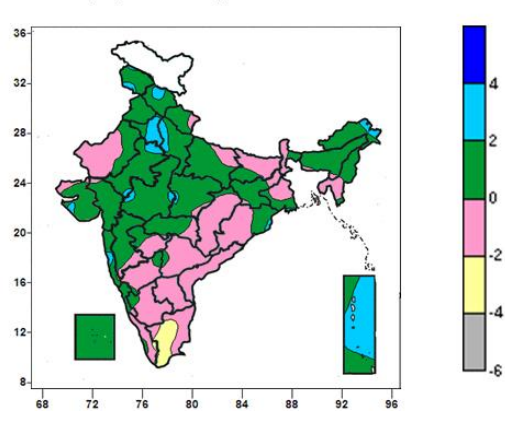
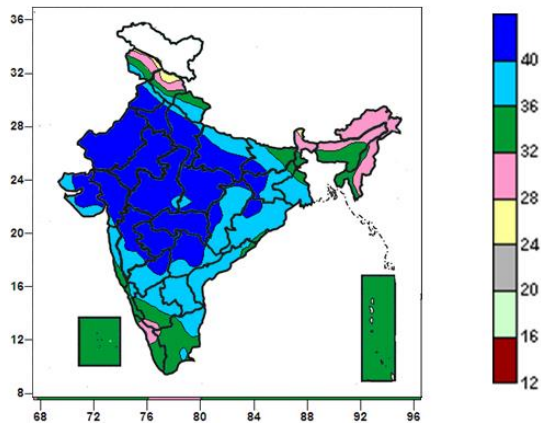
- Extremely/severely wet conditions experienced in few districts of Tamil Nadu; Godda, East Singhbhum, West Singhbhum districts of Jharkhand; Gopalganj, Rohtas districts of Bihar; Faizabad, Kannauj, Moradabad districts of Uttar Pradesh; Amritsar district of Punjab; Gwalior, Hoshangabad, Raisen districts of Madhya Pradesh; Nanded, Parbhani districts of Maharashtra; Bastar, Durg, Surguja districts of Chhattisgarh; Dakshin Kannada, Bidar, Bangalore Rural, Chikmangalur districts of Karnataka; Kottayam, Idukki districts of Kerala.
- Extremely/severely dry conditions experienced in Lakhimpur district of Assam and East Kameng district of Arunachal Pradesh.
- Moderately dry conditions experienced in Changlang, Papumpara districts of Arunachal Pradesh; Bongaigaon district of Assam; Imphal East district of Manipur; Jashpur district of Chhattisgarh; Krishna district of Andhra Pradesh; Bagalkote district of Karnataka.
- Rest of the country experienced moderately wet/mildly dry/wet conditions.



**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 13.05.2015**

**Actual Mean Maximum Temperature (°C) in India for the week ending 13.05.2015**

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 13.05.2015**

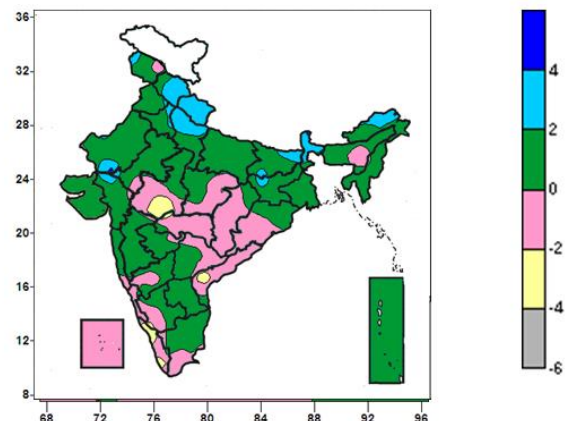
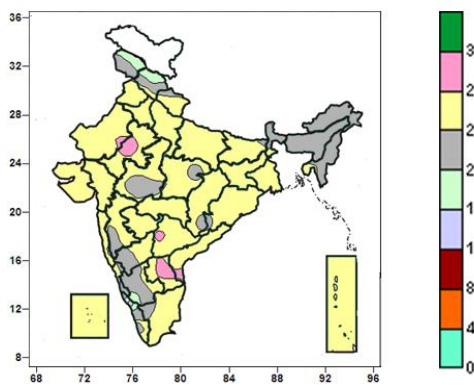


- Mean maximum temperature was above 40°C over Rajasthan, Vidarbha, Marathwada, many parts of Punjab, Haryana & Delhi, Uttar Pradesh, Madhya Pradesh, Gujarat Madhya Maharashtra, Telangana, a few parts of North Interior Karnataka, Bihar, Jharkhand, isolated parts of Chhattisgarh, Odisha.
- Mean maximum temperature ranged between 36 to 40°C over Rayalaseema, many parts of Bihar, Jharkhand, Gangetic West Bengal, Chhattisgarh, Odisha, Coastal Andhra Pradesh, Konkan, Interior Karnataka, a few parts of Uttarakhand, Saurashtra & Kutch, Madhya Maharashtra, Telangana and Tamil Nadu and isolated parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana & Delhi, Coastal Karnataka and Madhya Pradesh.
- It was below 36°C over remaining parts of the country, Lakshadweep and Andaman & Nicobar Islands.

- Mean maximum temperature were below normal by 2 to 4°C over many parts of Tamil Nadu and isolated parts of Kerala.
- Mean maximum temperature were above normal by 2 to 4°C over many parts of Haryana, Delhi, Andaman & Nicobar Islands and isolated parts of Jammu & Kashmir, Himachal Pradesh, West Uttar Pradesh, Arunachal Pradesh, East Rajasthan, Madhya Pradesh, Saurashtra and Konkan.
- It was normal to near normal in remaining parts of the country, Lakshadweep.

**Actual Mean Minimum Temperature (°C) in India for the week ending 13.05.2015**

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 13.05.2015**

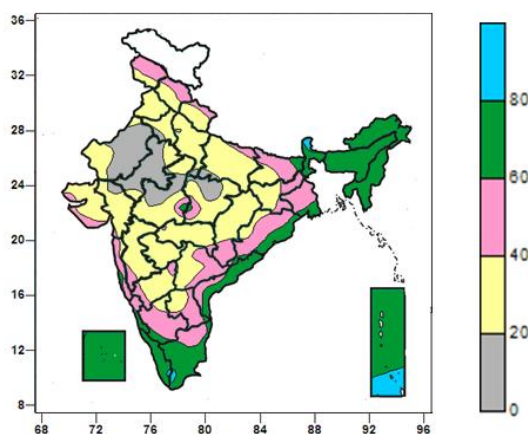


- Minimum temperature was 16 to 20°C over a few parts of Jammu & Kashmir, Himachal Pradesh and isolated parts of South Interior Karnataka and Kerala.
- Minimum temperature was 20 to 24°C over North East India, many parts of Sub-Himalayan West Bengal & Sikkim, Karnataka, a few parts of Jammu & Kashmir, Himachal Pradesh, Madhya Maharashtra, Kerala and isolated places over East Madhya Pradesh, Uttarakhand, Bihar, Odisha, Chhattisgarh, Tamil Nadu.
- It was above 24°C over rest of the country.

- Mean minimum temperature was below normal by 2 to 4°C over isolated parts of West Madhya Pradesh, Vidarbha, Kerala and Coastal Andhra Pradesh.
- Mean minimum temperature was above normal by 2 to 4°C over Uttarakhand, many parts of Himachal Pradesh, Sub-Himalayan & West Bengal & Sikkim, West Uttar Pradesh, isolated parts of Jammu & Kashmir, West Rajasthan, Gujarat region, Haryana, Delhi, Bihar, Jharkhand and Arunachal Pradesh.
- It was normal to near normal in remaining parts of the country.

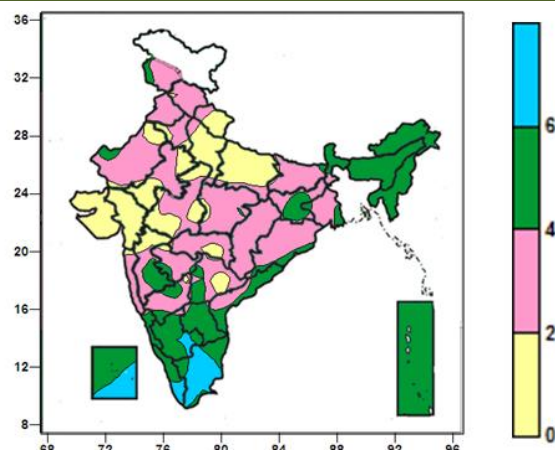
## Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 13.05.2015

### Relative Humidity (%) over India for the week ending 13.05.2015



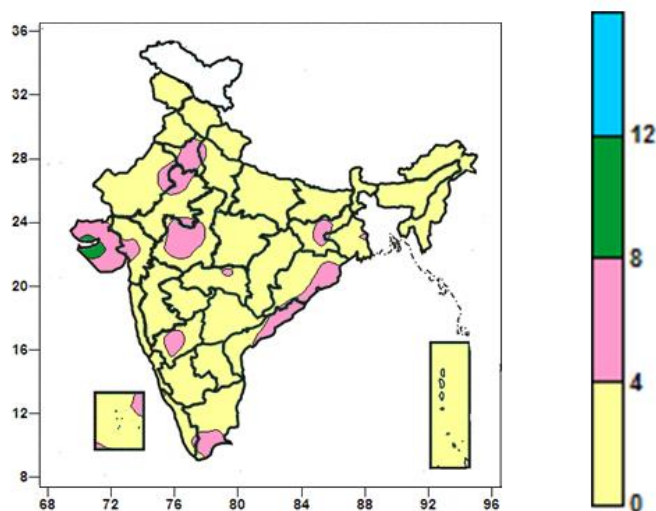
- Mean Relative humidity was above 80 % over a few parts of Sikkim, Andaman & Nicobar Islands, isolated parts of Tamil Nadu and Kerala.
- Mean Relative humidity was 60 to 80% over North East India, Sub-Himalayan West Bengal, Kerala, Lakshadweep, many parts of Tamil Nadu, Coastal Karnataka, Coastal Andhra Pradesh, Andaman & Nicobar Islands, a few parts of Gangetic West Bengal, Coastal Odisha, and isolated parts of Bihar, Konkan and South Interior Karnataka.
- 20 to 60% over rest of the country.

### Cloud amount (okta) over India for the week ending 13.05.2015



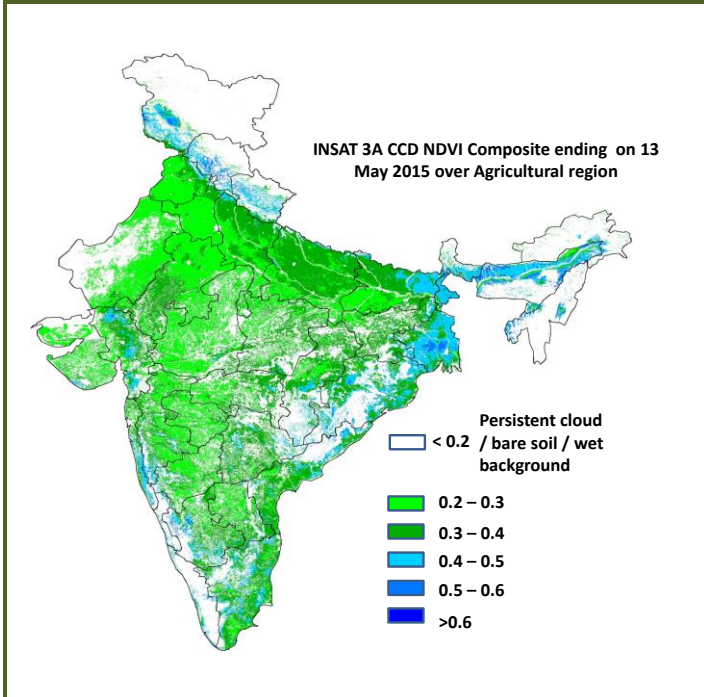
- Cloud cover was above 6 okta over many parts of Tamil Nadu, a few parts of Kerala, South Interior Karnataka and Lakshadweep Islands.
- Cloud cover was 4 to 6 okta over North East India, Coastal Karnataka, Andaman & Nicobar Islands, many parts of Sub-Himalayan West Bengal & Sikkim, Rayalaseema, South Interior Karnataka, Kerala, Lakshadweep Islands, a few parts of Jharkhand, Coastal Andhra Pradesh, Telangana, North Interior Karnataka, Madhya Maharashtra and isolated parts of Jammu & Kashmir, West Rajasthan, Gangetic West Bengal, Odisha and Marathwada .
- Cloud cover was 0 to 4 okta over rest of the country.

### Wind speed (knots) over India for the week ending 13.05.2015



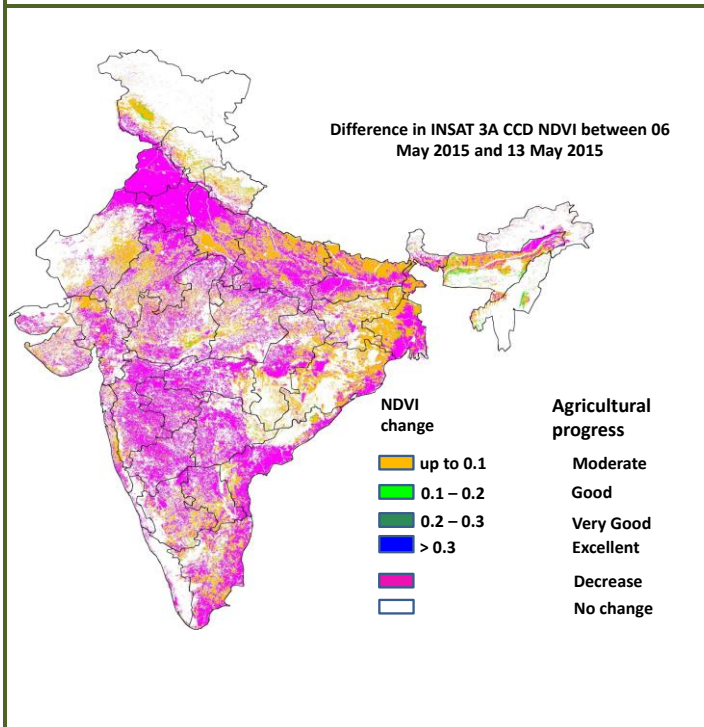
- Mean wind speed was 8 to 12 knots over a few parts of Saurashtra & Kutch.
- Mean wind speed was 4 to 8 knots over many parts of Haryana & Delhi, Saurashtra & Kutch, West Madhya Pradesh, a few parts of Rajasthan, Gujarat Region, Jharkhand, Coastal Andhra Pradesh, Coastal Odisha, North Interior Karnataka, Tamil Nadu and isolated parts of Gangetic West Bengal, Vidarbha and Lakshadweep.
- It was less than 4 knots over rest of the country.

## INSAT 3A CCD NDVI COMPOSITE ENDING ON 13<sup>th</sup> May 2015 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is very good in West Bengal, some parts of east Bihar and some pockets of Konkan & Goa, Karnataka, Gujarat, Coastal Andhra Pradesh and Tamil Nadu where NDVI varies from 0.4 to 0.6. Agricultural growth was good over most parts of Uttar Pradesh, many parts of Bihar and some parts of Punjab, Haryana and east Rajasthan (NDVI: 0.3-0.4). NDVI remains within the range of 0.2 to 0.3 over most of the remaining parts of India.

### Difference in INSAT 3A CCD NDVI between 6<sup>th</sup> May 2015 and 13<sup>th</sup> May 2015



- Decrease in NDVI was observed over most parts of Punjab, Haryana, Maharashtra, Andhra Pradesh, Telangana, Rayalaseema and some parts of Rajasthan, Madhya Pradesh, Karnataka, Tamil Nadu and Gujarat, West Uttar Pradesh, West Bengal, Chhattisgarh and Odisha. Moderate progress (up to 0.1) in NDVI was observed in some parts of eastern UP, Bihar and West Bengal.

- INSAT 3A CCD NDVI composite maps for the week ending on 13<sup>th</sup> May 2015 for different States are given below in Annexure II.



## Weather Forecast for next 5 days valid upto 0830 hours of 20<sup>th</sup> May 2015

- Gradual rise in day temperature over plains of northwest and adjoining west and central India.

### 5 Day Rainfall Forecast (MORNING) 15 May 2015

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

| % Stations | Category                            | % Stations | Category                     |
|------------|-------------------------------------|------------|------------------------------|
| 76-100     | Widespread (WS/Many 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

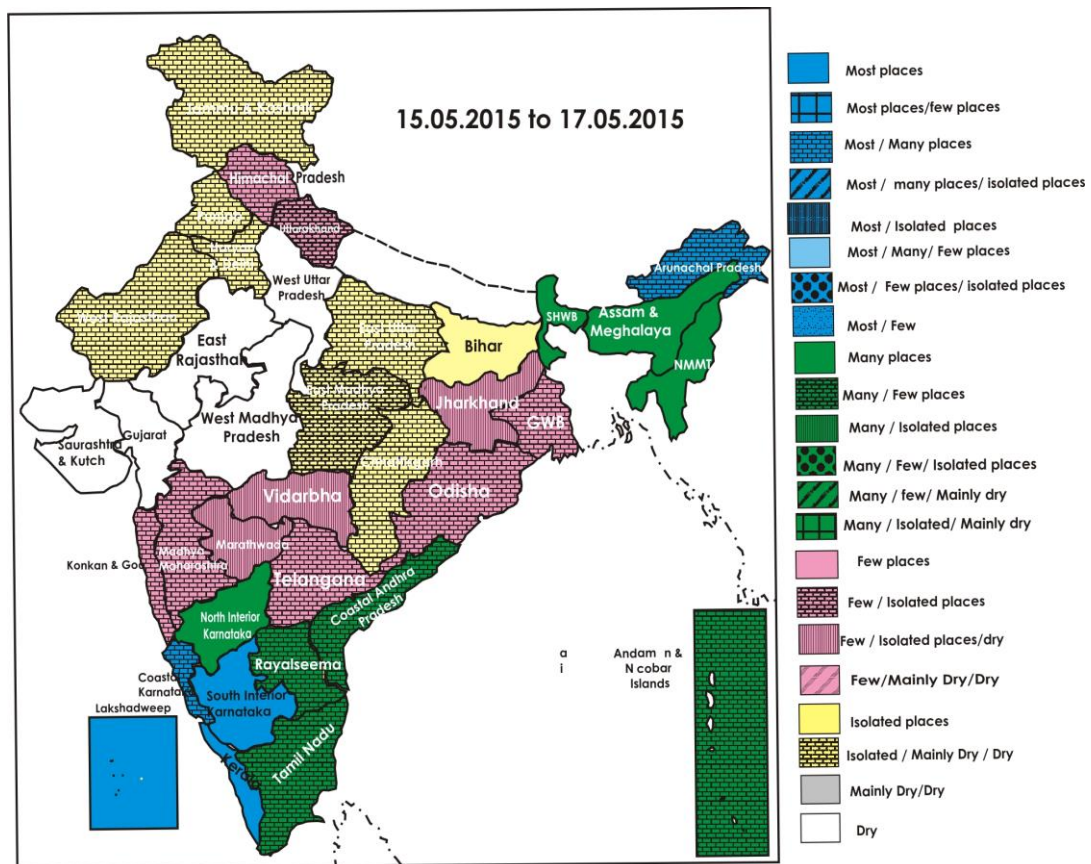
- **15 May (Day 1):** Thunderstorms accompanied with squall would occur at isolated places over Punjab, West Rajasthan, Himachal Pradesh, Uttarakhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Odisha, West Bengal & Sikkim, Coastal Andhra Pradesh and Telangana. Thunderstorms accompanied with squall/hail would occur at isolated places over Madhya Maharashtra and Marathawada. Heavy to very heavy rainfall would occur at isolated places over Kerala. Heavy rainfall would occur at isolated places over Arunachal Pradesh Tamilnadu & Pudducherry, Lakshadweep area and Karnataka.
- **16 May (Day 2):** Thunderstorms accompanied with squall would occur at isolated places over Gangetic West Bengal, Odisha, Jharkhand, Coastal Andhra Pradesh and Telangana. Heavy to very heavy rainfall would occur at isolated places over Kerala. Heavy rainfall would occur at isolated places over Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, interior Tamilnadu, Lakshadweep area and Karnataka.

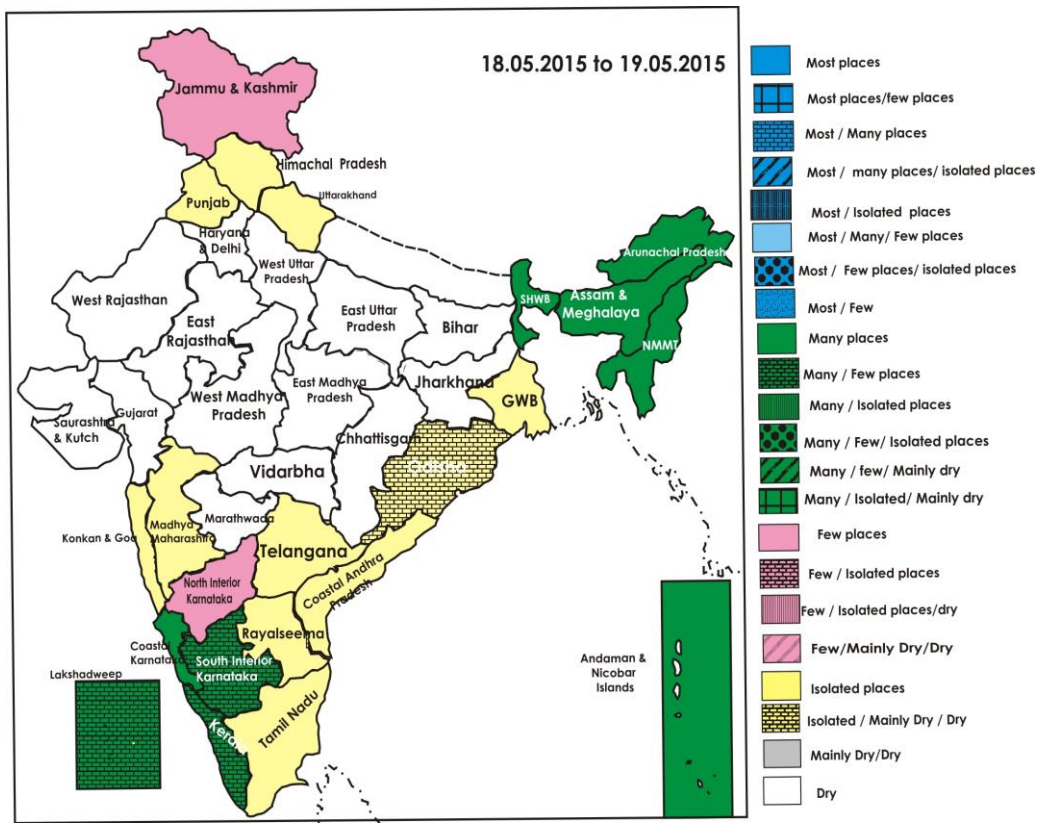
- **17 May (Day 3):** Duststorm/thunderstorm would occur at isolated places over West Rajasthan. Heavy rainfall would occur at isolated places over Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Kerala, Coastal & South Interior Karnataka and Lakshadweep area.
- **18 May (Day 4):** Duststorm/thunderstorm would occur at isolated places over Rajasthan.
- **19 May (Day 5):** No weather warning.

**Weather Outlook for subsequent 2 days From 20<sup>th</sup> May 2015 to 22<sup>nd</sup> May 2015**

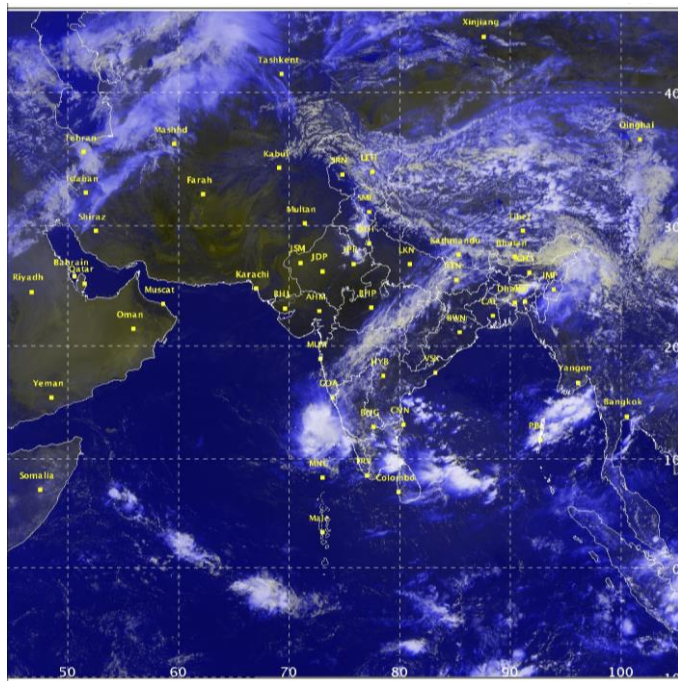
- Rain/thundershowers would occur at isolated places over Western Himalayan region.
- Rain/thundershowers would occur at many places over northeastern states, Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar islands.
- Rain/thundershowers would also occur at isolated places over south peninsular India.

**Weather Forecast Map (Valid upto 0830 hours of 20<sup>th</sup> May, 2015)**





**Satellite image dated, 15.05.2015 0600 UTC**





## Salient Advisories

- As rain/thundershowers would occur at most/many places over **Coastal Karnataka** during the period, over **South Interior Karnataka** and **Kerala** from 15<sup>th</sup> to 18<sup>th</sup>, over **North Interior Karnataka** from 15<sup>th</sup> to 17<sup>th</sup>, over **Tamil Nadu** and **Puducherry** on 15<sup>th</sup> and 16<sup>th</sup> and over **Coastal Andhra Pradesh** and **Rayalaseema** on 16<sup>th</sup> along with heavy to very rainfall at isolated places over Kerala on 16<sup>th</sup> and 17<sup>th</sup> May, heavy rainfall at isolated places over Tamil Nadu and Puducherry on 15<sup>th</sup> and 16<sup>th</sup> and over **Coastal** and **South Interior Karnataka** on 16<sup>th</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops and keep already harvested produce at safer places. Provide adequate drainage in standing crops to avoid water stagnation Kerala, Tamilnadu, Coastal and South Interior Karnataka.
- As rain/thundershowers would occur at most/many places over **Arunachal Pradesh**, many places over **Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura** during the period, along with heavy rainfall at isolated places over **Arunachal Pradesh, Assam & Meghalaya** on 16<sup>th</sup> and 17<sup>th</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops in Arunachal Pradesh, Assam and Meghalaya and keep already harvested produce at safer places. Provide adequate drainage in standing crops to avoid water stagnation in Arunachal Pradesh and Assam & Meghalaya.
- As thunderstorms accompanied with squall would occur at isolated places over **Punjab, West Rajasthan, Himachal Pradesh** and **Uttarakhand** on 15<sup>th</sup> May, dust storm/ thunderstorm at isolated places over **West Rajasthan** on 17<sup>th</sup> and over **Rajasthan** on 18<sup>th</sup> May, provide mechanical support to young fruit plants and vegetables and undertake propping in sugarcane to prevent the crops from lodging due to strong winds.
- As Thunderstorms accompanied with squall would occur at isolated places over **Vidarbha** on 16<sup>th</sup> May, thunderstorms accompanied with squall/hail would occur at isolated places over Madhya **Maharashtra** and **Marathawada** on 16<sup>th</sup> May, provide mechanical support to banana, young fruit plants and vegetables and undertake propping in sugarcane to prevent the crops from lodging due to strong winds. It is also advised to use hailnets for orchard crops to protect from mechanical damage Madhya Maharashtra and Marathawada.
- As thunderstorms accompanied with squall would occur at isolated places over **Bihar and West Bengal & Sikkim** on 15<sup>th</sup>, over **Jharkhand and Odisha** on 15<sup>th</sup> and 16<sup>th</sup>, over **Gangetic West Bengal** on 16<sup>th</sup> May, over **Coastal Andhra Pradesh and Telangana** on 15<sup>th</sup> and 16<sup>th</sup> May, provide mechanical support to vegetables and young fruit plants to prevent the crops from lodging due to strong winds. Also undertake propping in sugarcane in Bihar, Jharkhand and Odisha.
- Continue land preparation for upland rice, dry seeding of *virippu* rice and planting of coconut seedlings in the Problem Area Zone and continue nursery preparation for *viruppu* rice in Southern Zone of **Kerala** after current spells of heavy rain.
- In Mid Central Table Land Zone of **Odisha**, due fluctuation in temperature with variation in humidity there may be white fly problem in summer green gram. Use 10-12 yellow sticky traps per acre in the crop field to control the white fly.

## Detailed Zonewise Agromet Advisories

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



*Moong*



*Sugarcane*



*Banana*



*Cabbage*

- **Realised Rainfall:** Rainfall occurred in Kapurthala, Muktsar districts of Punjab; Baramula, Kupwara, Reasi, Srinagar districts of Jammu & Kashmir; Bagraich and Kannauj districts of East Uttar Pradesh; Moradabad districts of West Uttar Pradesh; Garhwal Tehri district of Uttarakhand. Weather remained mainly dry/dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Uttarakhand and Himachal Pradesh on 15<sup>th</sup>, over Jammu & Kashmir on 19<sup>th</sup>; at isolated places over Uttarakhand and Himachal Pradesh from 16<sup>th</sup> to 19<sup>th</sup>, over East Uttar Pradesh, Haryana & Delhi and West Rajasthan on 15<sup>th</sup>, over Punjab on 15<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup>, over Jammu & Kashmir on 15<sup>th</sup> and 17<sup>th</sup>. Dry weather would prevail over West Uttar Pradesh and East Rajasthan during the period, over East Uttar Pradesh, Haryana & Delhi and West Rajasthan from 16<sup>th</sup> to 19<sup>th</sup>, over Punjab on 16<sup>th</sup> and 17<sup>th</sup> and over Jammu & Kashmir on 16<sup>th</sup>. Gradual rise in day temperature over plains of northwest India.

- **Weather Warning:** Thunderstorms accompanied with squall would occur at isolated places over Punjab, West Rajasthan, Himachal Pradesh and Uttarakhand on 15<sup>th</sup> May. Duststorm/thunderstorm would occur at isolated places over West Rajasthan on 17<sup>th</sup> May and over Rajasthan on 18<sup>th</sup> May.
- **Weather Outlook:** Rain/thundershowers would occur at isolated places over Western Himalayan region.
- **Advisories:**
  - As thunderstorms accompanied with squall would occur at isolated places over Punjab, west Rajasthan, Himachal Pradesh and Uttarakhand on 15<sup>th</sup> May, dust storm/ thunderstorm at isolated places over west Rajasthan on 17<sup>th</sup> and over Rajasthan on 18<sup>th</sup> May, provide mechanical support to young fruit plants and vegetables and undertake propping in sugarcane to prevent the crops from lodging due to strong winds.
    - **Jammu & Kashmir:**
      - In Sub Tropical Zone, continue harvesting of normal planted onion & garlic on bright sunny days and keep already harvested produce at safer places.
      - In Valley Temperate Zone, continue sowing of cucurbits, kale, knolkhol, bhindi and beans. Also undertake transplanting of chilli.
      - In Sub Tropical Zone of Jammu & Kashmir, due to cloudy weather condition, there may be possibility of attack of fruit fly in bottle gourd. To control, spray Malathion @ 1.5ml/litre of water on a non rainy day.
    - **Uttarakhand:**
      - Continue nursery sowing of brinjal in Bhabar and Tarai Zone of Uttarakhand.
      - In Hill Zone of Uttarakhand, continue planting of potato, ginger, sowing of millet, lobia, French bean, and transplanting of vegetables like tomato, capsicum, brinjal, cucurbitaceous crops etc.
      - In Hill Zone of Uttarakhand, in the present temperature condition, there may be attack of stem/fruit borer in tomato and brinjal. To control, apply Sipnosad 48 EC @ 1ml per 4 litre of water.
    - **Himachal Pradesh:**
      - In High hills regions of Sub-Montane and Low Hills Sub-Humid Tropical Zone, continue sowing of improved varieties of garden pea, radish, carrot, turnip and palak and transplanting of cabbage, cauliflower, broccoli and lettuce.
      - In mid hill areas of Sub-Montane and Low Hills Sub-Humid Tropical Zone, continue transplanting of tomato, brinjal, capsicum, chilli and sowing of cucurbits like cucumber, bitter gourd, bottle gourd and summer squash.
      - In low hill areas of Sub-Montane and Low Hills Sub-Humid Tropical Zone, continue sowing of French bean, okra moong and mash in irrigated lower areas.
      - Due to partly cloudy weather condition, there is chance of incidence of scab/ core rot in apple in Mid Hills Sub Humid Zone. For control, spray Score (Difenoconazole) @ 40ml/200 litres of water.
      - In the present temperature condition, there is chance of infestation of aphids and caterpillars in cabbage and cauliflower in Sub-Montane and Low Hills Sub-Humid Tropical Zone, spray Malathion 50 EC @ 1 ml in 1 litre of water.
    - **Rajasthan:**
      - Under prevailing high temperature conditions, provide light and frequent irrigation in summer vegetables, *zaid* fodder crops and small fruit plants in Semi Arid Eastern Plain Zone, Sub Humid Southern Plain and Aravali Hill Zone.
      - Continue sowing of desi cotton in Irrigated Northwestern Plain Zone. Continue sowing of irrigated cotton in Semi Arid Eastern Plain Zone and American cotton in Arid Western Plain Zone. Undertake nursery of papaya in Sub Humid Southern Plain and Aravali Hill Zone.
      - Apply drip irrigation in *kinnow* orchards and also irrigate sugarcane in Irrigated Northwestern Plain Zone. To prevent dropping of *kinnow* fruits, spray 2,4-D (horticultural grade) @ 2g/100 litres of water or Propineb 70 WP @ 2 g /litre + 20 mg Gibberlic acid /litre of water.
      - In Sub Humid Southern Plain and Aravali Hill Zone, due to rise in temperature, there may be attack of stem and fruit borer in okra. To control, spray Malathion @2ml/litre water.
      - In Arid Western Plain Zone, due to rise in temperature, there is chance of fruit dropping in citrus fruits, spray Planofix @ 1ml/4.5 litres of water. Also undertake pruning in Ber orchards in Arid Western Plain Zone and Irrigated North western Plain Zone.
      - In Arid Western Plain Zone, chilli crop is affected by leaf curl and mosaic disease and likely to spread in the present weather. Spray Dimethoate 30EC @ 1.0 ml per litre water to control.
    - **Punjab, Haryana and Delhi:**
      - In Western Semi-Arid Zone of Delhi, continue sowing of ladies finger, cucurbitaceous crops and nursery sowing of vegetables like chilli, tomato and brinjal. Undertake sowing of pigeon-pea and cotton.
      - Due to increase in temperature, apply light and frequent irrigation to all vegetables and fodder crops in Western Semi-Arid Zone of Delhi.
      - In Western Zone of Punjab, continue transplanting of summer vegetables viz. chilli, tomato and bell pepper and sowing of cucumber, bottle gourd, pumpkin, muskmelon, watermelon, bitter gourd. Continue sowing of cotton.
      - In Western Plain Zone of Punjab, continue transplanting of chilli and complete sowing of cotton. Undertake planting of turmeric.
      - In Central Plain Zone and Western Plain Zone of Punjab, continue field preparation for nursery sowing of rice. Apply light and frequent irrigation to vegetable crops.

- In Western Zone of Haryana, continue transplanting of tomato and chilli and continue sowing of desi cotton. Complete sowing of bajra, lobia, sudan and napier grass for summer fodder. Undertake sowing / planting of crops in this region with assured irrigation.
- Protect the orchards of young fruit plants and nursery from high temperature with the help of sarkande leaves around the plants in Undulating Plain Zone of Punjab.
- In Central Plain Zone of Punjab, summer moong is severely attacked by the thrips, spray the crop Rogor 30 EC @ 100 ml or Malathion 50 EC @ 120 ml in 80-100 litres of water per acre at flower bud initiation stage.
- In the prevailing temperature, there is possibility of attack of mite, jassid and hoper in okra in Western Semi-Arid Zone of Delhi. Monitor the crop and spray Phosmite @ 1.5 - 2 ml/litre of water.
  - **Uttar Pradesh:**
- In Western and Central Plain Zone, start nursery preparation of rice and continue sowing of jowar, lobia, maize, bajra and pigeon pea.
- In Eastern Plain Zone, continue planting of sugarcane and complete sowing of urad, moong and vegetables.
- In view of the prevailing high temperature condition, apply light and frequent irrigation in bitter melon, radish and water melon in Central Plain Zone.
- In the prevailing temperature condition, there are chances of attack of red beetle or fruit fly on cucurbits in Central Plain Zone, to control, spray Imidachloropid @ 1 ml per litre of water. Also, there are chances of fruit dropping in mango, spray Acetic Acid @ 15 ppm or Fenofix @ 4 ml per 9 litre of water.
- In North Eastern Plain Zone, due to dry weather condition, there are chances of incidence of sucking insects in urad / moong, to control, spray Quinalphos @ 0.2%. Also there are chances of incidence of yellow vein mosaic in okra, to control spray Carbendazim @ 1.0%.
- Suitable varieties for sowing are given in Annexure III.
- **Floriculture**
- Due to humid and partly cloudy weather condition, there is chance of attack of mites in carnation in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. For control, spray Omite @ 1ml/litre of water or Diclofol@2ml/litre and repeat spray after 15 days interval.
- In Sub Tropical Zone of Jammu & Kashmir, due to partly cloudy weather condition there may be attack of *helioverpa* in marigold. To control spray Cypermethrin @ 1ml/litre during morning hours.
- **Animal Husbandry**
- In Punjab, Rajasthan, Himachal Pradesh and Uttarakhand, keep cattle/goats indoor during thunderstorm/squall period.
- In Rajasthan, in view of prevailing high temperature, provide plenty of clean water and balanced nutrient rich feed to the milch animals and keep animals under shade during noon hours. Tie curtains on north-west side of poultry house to reduce the effect of hot winds.

### CENTRAL INDIA [M.P., CHHATTISGARH]



*Sugarcane*



*Moong*



*Okra*



*Onion*

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over East Madhya Pradesh on 15<sup>th</sup> and over Chhattisgarh on 15<sup>th</sup> and 16<sup>th</sup>. Dry weather would prevail over the region during rest of the period. Gradual rise in day temperature over central India adjoining to northwest India.
- **Weather Warning:** Thunderstorms accompanied with squall would occur at isolated places over Chhattisgarh on 15<sup>th</sup> May.
- **Advisories:**
  - **Madhya Pradesh:**
  - Apply irrigation to summer moong and urad in Kymore Plateau and Satpura Hill Zone.
  - In Nimar Valley Zone, as dry weather is likely to prevail, apply irrigation to summer moong and groundnut. Continue nursery preparation for chilli.
  - Continue seed bed preparation for sowing of *kharif* onion in Bundelkhand Zone. Undertake picking of matured okra. Continue field preparation for planting of ginger and turmeric in Jhabua Hill Zone.
  - In the prevailing high temperature condition, there are chances of fruit dropping in mango in Grid Zone and Malwa Plateau Zone. Apply irrigation to the mango tree by ring method or through drip irrigation method, also apply



irrigation in vegetables.

- Due to partly cloudy weather, there are chances of incidence of yellow mosaic in moong in Bundelhand Zone, spray Imidachloprid @ 0.5 ml. per litre of water.
- In the prevailing temperature, there are chances of attack of red pumpkin beetle in cucurbits in Malwa Plateau Zone, spray Quinalphos 25 EC @ 1 litre/ha or Propenophos 50 EC @ 800-1000 ml/ha.
- **Chhattisgarh:**
- As thunderstorms accompanied with squall would occur at isolated places over Chhattisgarh on 15<sup>th</sup> May, provide mechanical support to young fruit plants and vegetables and undertake propping in sugarcane to prevent the crops from lodging due to strong winds.
- In Chhattisgarh Plain Zone, in view of prevailing dry weather and high temperature, apply irrigation at regular intervals to standing crops. Undertake mulching with paddy straw in summer crops like moong, groundnut and vegetables.
- In the prevailing weather, there are chances of attack of sucking pests in vegetables in Bastar Plateau Zone, spray Dimethoate 40 EC @ 1.5ml/litre of water.
- **Animal Husbandry**
- In view of prevailing high temperature, provide plenty of clean water and balanced nutrient rich feed to the milch animals and keep animals under shade during noon hours in Madhya Pradesh and Chhattisgarh.

### WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



*Banana*

*Sugarcane*

*Groundnut*

*Mango*

- **Realised Rainfall:** Rainfall occurred in Sindhudurg district of Konkan & Goa. Weather remained mainly dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Konkan & Goa, Madhya Maharashtra, Marathwada and Vidarbha on 15<sup>th</sup>; at isolated places over Konkan & Goa and Madhya Maharashtra from 16<sup>th</sup> to 19<sup>th</sup>, over Marathwada and Vidarbha on 16<sup>th</sup>. Dry weather would prevail over Gujarat during the period, over Marathwada and Vidarbha from 17<sup>th</sup> to 19<sup>th</sup>. Gradual rise in day temperature over west India adjoining to northwest India.
- **Weather Warning:** Thunderstorms accompanied with squall would occur at isolated places over Vidarbha on 15<sup>th</sup> May. Thunderstorms accompanied with squall/hail would occur at isolated places over Madhya Maharashtra and Marathwada on 15<sup>th</sup> May.
- **Advisories:**
  - **Maharashtra:**
  - As Thunderstorms accompanied with squall would occur at isolated places over Vidarbha on 16<sup>th</sup> May, thunderstorms accompanied with squall/hail would occur at isolated places over Madhya Maharashtra and Marathwada on 16<sup>th</sup> May, provide mechanical support to banana, young fruit plants and vegetables and undertake propping in sugarcane to prevent the crops from lodging due to strong winds. It is also advised to use hailnets for orchard crops to protect from mechanical damage in Madhya Maharashtra and Marathwada.
  - In Konkan, considering the forecast for rainfall, complete plucking of matured mangoes at the earliest. Continue harvesting of summer rice and finger millet on bright sunny days. Keep the harvested produce in safer place. Continue land preparation for *kharif* rice & finger millet nursery in the harvested field of vegetables and pulses.
  - In Madhya Maharashtra, utilizing the realized rainfall, undertake summer ploughing. Also continue land preparation of *kharif* rice nursery. Provide mechanical support to vegetable crops and young fruit saplings. Use hail nets in orchards to protect the fruits from damage. Continue harvesting of matured summer groundnut in Pune region on bright sunny days.
  - In Marathwada, considering the forecast for rainfall, complete plucking of matured mangoes at the earliest. Continue harvesting of matured vegetable crops like chilli, cabbage and cauliflower during morning hours.
  - In Vidarbha, in view of prevailing high temperature (42<sup>o</sup>C) apply light and frequent irrigation to water melon, musk melon, summer vegetables, summer groundnut and summer green gram or apply mulch with crop residue.
  - Prevailing cloudy and rainy weather is congenial for infestation of fruit borer in tomato in Western Ghat Zone; spray Quinalphos @ 20 ml per 10 litres of water at 10 days interval.
  - **Gujarat:**
  - In North Gujarat Zone, undertake land preparation for sowing of irrigated hybrid cotton ( variety: G. cot. 6, 8, 10) and B.T. cotton (approved varieties). Plan for plantation of horticultural crops. Carry out picking of matured pods of green gram and cowpea. Under dry weather and prevailing temperature conditions, apply irrigation to

groundnut (pod development stage); carry out deep ploughing in harvested fields for destruction of soil pests and fungus in high intensity of solar radiation. Carry out levelling of plots to increase soil moisture holding capacity. Construct the bund in advance to reduce soil erosion in fields and plan for farm ponds to collect runoff water during monsoon season.

- In Middle Gujarat Zone (Panchmahal and Godhra districts), undertake sowing of early season sweet corn (variety: American Hybrid-1) and pigeon pea (green pod type variety) with assured irrigation. Undertake harvesting of sapota.
- Complete harvesting of rice in Bhal and Coastal Zone. As dry weather would prevail, carry out intercultural operations in pearl millet, apply irrigation in pearl millet, green gram, vegetable, fruit and fodder crops.
- In South Gujarat Heavy Rainfall Zone, considering the high prevailing temperature, cover banana bunch with blue plastic sheet with 40% ventilation; apply irrigation in groundnut, vegetable and floriculture crops at regular intervals; to control evaporation from sugarcane field, spread dry leaves of sugarcane in between two rows of sugarcane. After harvesting of *rabi* crops, undertake summer ploughing for solarization to destroy pupa and fungus.
- In view of prevailing high temperature in South Gujarat Zone, protect banana bunch with plastic sheet cover. Plan for sowing of cotton with assured irrigation.
- In North Saurashtra Zone, continue harvesting of sesame and green gram to prevent shattering of capsules and pods. Due to the dry weather forecast, apply irrigation in groundnut, vegetable and fodder crops in the morning or evening hours. Apply irrigation in groundnut and sesame in South Saurashtra Zone.
- Due to hot and moderate humid weather, mite infestation is observed in some fields of groundnut crop in North Saurashtra Zone; monitor the crop; spray Dicofol @ 20 ml or Propergyte @ 10 ml per 10 litres of water for control.
- Due to partly prevailed cloudy condition during last week, there are chances of sucking pest infestation in vegetable and floriculture crops in North Gujarat Zone; spray 0.1% solution of Dimethoate 35EC to manage the pest.
- **Animal Husbandry**
- In Gujarat, under prevailing temperature conditions, take special care of animals during noon time. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking at least thrice a day. Also provide balanced feed & adopt vaccination schedule to avoid disease outbreak during monsoon season. Cover the roof of shed with paddy straw. Put curtains on west side of poultry house and sprinkle water on curtains during noon time. In poultry house, control the temperature using fogger.

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



*Rice*



*Banana*



*Okra*



*Cabbage*

- **Realised Rainfall:** Rainfall occurred in Lohit, Upper Subansari, West Kameng districts of Arunachal Pradesh; all districts of Assam except Darrang, Dhemaji, Dibrugarh, Kamrup (Metro), Karbi Anglong, Lakhimpur, N.C. Hills, Nagaon, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri; all districts of Meghalaya except Jaintia Hills and South Garo Hills; Kolasib district of Mizoram; Imphal West of Manipur; all districts of Tripura. Mainly Dry Weather Prevailed over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Arunachal Pradesh on 16<sup>th</sup> and 17<sup>th</sup>; at many places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during the period, over Arunachal Pradesh on 15<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup>.
- **Weather Warning:** Thunderstorms accompanied with squall would occur at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 15<sup>th</sup> May. Heavy rainfall would occur at isolated places over Arunachal Pradesh on 15<sup>th</sup>, 16<sup>th</sup> and 17<sup>th</sup> May and over Assam & Meghalaya on 16<sup>th</sup> and 17<sup>th</sup> May.
- **Weather Outlook:** Rain/thundershowers would occur at many places over northeastern states.
- **Advisories:**
  - As rain/thundershowers would occur at most/many places over Arunachal Pradesh, many places over Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura during the period, along with heavy rainfall at isolated places over Arunachal Pradesh, Assam & Meghalaya on 16<sup>th</sup> and 17<sup>th</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops in



Arunachal Pradesh, Assam and Meghalaya and keep already harvested produce at safer places. Provide adequate drainage in standing crops in Arunachal Pradesh and Assam & Meghalaya to avoid water stagnation in the fields.

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

- In Hill Zone of Assam, continue transplanting of normal *ahu* rice and undertake planting of banana and tapioca after current spells of heavy rain.
- In Lower Brahmaputra Valley Zone of Assam, continue sowing of *baor* rice and sowing of *olitorious* jute, pigeon pea, mesta and ridge gourd after current spells of heavy rain.
- In Upper Brahmaputra Valley Zone of Assam, continue planting of banana and papaya after current spells of heavy rain.
- In Central Brahmaputra Valley Zone of Assam, complete transplanting of early *ahu* rice and continue planting of papaya and sugarcane, sowing of *olitorious* jute after current spells of heavy rain.
- In Arunachal Pradesh, continue transplanting of early sown WRC rice.
- In Meghalaya, undertake planting of ginger/turmeric and complete sowing of *jhum* rice after current spells of heavy rain.
- In Barak Valley Zone of Assam, due to humid weather there is chance of attack of ghandi bug and stem borer in *boro* rice. Apply Malathion @ 1.5 ml/ litre of water after current spells of rain.
- In Hill Zone and North Bank Plain Zone of Assam, due to increase in humidity, there is chance of incidence of blast disease in *ahu* rice. If 2-3 leaf spot appear, spraying should be done with Mancozeb (Dithene M-45) @ 2 g / litre of water or Thiophenate Methyl @ 1 g / litre of water after current spells of rain.
- In Central Brahmaputra Valley Zone of Assam, due to humid weather, there is chance of attack of pod borer and pod bug infestation in summer black gram and green gram. Farmers are advised to spray Quinalphos @ 2.5 ml/litre against pod borer and Dimethoate @ 2ml/litre of water against pod bug after current spells of rain.
- In Meghalaya, high relative humidity is favourable for development of blast disease in *jhum* rice; if blast spot are seen, apply Mancozeb @ 2g/litre of water after current spells of rain.

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

- In Manipur, continue nursery bed preparation for *kharif* rice and land preparation and sowing of *rabi* maize, soybean, groundnut and black gram. Undertake planting of papaya, turmeric and lemon.
- In Mizoram, continue land preparation for planting of ginger and turmeric and nursery preparation for khasi mandarin and passion fruit. Continue sowing of Rice, maize, colocassia, okra and transplanting of brinjal and tomato.
- In Tripura, occasional high wind may break the fruit bearing branches of mango trees; provide support to the branches to prevent breakage and wastage of fruit.
- In Tripura, due to cloudy and humid weather, there is chance of attack of gandhi bug in *boro* rice and fruit & shoot borer in summer brinjal and tomato. To control gandhi bug, spray Imidacloprid @ 2 ml/litre of water and spray Cypermethrin @ 1.5ml or Flubendamid @ 0.5 ml/ litre of water for control fruit & shoot borer after current spells of rain.
- Suitable varieties are given in Annexure III.

• **Animal Husbandry:**

- In Arunachal Pradesh, Assam & Meghalaya, keep animals indoors during heavy rainfall period. Also keep animal sheds dry and avoid dampness during rainy days.
- In Meghalaya, due to humid weather, keep the poultry house well ventilated during day time and provide clean and fresh drinking water every day. Rainy and cloudy weather is congenial for development of diseases like Coccidiosis in poultry. As a preventive measures give Amprolium @ 25-65 mg/kg of feed once a day.

• **Fisheries**

- In Assam, new fish ponds may be made or old ones may be renovated / cleaned before start of monsoon rain for large scale fish culture. Care must be taken for new ponds by liming for stocking fish fries/ fingerlings or yearlings.

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



*Sugarcane*



*Jute*



*Rice*



*Onion*

- **Realised Rainfall:** Rainfall occurred in all dsitriacts of Andaman & Nicobar Islands; all districts of Sub-Himalayan



West Bengal & Sikkim; Murshidabad district of Gangetic West Bengal; Bhagalpur, East Champaran, Kathihar, Madhepura and Purnea districts of Bihar; Godda, Ranchi and Sahibganj districts of Jharkhand; Bhadrak district of Odisha. Weather remained mainly dry over rest of the region.

- **Weather Forecast:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim during the period and over Andaman & Nicobar Islands from 16<sup>th</sup> to 19<sup>th</sup>; at a few places over Andaman & Nicobar Islands and Jharkhand on 15<sup>th</sup>, over Gangetic West Bengal and Odisha on 15<sup>th</sup> and 16<sup>th</sup>; at isolated places over Gangetic West Bengal from 17<sup>th</sup> to 19<sup>th</sup>, over Odisha on 17<sup>th</sup> and 18<sup>th</sup>, over Jharkhand on 16<sup>th</sup> and over Bihar from 15<sup>th</sup> to 17<sup>th</sup>. Dry weather would prevail over Odisha on 19<sup>th</sup>, over Jharkhand from 17<sup>th</sup> to 19<sup>th</sup> and over Bihar on 18<sup>th</sup> and 19<sup>th</sup>.
- **Weather Warning:** Thunderstorms accompanied with squall would occur at isolated places over Bihar and West Bengal & Sikkim on 15<sup>th</sup> May; over Jharkhand and Odisha on 15<sup>th</sup> and 16<sup>th</sup> May and over Gangetic West Bengal on 16<sup>th</sup> May. Heavy rainfall would occur at isolated places over Andaman & Nicobar Islands on 16<sup>th</sup> and 17<sup>th</sup> May.
- **Weather Outlook:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar islands.
- **Advisories:**
  - As thunderstorms accompanied with squall would occur at isolated places over Bihar and West Bengal & Sikkim on 15<sup>th</sup>, over Jharkhand and Odisha on 15<sup>th</sup> and 16<sup>th</sup> and over Gangetic West Bengal on 16<sup>th</sup> May, provide mechanical support to vegetables and young fruit plants to prevent the crops from lodging due to strong winds. Also undertake propping in sugarcane in Bihar, Jharkhand and Odisha.
  - **West Bengal:**
    - As rain/thundershowers would occur at many places over Sub Himalayan West Bengal & Sikkim during the period, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
    - In Coastal Saline Zone, undertake harvesting of matured rice on bright sunny days and deep summer ploughing may be done in harvested *boro* rice fields to destroy eggs and pupa of insects.
    - In Laterite and Red soil Zone of West Bengal, undertake harvesting of matured groundnut and sesamum on bright sunny days.
    - In New Alluvial Zone of West Bengal, complete the harvesting of matured *boro* rice on bright sunny days. Undertake intercultural operations (weeding & thinning) and top dressing in jute on a non rainy day. Apply 6 to 7 Kg Urea per bigha as first top dressing at 21 days after sowing and same amount of fertilizer as second top dressing at 6 week after sowing on a non-rainy day.
    - In Old Alluvial Zone of West Bengal, in the prevailing weather condition, there may be shoot borer attack in brinjal at fruiting stage. To control, spray Kartap Hydrochloride @ 1 g or Neem oil @ 2 ml per litre of water after current spells of rain.
    - In Terai Zone of West Bengal, due to high humidity there may be may root rot in vegetable crops. Apply Carbendazim and Mancozeb mixture @ 2g/litre of water after current spells of rain.
  - **Andaman and Nicobar Islands:**
    - As rain/thundershowers would occur at many places over Andaman & Nicobar islands from 16<sup>th</sup> to 19<sup>th</sup> May along with heavy rainfall at isolated places on 16<sup>th</sup> and 17<sup>th</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
    - In South, North & Middle Andaman, strengthen the bunds of paddy fields to harvest rain water for preparing the rice nursery. Provide drainage facility in vegetables like okra and brinjal and harvest matured fruits.
    - In Nicobar, clean the vegetation around coconut trees and make basin to store water.
  - **Odisha:**
    - In East and South Eastern Coastal Plain Zone of Odisha, continue sowing of jute.
    - In Mid Central Table Land Zone of Odisha, due fluctuation in temperature with variation in humidity there may be white fly problem in summer green gram. To control it use 10-12 yellow sticky traps per acre in the crop field to control the white fly.
    - In Mid Central Table Land Zone of Odisha, rising temperature is favorable for attack of fruit and shoot borer in Brinjal. To control it, spray Spinosad @ 6ml/ 15 litres of water on a non rainy day. Also install 10 Pheromon traps per acre for effective control of the insects.
  - **Bihar:**
    - In North West Alluvial Plain Zone and South Bihar Alluvial Zone, continue sowing of fodder crops such as maize, sorghum, cowpea, jowar, bajra and lobia.
    - In North West Alluvial Plain Zone, continue sowing of dhaicha, mung (green gram) and *senai* crop for green manure and maintain the soil moisture for better germination.
    - In North West Alluvial Plain Zone, continue intercultural operations in onion and summer vegetables and apply irrigation at regular intervals.
    - In South Bihar Alluvial Zone, due to high temperature, farmers are advised to apply irrigation regularly to summer moong, maize and summer vegetables like okra (bhindi), pointed guard, bitter guard, bottle guard, sponge gourd and cucumber etc.
    - In South Bihar Alluvial Zone & North East Alluvial Zone of Bihar, continue summer ploughing in the fallow fields to control weeds, pests and diseases and complete the transplanting of chilli.

- In North East Alluvial Zone of Bihar, complete sowing of jute and undertake thinning in early sown crops.
- In North East Alluvial Zone of Bihar, continue harvesting of *rabi* maize & onion crop
- In North West Alluvial Plain Zone, dry weather and high temperature is congenial for infestation of mite in ladies finger, monitor the crops. If mite population is more, spray Ethion @ 1.5-2 ml/litre of water.
- In South Bihar Alluvial Zone, present weather is congenial for infestation of shoot and fruit borer in brinjal crop; for control, destroy the infested fruits and shoots. If pest population is high, spray Spinosad 48 EC @ 1 ml / 4 litres of water .
- In North East Alluvial Zone of Bihar, present weather is congenial for infestation of early shoot borer and top borer in sugarcane & stem borer in maize, control by applying Fipronil 0.3% GR @ 33 Kg/ha.
- **Jharkhand:**
- In North Eastern Plateau Zone, continue weeding and earthing up in summer maize and continue planting of improved varieties of ginger, turmeric and elephant foot yam.
- In North Eastern Plateau Zone, continue the harvesting and threshing of matured summer mung crop after drying.
- In South Eastern Plateau Zone, continue harvesting of matured spring moong.
- In South Eastern Plateau, as no significant rainfall is expected, apply irrigation in summer okra which is at fruit developing stage.
- In South Eastern Plateau Zone & Western Plateau Zone, maintain 5-7 cm water level in transplanted summer rice fields.
- In Western Plateau Zone, continue planting of ginger or turmeric and undertake mulching with straw / leaves etc. to control weeds and to conserve soil moisture.
- In Western Plateau Zone, present weather is congenial for infestation of thrips in summer mung, to control, spray Trizophos @ 1 ml per liter of water.
- In South Eastern and North Eastern Plateau Zone, prevailing temperature and humidity is congenial for incidence of shoot borer in summer rice, for control, apply Carbofuran-3G @ 12kg or Forate -10G @ 4 kg/acre.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In West Bengal & Sikkim, Bihar, Jharkhand and Odisha, keep cattle/goats indoor during thunderstorm / squall period. Give lots of clean water to the animals and keep them in the shaded place during noon hours. Special attention should be given to milch animals with regard to feed.

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



*Sorghum*



*Sugarcane*



*Chilli*



*Rice*

- **Realised Rainfall:** Rainfall occurred in Coimbatore, Dharmapuri, Dindigul, Kanyakumari, Karaikal, Madurai, Nilgiris, Perambalur, Pudukkottai, Ramanathapuram, Salem, Sivaganga, Thanjavur, Theni, Tirunelveli, Tiruppur, Tiruvarur, Toothukudi and Virudhunagar districts of Tamil Nadu; Dakshina and Uttara Kannada districts of Coastal Karnataka; Belagavi, Dharwad and Haveri districts of North Interior Karnataka; Chamarajanagar, Chikkamagaluru, Hassan, Kodagu, Mandya, Mysuru, Ramanagara and Shivamogga districts of South Interior Karnataka; all the districts of Kerala; Weather remained mainly dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Coastal Karnataka on 15<sup>th</sup> and 16<sup>th</sup>, over South Interior Karnataka and Kerala from 15<sup>th</sup> to 17<sup>th</sup>; at many places over Coastal Andhra Pradesh and Rayalaseema on 16<sup>th</sup>, over Tamil Nadu and Puducherry on 15<sup>th</sup> and 16<sup>th</sup>, over Coastal Karnataka from 17<sup>th</sup> to 19<sup>th</sup>, over North Interior Karnataka from 15<sup>th</sup> to 17<sup>th</sup>, over South Interior Karnataka and Kerala on 18<sup>th</sup>; at a few places over Coastal Andhra Pradesh and Rayalaseema on 15<sup>th</sup> and 17<sup>th</sup>, over Telangana on 15<sup>th</sup> and 16<sup>th</sup>, over Tamil Nadu and Puducherry on 17<sup>th</sup>, over North Interior Karnataka on 18<sup>th</sup> and 19<sup>th</sup>, over South Interior Karnataka and Kerala on 19<sup>th</sup>; at isolated places over Telangana from 17<sup>th</sup> to 19<sup>th</sup>, over Coastal Andhra Pradesh, Rayalaseema and Tamil Nadu & Puducherry on 18<sup>th</sup> and 19<sup>th</sup>.
- **Weather Warning:** Thunderstorms accompanied with squall would occur at isolated places over Coastal Andhra Pradesh and Telangana on 15<sup>th</sup> and 16<sup>th</sup> May. Heavy to very heavy rainfall would occur at isolated places over Kerala on 15<sup>th</sup> and 16<sup>th</sup> May. Heavy rainfall would occur at isolated places over Tamilnadu & Pudducherry on 15<sup>th</sup> May; over Karnataka on 15<sup>th</sup> and 16<sup>th</sup> May; over Interior Tamil Nadu on 16<sup>th</sup> May and over Kerala and Coastal and South Interior Karnataka on 17<sup>th</sup> May.
- **Weather Outlook:** Rain/thundershowers would also occur at isolated places over south peninsular India.

• **Advisories:**

- As rain/thundershowers would occur at most/many places over Coastal Karnataka during the period, over South Interior Karnataka and Kerala from 15<sup>th</sup> to 18<sup>th</sup>, over North Interior Karnataka from 15<sup>th</sup> to 17<sup>th</sup>, over Tamil Nadu and Puducherry on 15<sup>th</sup> and 16<sup>th</sup> and over Coastal Andhra Pradesh and Rayalaseema on 16<sup>th</sup> along with heavy to very rainfall at isolated places over Kerala on 16<sup>th</sup> and 17<sup>th</sup> May, heavy rainfall at isolated places over Tamil Nadu and Puducherry on 15<sup>th</sup> and 16<sup>th</sup> and over Coastal and South Interior Karnataka on 16<sup>th</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops and keep already harvested produce at safer places. Provide adequate drainage in standing crops to avoid water stagnation Kerala, Tamilnadu, Coastal and South Interior Karnataka
- As thunderstorms accompanied with squall would occur at isolated places over Coastal Andhra Pradesh and Telangana on 15<sup>th</sup> and 16<sup>th</sup> May, provide mechanical support to young fruit plants and vegetables and undertake propping in sugarcane to prevent the crops from lodging due to strong winds.

▪ **Andhra Pradesh:**

- Continue summer ploughings for planting sugarcane and land preparation for sowing of pre-*khari*f sesame and harvesting of sesame and rice in the North Coastal Zone. Continue summer ploughing and sowing of green manure crops like sunnhemp and daincha to improve soil fertility and to reduce insect pests in the *khari*f season and land preparation for nursery sowing of rice in the High Altitude Tribal Zone.
- In the Southern Zone, continue nursery preparation for rice after seed treatment with Carbendizum @ 3g/kilo in Nellore district.
- Fruit borer and sucking pest incidence was noticed in brinjal in few parts of Anantapur district of the Scarce Rainfall Zone. For controlling fruit borer, spray Proflinophos @ 2ml or Cypermythrin @ 1 ml/litre of water and Dimethioate or Metyl Dematon or Fipronil @ 2 ml /per litre of water after current spells of rain to control sucking pests.
- Increase in temperature is congenial for the attack of sucking pests in mango orchards in the Southern Zone. To control, spray Dimithioate @ 1.5 ml. + Carbandazim @ 1 g or Hexaconazole @ 2ml/litre of water after current spells of rain.

▪ **Telangana:**

- Incidence of fruit fly was observed in mango due to prevailing high temperature conditions in the Southern Telangana Zone. To trap the flies, hang the plastic containers with mixture of Methyl Eugenol @ 2 ml + Carbofuran 3G @ 3g per litre of water in the orchards.

▪ **Karnataka:**

- Undertake nursery preparation for sowing of ragi the Eastern Dry Zone. Continue summer ploughings to control of weeds, soil borne pest and disease and land preparation for the next sowing season in the Eastern Dry Zone, North East Transition Zone, North East Dry Zone and Coastal Zone.
- Complete sowing of crops like green gram, sesame, cotton, red gram and cowpea in the Central Dry Zone.
- Due to congenial moisture condition in the soil, continue sowing of crops like pulses viz., cowpea, green gram, black gram and oil seed crops like sesame, sorghum and cotton in the Southern Dry Zone.

▪ **Kerala:**

- Continue land preparation for upland rice, dry seeding of *virippu* rice and planting of coconut seedlings in the Problem Area Zone after current spells of heavy rain.
- Continue nursery preparation for *Viruppu* rice, nursery preparation for planting of rubber and turmeric in the Southern Zone after current spells of heavy rain.
- Undertake planting of bananas and land preparation for rice nursery in the Northern Zone and planting of coconut seedlings and land preparation for planting of rubber and turmeric in the Southern Zone after in the Central Zone after current spells of heavy rain.
- With the start of rainy season, there is chance of incidence of bud rot in coconut in the Southern Zone. In areas where this disease is common, spray Bordeaux mixture @1%. In order to control fungal diseases in young budded rubber plants, spray Copper Oxy Chloride @ 4g/1 litre of water after current spells of rain.

▪ **Tamil Nadu:**

- Considering the continuous rainfall, proper drainage may be arranged for irrigated crops in the Western Zone. By utilizing rainfall, dibbling in turmeric may be continued by providing proper drainage in Coimbatore district.
- Continue land preparation for groundnut cultivation in the North Western Zone after current spells of heavy rain.
- In the South Zone, for managing mealy bug in cotton crop, keep the field always weed free, destroy the infected crop plants. If damage is less, spray Neem oil @ 2% or Neem Seed Kernel Extract @ 5% or Fish Oil Resin soap @ 20 g/ litre of water. If damage is more, spray Profenophos @ 2 ml/ litre of water or Chlorpyriphos @ 5 ml/ litre of water twice at 15 days interval. Undertake plant protection measures after current spells of rain.
- Present weather is congenial for attack of thrips and other sucking pests in cotton in Kariakal and Pondicherry, to control, spray Imidacloprid 200 SL @100 ml/ha (or) Dimethoate 30EC @ 500 ml/ha after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

• **Animal Husbandry**

- Vaccinate sheep and goats against enterotoxaemia in the North Western Zone.
- Prevailing high temperatures may cause sun stroke in livestock in the Scarce Rainfall Zone of Andhra Pradesh and Northern Telangana Zone. Keep the animals under shade during noon hours and provide more water to livestock



for drinking

- Due to high day temperature, there is a possibility of drop in feed intake in poultry, optimum temperature should be maintained in poultry house by applying 4-6 inch thick hay thatch as a roofing material in the North East Dry Zone of Karnataka.

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

**Annexure I**  
**Week by week Rainfall Distribution**

| Sub-Divisions              | 29.04.15    |        | 06.05.15    |        | 13.05.15    |        |
|----------------------------|-------------|--------|-------------|--------|-------------|--------|
|                            | Actual (mm) | % dep. | Actual (mm) | % dep. | Actual (mm) | % dep. |
| <b>Arunachal Pradesh</b>   |             |        |             |        |             |        |
| Anjaw                      | **          | **     | **          | **     | **          | **     |
| Changlang                  | 47.0        | -65    | 28.8        | -72    | 6.0         | -91    |
| Dibang Valley              | 13.0        | -88    | 1.0         | -98    | **          | **     |
| East Kameng                | 10.6        | -72    | 6.6         | -83    | 2.4         | -96    |
| East Siang                 | 85.5        | 24     | 33.8        | -51    | 1.2         | -98    |
| Kurung Kumey               | **          | **     | **          | **     | **          | **     |
| Lohit                      | 71.6        | -5     | 63.4        | -23    | 30.1        | -47    |
| Lower Dibang Valley        | 222.6       | 98     | 49.6        | -14    | 8.2         | -82    |
| Lower Subansari            | **          | **     | **          | **     | **          | **     |
| Papumpara                  | 61.0        | -2     | 69.7        | -22    | 1.5         | -99    |
| Tawang                     | 69.0        | 74     | 52.0        | -16    | 11.0        | -83    |
| Tirap                      | 54.0        | -27    | 34.4        | -56    | 13.2        | -77    |
| Upper Siang                | 106.0       | 16     | 95.6        | 12     | 17.4        | -70    |
| Upper Subansari            | 71.2        | 106    | 22.0        | -31    | 48.8        | 153    |
| West Kameng                | 51.2        | 29     | 62.8        | 1      | 42.3        | -33    |
| West Siang                 | 78.0        | 98     | 46.0        | -25    | 5.0         | -84    |
| <b>Assam&amp;Meghalaya</b> |             |        |             |        |             |        |
| <b>Assam</b>               |             |        |             |        |             |        |
| Baksa                      | 46.0        | -27    | 40.0        | -48    | 27.7        | -61    |
| Barpeta                    | 61.3        | -3     | 76.4        | -2     | 29.1        | -59    |
| Bongaigaon                 | 61.2        | -1     | 37.4        | -63    | 24.0        | -72    |
| Cachar                     | 72.7        | 15     | 102.4       | 21     | 22.0        | -75    |
| Chirang                    | 157.4       | 155    | 149.0       | 48     | 60.6        | -30    |
| Darrang                    | **          | **     | **          | **     | **          | **     |
| Dhemaji                    | 80.0        | 59     | 73.0        | 8      | 0.0         | -100   |
| Dhubri                     | 99.2        | 117    | 82.7        | 3      | 33.9        | -56    |
| Dibrugarh                  | 51.4        | -20    | 56.6        | -20    | 9.6         | -85    |
| Goalpara                   | 75.4        | 12     | 111.3       | 25     | 30.2        | -57    |
| Golghat                    | 38.7        | 15     | 25.7        | -61    | 40.3        | -19    |
| Hailakandi                 | 57.0        | -30    | 146.2       | 60     | 38.4        | -53    |
| Jorhat                     | 62.9        | 16     | 17.9        | -73    | 69.7        | 17     |
| Kamrup(Rural)              | 32.0        | -32    | 66.8        | -4     | 32.6        | -45    |
| Kamrup(Metro)              | 51.8        | 10     | 63.0        | -10    | 11.1        | -81    |
| Karbi Anglong              | 17.8        | -43    | 12.7        | -59    | 8.1         | -62    |
| Karimganj                  | 46.4        | -46    | 110.4       | -14    | 61.6        | -60    |
| Kokrajhar                  | 38.3        | -53    | 72.3        | -26    | 44.2        | -42    |
| Lakhimpur                  | 31.2        | -38    | 37.0        | -45    | 2.0         | -97    |
| Morigaon                   | 16.0        | -56    | 34.4        | -23    | 52.0        | 62     |

|                  |       |      |       |     |      |      |
|------------------|-------|------|-------|-----|------|------|
| N.C.Hills        | 90.5  | 100  | 11.5  | -80 | 10.3 | -86  |
| Nowgong          | 15.6  | -58  | 16.7  | -64 | 19.4 | -53  |
| Nalbari          | 31.7  | -53  | 62.4  | -45 | 18.1 | -77  |
| Sonitpur         | 33.9  | -23  | 58.7  | -12 | 12.6 | -77  |
| Sibsagar         | 48.0  | 69   | 64.2  | -4  | 16.8 | -70  |
| Tinsukia         | 63.5  | 16   | 27.1  | -57 | 15.8 | -74  |
| Udalgiri         | 32.6  | -31  | 65.4  | -22 | 19.3 | -72  |
| <b>Meghalaya</b> |       |      |       |     |      |      |
| East Garo Hills  | 149.9 | 46   | 85.9  | -6  | 81.0 | -8   |
| East Khasi Hills | 110.2 | 21   | 108.2 | -31 | 28.5 | -82  |
| Jaintia Hills    | 107.0 | 20   | 25.0  | -83 | **   | **   |
| Ribhoi           | 56.0  | 6    | 67.0  | 26  | 49.9 | -22  |
| South Garo Hills | **    | **   | **    | **  | **   | **   |
| West Garo Hills  | 75.6  | 15   | 19.4  | -74 | 36.6 | -52  |
| West Khasi Hills | 93.0  | 36   | 31.0  | -59 | 20.0 | -67  |
| <b>NMMT</b>      |       |      |       |     |      |      |
| <b>Mizoram</b>   |       |      |       |     |      |      |
| Aizwal           | 45.5  | -36  | 58.1  | 76  | 9.8  | -85  |
| Champhai         | 2.0   | -96  | **    | **  | **   | **   |
| Kolasib          | 115.0 | 115  | 20.0  | 72  | 22.0 | -65  |
| Lawngtlai        | **    | **   | **    | **  | **   | **   |
| Lunglei          | **    | **   | **    | **  | **   | **   |
| Mamit            | 16.0  | -77  | 2.0   | -97 | **   | **   |
| Saiha            | 84.0  | 110  | 17.0  | -62 | 1.0  | -99  |
| Serchhip         | 28.2  | -40  | 39.8  | -12 | **   | **   |
| <b>Manipur</b>   |       |      |       |     |      |      |
| Bishnupur        | **    | **   | **    | **  | **   | **   |
| Chandel          | 1.0   | -92  | **    | **  | **   | **   |
| Churachandpur    | **    | **   | **    | **  | **   | **   |
| Imphal east      | 46.0  | 62   | 6.9   | -85 | 1.9  | -96  |
| Imphal west      | 161.1 | 752  | 50.5  | 26  | 24.2 | -30  |
| Senapati         | **    | **   | **    | **  | **   | **   |
| Tamenglong       | **    | **   | **    | **  | **   | **   |
| Thoubal          | 27.0  | 99   | 6.0   | -72 | 14.0 | -72  |
| Ukhrul           | **    | **   | **    | **  | **   | **   |
| <b>Nagaland</b>  |       |      |       |     |      |      |
| Dimapur          | 28.8  | 89   | 18.9  | -51 | 17.9 | -50  |
| Kephire          | **    | **   | **    | **  | **   | **   |
| Kohima           | 42.6  | 53   | 21.1  | -41 | 0.0  | -100 |
| Longleng         | **    | **   | **    | **  | **   | **   |
| Mokokchung       | **    | **   | **    | **  | **   | **   |
| Mon              | **    | **   | **    | **  | **   | **   |
| Paran            | **    | **   | **    | **  | **   | **   |
| Phek             | 0.0   | -100 | **    | **  | **   | **   |
| Tuensang         | **    | **   | **    | **  | **   | **   |
| Wokha            | **    | **   | **    | **  | **   | **   |
| Zunheboto        | **    | **   | **    | **  | **   | **   |
| <b>Tripura</b>   |       |      |       |     |      |      |
| Dhalai           | 52.5  | -22  | 124.7 | 32  | 53.0 | -48  |
| North Tripura    | 19.4  | -69  | 110.9 | 18  | 78.6 | -24  |
| South Tripura    | 43.8  | -17  | 61.4  | -13 | 64.1 | -20  |

|                          |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| West Tripura             | 64.5 | 13   | 26.0 | -66  | 69.9 | -18  |
| <b>Himachal Pradesh</b>  |      |      |      |      |      |      |
| Bilaspur                 | 0.3  | -97  | 4.8  | 12   | 17.2 | 38   |
| Chamba                   | 2.7  | -77  | 8.2  | 4    | 11.2 | -45  |
| Hamirpur                 | 0.2  | -97  | 5.1  | -18  | 19.4 | 70   |
| Kangra                   | 1.6  | -81  | 4.0  | -60  | 19.6 | 62   |
| Kinnaur                  | 0.2  | -98  | 16.1 | -13  | 2.3  | -88  |
| Kullu                    | 1.1  | -93  | 7.0  | -56  | 7.2  | -62  |
| Lahaul and Spiti         | 2.0  | -91  | 13.0 | -41  | 2.5  | -90  |
| Mandi                    | 1.6  | -85  | 7.4  | -12  | 13.0 | -30  |
| Shimla                   | 3.5  | -64  | 5.0  | -57  | 7.3  | -63  |
| Sirmaur                  | 1.1  | -73  | 3.6  | -37  | 15.2 | 90   |
| Solan                    | 0.0  | -100 | 3.3  | -50  | 7.6  | -50  |
| Una                      | 0.0  | -100 | 6.9  | -8   | 18.3 | 191  |
| <b>Punjab</b>            |      |      |      |      |      |      |
| Amritsar                 | 0.0  | -100 | 0.6  | -86  | 14.2 | 154  |
| Barnala                  | 1.8  | 250  | 0.0  | -100 | 0.0  | -100 |
| Bhatinda                 | 0.0  | -100 | 0.0  | -100 | 4.5  | 80   |
| Faridkot                 | 0.0  | -100 | 0.0  | -100 | 2.0  | -51  |
| Fatehgarh Saheb          | 0.0  | -100 | 2.5  | 32   | 6.0  | 30   |
| Ferozpur                 | 0.0  | -100 | 0.0  | -100 | 2.7  | -52  |
| Gurdaspur                | 0.0  | -100 | 0.0  | -100 | 7.2  | 10   |
| Hoshiarpur               | 0.0  | -100 | 0.0  | -100 | 11.6 | 71   |
| Jalandhar                | 1.0  | -55  | 0.0  | -100 | 16.6 | 163  |
| Kapurthala               | 2.7  | 50   | 0.3  | -92  | 27.6 | 475  |
| Ludhiana                 | 0.7  | -58  | 0.0  | -100 | 8.9  | 82   |
| Mansa                    | 2.9  | 263  | 0.5  | -67  | 0.0  | -100 |
| Moga                     | 2.1  | -5   | 0.0  | -100 | 3.0  | -25  |
| Muktesar                 | 0.0  | -100 | 0.0  | -100 | 27.3 | 1263 |
| Nawashahar               | 0.0  | -100 | 0.3  | -91  | 17.8 | 126  |
| Patiala                  | 5.0  | 162  | 3.5  | 5    | 2.5  | -48  |
| Ropar                    | 0.3  | -87  | 3.8  | 6    | 10.1 | 31   |
| Sangrur                  | 3.1  | 91   | 0.0  | -100 | 2.9  | -50  |
| Mohali                   | 0.0  | -100 | 3.7  | -22  | 4.0  | -52  |
| TarnTaran                | 0.0  | -100 | 0.0  | -100 | 8.0  | 45   |
| <b>Haryana,Chd,Delhi</b> |      |      |      |      |      |      |
| <b>Haryana</b>           |      |      |      |      |      |      |
| Ambala                   | 5.5  | 173  | 12.4 | 312  | 5.4  | -17  |
| Bhiwani                  | 0.0  | -100 | 0.6  | -57  | 0.1  | -97  |
| Chandigarh               | 0.0  | -100 | 2.6  | 19   | 8.6  | -12  |
| Faridabad                | 0.0  | -100 | 3.8  | 14   | 2.2  | -65  |
| Fatehabad                | 0.0  | -100 | 0.0  | -100 | 1.5  | -68  |
| Gurgaon                  | 0.3  | -80  | 1.7  | -17  | 0.2  | -95  |
| Hissar                   | 0.2  | -83  | 0.0  | -100 | 0.7  | -88  |
| Jhajar                   | 1.3  | -30  | 0.6  | -71  | 0.0  | -100 |
| Jind                     | 0.0  | -100 | 0.0  | -100 | 0.9  | -83  |
| Katihah                  | 1.2  | 71   | 0.0  | -100 | 0.0  | -100 |
| Karnal                   | 2.8  | 250  | 0.2  | -90  | 0.3  | -93  |
| Kurukshetra              | 1.0  | -9   | 2.0  | 82   | 0.0  | -100 |
| Mahendragarh             | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Mewat                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |



|                            |      |      |      |      |      |      |
|----------------------------|------|------|------|------|------|------|
| Palwal                     | 0.5  | 67   | 0.0  | -100 | 0.0  | -100 |
| Panchkkula                 | 0.0  | -100 | 0.8  | -81  | 1.5  | -82  |
| Panipat                    | 0.0  | -100 | 2.3  | 67   | 0.0  | -100 |
| Rewari                     | 0.0  | -100 | 1.6  | 60   | 0.0  | -100 |
| Rohtak                     | 0.0  | -100 | 1.6  | -45  | 0.0  | -100 |
| Sirsa                      | 0.0  | -100 | 0.3  | -83  | 1.5  | -59  |
| Sonepat                    | 0.0  | -100 | 2.6  | -6   | 0.0  | -100 |
| Yamunanagar                | 13.9 | 223  | 12.8 | 104  | 13.0 | 49   |
| <b>Delhi</b>               |      |      |      |      |      |      |
| Central Delhi              | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| East Delhi                 | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| New Delhi                  | 0.0  | -100 | 0.1  | -97  | 0.0  | -100 |
| North Delhi                | 0.0  | -100 | 1.4  | -62  | 0.0  | -100 |
| North East Delhi           | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| North West Delhi           | 1.0  | -50  | 0.0  | -100 | 0.0  | -100 |
| South Delhi                | 0.2  | -90  | 13.0 | 251  | 0.9  | -89  |
| South West Delhi           | 0.0  | -100 | 3.4  | -8   | 0.2  | -97  |
| West Delhi                 | 0.0  | -100 | 2.0  | -46  | 0.0  | -100 |
| <b>Jammu &amp; Kashmir</b> |      |      |      |      |      |      |
| Anantnag                   | 27.5 | -2   | 15.8 | -13  | 15.2 | -46  |
| Badgam                     | 35.1 | 36   | 6.4  | -44  | 15.7 | -17  |
| Bandipore                  | **   | **   | **   | **   | **   | **   |
| Baramula                   | 53.0 | 32   | 7.5  | -72  | 35.4 | -10  |
| Doda                       | 0.6  | -97  | 50.8 | 144  | 6.6  | -71  |
| Ganderbal                  | 30.0 | 26   | 8.6  | -43  | 4.6  | -75  |
| Jammu                      | 0.0  | -100 | 13.8 | 274  | 7.6  | -8   |
| Kargil                     | **   | **   | **   | **   | **   | **   |
| Kathua                     | 0.0  | -100 | 2.4  | -4   | 3.2  | -16  |
| Kistwar                    | **   | **   | **   | **   | **   | **   |
| Kulgam                     | 15.8 | -44  | 12.0 | -34  | 14.5 | -48  |
| Kupwara                    | 42.8 | 6    | 15.7 | -31  | 36.2 | 46   |
| Ladakh(Leh)                | 0.1  | -91  | 0.0  | -100 | 0.2  | -85  |
| Poonch                     | **   | **   | **   | **   | **   | **   |
| Pulwama                    | 22.7 | -3   | 6.9  | -52  | 15.6 | -27  |
| Rajouri                    | 14.0 | 268  | 7.4  | 1    | 19.3 | 197  |
| Ramban                     | 9.6  | -59  | 23.4 | 12   | 17.8 | -22  |
| Reasi                      | 0.0  | -100 | 21.2 | 123  | 23.6 | 22   |
| Samba                      | 0.0  | -100 | 8.3  | 124  | 9.3  | 13   |
| Shopian                    | **   | **   | **   | **   | **   | **   |
| Srinagar                   | 38.6 | 62   | 8.1  | -46  | 23.6 | 30   |
| Udhampur                   | 0.0  | -100 | 18.7 | 97   | 12.9 | -34  |
| <b>East Madhya Pradesh</b> |      |      |      |      |      |      |
| Anuppur                    | 11.0 | 198  | 0.0  | -100 | 0.0  | -100 |
| Balaghat                   | 0.1  | -89  | 1.1  | -36  | 1.5  | 18   |
| Chhatarpur                 | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Chindwara                  | 0.0  | -100 | 1.1  | -44  | 3.9  | 544  |
| Damoh                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Dindori                    | 7.2  | 800  | 0.0  | -100 | 0.0  | -100 |
| Jabalpur                   | 0.0  | -100 | 0.0  | -100 | 0.3  | 200  |
| Katni                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Mandla                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |

|                            |      |      |      |      |      |      |
|----------------------------|------|------|------|------|------|------|
| Narsingpur                 | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Panna                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Rewa                       | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Sagar                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Satna                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Seoni                      | 1.1  | 31   | 0.0  | -100 | 2.1  | 48   |
| Shahdol                    | 13.2 | 1550 | 0.0  | -100 | 0.0  | -100 |
| Sidhi                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Singrauli                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Tikamgarh                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Umaria                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| <b>West Madhya Pradesh</b> |      |      |      |      |      |      |
| Agar                       | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Alirajpur                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Asoknagar                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Badwani                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Betul                      | 0.0  | -100 | 0.0  | -100 | 0.2  | -53  |
| Bhind                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Bhopal                     | 0.0  | -100 | 0.0  | -100 | 2.0  | 122  |
| Burhanpur                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Datia                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Dewas                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Dhar                       | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Guna                       | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Gwalior                    | 0.0  | -100 | 0.0  | -100 | 17.8 | 1269 |
| Harda                      | 0.0  | -100 | 0.0  | -100 | 2.3  | 1050 |
| Hosangabad                 | 0.0  | -100 | 2.0  | 300  | 2.2  | 450  |
| Indore                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jhabua                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Khandwa                    | 0.0  | -100 | 0.0  | -100 | 1.3  | 233  |
| Khargone                   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Mandsaur                   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Morena                     | 0.0  | -100 | 0.0  | -100 | 2.6  | 82   |
| Neemuch                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Raisen                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Rajgarh                    | 0.0  | -100 | 0.0  | -100 | 0.4  | -60  |
| Ratlam                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Sehore                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Shajapur                   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Sheopur Kalani             | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Shivpuri                   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Ujjain                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Vidisha                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| <b>Chhattisgarh</b>        |      |      |      |      |      |      |
| Bastar                     | 25.6 | 197  | 43.2 | 374  | 2.4  | -70  |
| Bijapur                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Bilaspur                   | 5.4  | 69   | 0.6  | -88  | 2.0  | -46  |
| Dantewara                  | 24.1 | 502  | 0.0  | -100 | 0.0  | -100 |
| Dhamtari                   | 12.0 | 823  | 17.4 | 270  | 0.1  | -95  |
| Durg                       | 13.8 | 1155 | 2.1  | -21  | 0.0  | -100 |
| Janjgir                    | **   | **   | 0.0  | -100 | 0.0  | -100 |

|                           |      |      |     |      |      |      |
|---------------------------|------|------|-----|------|------|------|
| Jashpurnagar              | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Kanker                    | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Korba                     | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Koriya                    | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Kawardha                  | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Mahasumund                | **   | **   | 0.0 | -100 | 0.0  | -100 |
| Narayanpur                | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Raigarh                   | **   | **   | 0.0 | -100 | 0.0  | -100 |
| Raipur                    | 5.3  | 210  | 2.2 | -48  | 0.2  | -94  |
| Rajandgaon                | 2.4  | 140  | 0.6 | -79  | 0.0  | -100 |
| Surguja                   | 19.9 | 1223 | 3.2 | 0    | 0.1  | -98  |
| <b>East Uttar Pradesh</b> |      |      |     |      |      |      |
| Allahabad                 | 1.1  | 59   | 0.0 | -100 | 0.0  | -100 |
| Ambedkar Nagar            | 0.0  | -100 | 0.0 | -100 | 2.5  | -4   |
| Azamgarh                  | 18.4 | 1740 | 0.0 | -100 | 1.0  | -60  |
| Bahraich                  | 19.3 | 672  | 0.0 | -100 | 22.2 | 122  |
| Ballia                    | 22.4 | 1143 | 0.0 | -100 | 0.0  | -100 |
| Balrampur                 | 11.5 | 259  | 0.0 | -100 | 9.0  | 32   |
| Banda                     | 0.0  | -100 | 0.6 | -50  | 0.0  | -100 |
| Barabanki                 | 6.1  | 282  | 0.0 | -100 | 1.3  | -70  |
| Basti                     | 0.0  | -100 | 0.0 | -100 | 14.6 | 161  |
| Chandauli                 | 0.0  | -100 | 0.0 | -100 | 1.9  | -42  |
| Deoria                    | 25.0 | 733  | 0.0 | -100 | 4.0  | -18  |
| Faizabad                  | 14.7 | 1530 | 0.0 | -100 | 3.3  | 4    |
| Farrukhabad               | 13.9 | 5    | 2.5 | 39   | 0.5  | -85  |
| Fatehpur                  | 0.4  | -61  | 0.0 | -100 | 0.0  | -100 |
| Gazipur                   | 2.8  | 53   | 0.0 | -100 | 0.8  | -76  |
| Gonda                     | 2.3  | 159  | 0.0 | -100 | 7.0  | 56   |
| Gorakhpur                 | 26.0 | 767  | 0.0 | -100 | 19.1 | 145  |
| Hardoi                    | 1.6  | 76   | 0.0 | -100 | 4.1  | -11  |
| Jaunpur                   | 0.8  | -25  | 0.0 | -100 | 0.4  | -81  |
| Kannauj                   | 5.5  | 1275 | 0.0 | -100 | 24.0 | 471  |
| Kanpur City               | 2.5  | 400  | 0.0 | -100 | 2.3  | 1    |
| Kanpur Dehat              | 0.0  | -100 | 0.0 | -100 | 3.2  | 146  |
| Kaushambi                 | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Kheri                     | 20.2 | 818  | 2.4 | -50  | 0.0  | -100 |
| Kushi nagar               | 17.0 | 262  | 0.0 | -100 | 2.0  | -79  |
| Lucknow                   | 8.1  | 1244 | 0.0 | -100 | 0.0  | -100 |
| Maharajganj               | 20.5 | 230  | 0.0 | -100 | 19.8 | 127  |
| Mau                       | 13.0 | 1344 | 0.0 | -100 | 0.0  | -100 |
| Mirzapur                  | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Pratapgarh                | 0.5  | -29  | 0.0 | -100 | 0.0  | -100 |
| RaiBareilly               | 4.1  | 275  | 0.0 | -100 | 0.0  | -100 |
| Sahuji Maharajnagar       | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Sant Kabirnagar           | 3.0  | 36   | 0.0 | -100 | 14.0 | 324  |
| Sant Ravidas Nagar        | 0.0  | -100 | 0.0 | -100 | 2.0  | -39  |
| Shrawasti                 | 0.0  | -100 | 0.0 | -100 | **   | **   |
| Sidharthnagar             | 11.0 | 197  | 0.0 | -100 | 3.0  | -27  |
| Sitapur                   | 5.7  | 340  | 0.0 | -100 | 0.0  | -100 |
| Sonbhadra                 | 0.0  | -100 | 0.0 | -100 | 0.0  | -100 |
| Sultanpur                 | 7.8  | 875  | 0.0 | -100 | 0.0  | -100 |



|                           |      |      |      |      |      |      |
|---------------------------|------|------|------|------|------|------|
| Unnao                     | 1.4  | 250  | 0.0  | -100 | 4.4  | 63   |
| Varanasi                  | 0.8  | 33   | 0.0  | -100 | 0.0  | -100 |
| <b>West Uttar Pradesh</b> |      |      |      |      |      |      |
| Agra                      | 0.0  | -100 | 0.0  | -100 | 0.3  | -89  |
| Aligarh                   | 0.0  | -100 | 0.5  | -81  | 0.0  | -100 |
| Auraiya                   | 1.0  | 400  | 0.0  | -100 | 0.0  | -100 |
| Badaun                    | 9.0  | 650  | 0.1  | -92  | 1.0  | -76  |
| Baghpat                   | 0.0  | -100 | 4.4  | 83   | 0.0  | -100 |
| Bareilly                  | 6.7  | 293  | 0.3  | -84  | 2.8  | -44  |
| Bijnor                    | 2.2  | 100  | 3.2  | 47   | 0.7  | -84  |
| Bulandsahar               | 0.0  | -100 | 0.7  | -73  | 0.0  | -100 |
| Etah                      | 1.3  | 56   | 1.0  | -50  | 0.8  | -83  |
| Etawah                    | 0.0  | -100 | 0.0  | -100 | 2.3  | -17  |
| Firozabad                 | 0.0  | -100 | 0.0  | -100 | 1.5  | -46  |
| GBNagar                   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Ghaziabad                 | 0.0  | -100 | 0.7  | -69  | 0.0  | -100 |
| Hamirpur                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jalaun                    | 0.0  | -100 | 0.0  | -100 | 1.7  | 52   |
| Jhansi                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jotiba Phule Nagar        | 8.3  | 733  | 1.0  | -58  | 0.3  | -92  |
| Kanshiramnagar            | 11.0 | 1471 | 0.0  | -100 | 6.0  | 107  |
| Lalitpur                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Mahamaya Nagar            | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Mahoba                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Mainpuri                  | 0.3  | 67   | 0.0  | -100 | 0.0  | -100 |
| Mathura                   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Meerut                    | 2.0  | 18   | 6.8  | 258  | 0.0  | -100 |
| Moradabad                 | 11.4 | 847  | 0.6  | -69  | 20.4 | 373  |
| Muzaffarnagar             | 2.5  | 67   | 0.0  | -100 | 0.0  | -100 |
| Pilibhit                  | 5.1  | 542  | 0.0  | -100 | 3.2  | -43  |
| Rampur                    | 2.8  | 40   | 0.0  | -100 | 5.7  | 26   |
| Saharanpur                | 1.0  | -9   | 0.0  | -100 | 4.3  | -31  |
| Shahjahanpur              | 17.4 | 2382 | 0.0  | -100 | 0.0  | -100 |
| <b>Uttarakhand</b>        |      |      |      |      |      |      |
| Almora                    | 2.6  | -57  | 4.8  | -40  | 1.5  | -87  |
| Bageshwar                 | 22.5 | 275  | 20.3 | 153  | 0.0  | -100 |
| Chamoli                   | 18.1 | 123  | 7.3  | -37  | 2.3  | -90  |
| Champawat                 | 3.0  | -59  | 15.5 | 128  | 2.5  | -79  |
| Dehradun                  | 1.3  | -69  | 10.1 | 60   | 2.1  | -84  |
| Garhwal Pauri             | 0.3  | -92  | 11.7 | 113  | 10.3 | -3   |
| Garhwal Tehri             | 1.3  | -78  | 12.8 | 129  | 21.7 | 41   |
| Haridwar                  | 3.5  | 46   | 11.9 | 240  | 1.2  | -84  |
| Nainital                  | 4.6  | -6   | 14.8 | 125  | 14.0 | -3   |
| Pithoragarh               | 21.0 | 42   | 17.8 | 40   | 7.0  | -68  |
| Rudraprayag               | 1.3  | -92  | 16.8 | -8   | 16.9 | -28  |
| Udham Sing Nagar          | 0.7  | -59  | 11.9 | 222  | 4.8  | -27  |
| Uttarkashi                | 42.2 | 302  | 7.4  | -33  | 12.5 | -54  |
| <b>Bihar</b>              |      |      |      |      |      |      |
| Araria                    | 42.1 | 157  | 15.0 | -22  | 5.9  | -72  |
| Arwal                     | **   | **   | 0.0  | -100 | 0.0  | -100 |
| Aurangabad                | 3.0  | 89   | 0.0  | -100 | 0.0  | -100 |

|                  |      |      |      |      |      |      |
|------------------|------|------|------|------|------|------|
| Banka            | 27.7 | 222  | 0.0  | -100 | 12.0 | 27   |
| Begusarai        | 25.4 | 144  | 0.0  | -100 | 9.6  | -20  |
| Bhabua           | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Bhagalpur        | 17.5 | 114  | 0.0  | -100 | 37.5 | 196  |
| Bhojpur          | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Buxar            | **   | **   | 0.0  | -100 | 0.0  | -100 |
| Darbhanga        | 24.7 | 149  | 0.4  | -97  | 14.4 | 29   |
| East Champaran   | 23.3 | 323  | 2.9  | -68  | 23.1 | 138  |
| Gaya             | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Gopalganj        | 45.9 | 692  | 3.1  | -12  | 13.8 | 229  |
| Jahanabad        | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jamui            | 14.2 | 373  | 0.0  | -100 | 0.6  | -92  |
| Kathihar         | 28.5 | 243  | 5.3  | -67  | 51.6 | 125  |
| Khagadia         | 14.6 | 64   | 0.8  | -87  | 19.5 | 56   |
| Kishanganj       | 43.3 | 103  | 3.2  | -90  | 16.1 | -33  |
| Lakhisarai       | 14.7 | 149  | 0.0  | -100 | 4.8  | -60  |
| Madhepura        | 20.2 | 87   | 0.0  | -100 | 28.7 | 52   |
| Madhubani        | 33.0 | 150  | 1.1  | -91  | 12.3 | -26  |
| Monghyar         | 13.9 | 136  | 2.6  | -66  | 0.0  | -100 |
| Muzaffarpur      | 24.7 | 312  | 4.6  | -48  | 16.6 | 37   |
| Nalanda          | 6.4  | 100  | 0.0  | -100 | 0.0  | -100 |
| Nawada           | 0.9  | -59  | 0.0  | -100 | 0.0  | -100 |
| Patna            | 3.5  | 23   | 0.0  | -100 | 0.0  | -100 |
| Purnea           | 6.9  | -44  | 4.2  | -80  | 20.8 | -10  |
| Rohtas           | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Saharsha         | **   | **   | 0.0  | -100 | 11.0 | -41  |
| Samstipur        | 24.9 | 236  | 0.0  | -100 | 13.9 | 53   |
| Saran            | 27.0 | 801  | 0.0  | -100 | 0.0  | -100 |
| Sheikpura        | 3.0  | -23  | 0.0  | -100 | 10.1 | 58   |
| Sheohar          | **   | **   | 0.0  | -100 | 0.0  | -100 |
| Sitamarhi        | 17.2 | 61   | **   | **   | 15.2 | -2   |
| Siwan            | **   | **   | **   | **   | 12.3 | 208  |
| Supaul           | 31.6 | 339  | 0.0  | -100 | 16.4 | -20  |
| Vaishali         | 10.2 | 59   | 0.0  | -100 | 0.0  | -100 |
| West Champaran   | 46.7 | 532  | 9.8  | 7    | 13.2 | 31   |
| <b>Jharkhand</b> |      |      |      |      |      |      |
| Bokaro           | 31.1 | 289  | 12.7 | 35   | 0.0  | -100 |
| Chatra           | 2.0  | -29  | 0.0  | -100 | 0.0  | -100 |
| Deoghar          | 27.2 | 346  | 0.0  | -100 | 2.5  | -71  |
| Dhanbad          | 33.1 | 319  | 6.1  | -28  | 0.2  | -99  |
| Dumka            | 30.7 | 172  | **   | **   | 0.0  | -100 |
| East Singbhum    | 49.3 | 356  | 36.8 | 254  | 0.0  | -100 |
| Garhwa           | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Giridih          | 18.2 | 237  | 4.6  | -34  | 0.3  | -97  |
| Godda            | 4.7  | -49  | 7.2  | -31  | 21.7 | 112  |
| Gumla            | **   | **   | **   | **   | 0.1  | -99  |
| Hazaribagh       | 11.9 | 272  | 2.2  | -58  | 0.0  | -100 |
| Jamtara          | 21.9 | 346  | 11.7 | 16   | 0.0  | -100 |
| Khunti           | **   | **   | **   | **   | 1.5  | -83  |
| Koderrna         | 1.1  | -74  | 0.0  | -100 | 0.0  | -100 |
| Latehar          | **   | **   | 0.0  | -100 | 0.0  | -100 |

|                       |      |      |      |      |      |      |
|-----------------------|------|------|------|------|------|------|
| Lohardagga            | 19.1 | 497  | 1.6  | -75  | 0.0  | -100 |
| Pakur                 | 23.8 | 90   | 39.2 | 184  | 11.1 | -40  |
| Palamau               | 0.0  | -100 | 0.0  | -100 | 0.1  | -97  |
| Ramgarh               | 27.6 | 294  | 6.8  | 19   | 0.0  | -100 |
| Ranchi                | 19.5 | 191  | 1.7  | -72  | 22.1 | 127  |
| Sahebganj             | **   | **   | **   | **   | 75.4 | 346  |
| Saraikela             | 50.2 | 561  | **   | **   | 0.8  | -94  |
| Simdega               | **   | **   | **   | **   | **   | **   |
| West Singbhum         | 29.4 | 262  | 0.0  | -100 | 0.0  | -100 |
| <b>East Rajasthan</b> |      |      |      |      |      |      |
| Ajmer                 | 0.0  | -100 | 0.0  | -100 | 0.1  | -90  |
| Alwar                 | 0.0  | -100 | 0.7  | -63  | 0.2  | -96  |
| Banswara              | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Baran                 | 0.0  | -100 | 0.0  | -100 | 0.1  | -79  |
| Bharatpur             | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Bhilwara              | 0.0  | -100 | 0.0  | -100 | 4.3  | 261  |
| Bundi                 | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Chittorgarh           | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Dausa                 | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Dholpur               | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Dungarpur             | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jaipur                | 0.0  | -100 | 0.0  | -100 | 0.1  | -96  |
| Jhalawar              | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jhunjhunu             | 0.0  | -100 | 0.0  | -100 | 2.9  | -56  |
| Karauli               | 0.0  | -100 | 0.0  | -100 | 2.5  | -4   |
| Kota                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Pratapgarh            | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Rajsamand             | 0.0  | -100 | 0.0  | -100 | 3.4  | 63   |
| Sawai Madhopur        | 0.0  | -100 | 0.0  | -100 | 0.5  | -78  |
| Sikar                 | 0.0  | -100 | 0.0  | -100 | 3.0  | -44  |
| Sirohi                | 0.0  | -100 | 0.0  | -100 | 0.6  | -71  |
| Tonk                  | 0.0  | -100 | 0.0  | -100 | 5.4  | 107  |
| Udaipur               | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| <b>West Rajasthan</b> |      |      |      |      |      |      |
| Barmer                | 0.0  | -100 | 0.0  | -100 | 6.2  | 467  |
| Bikaner               | 0.0  | -100 | 0.0  | -100 | 11.1 | 281  |
| Churu                 | 0.0  | -100 | 0.0  | -100 | 2.7  | -43  |
| Hanumangarh           | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jaisalmer             | 0.0  | -100 | 0.0  | -100 | 7.8  | 763  |
| Jalore                | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jodhpur               | 0.0  | -100 | 0.0  | -100 | 15.7 | 684  |
| Nagaur                | 0.0  | -100 | 0.0  | -100 | 7.5  | 103  |
| Pali                  | 0.0  | -100 | 0.0  | -100 | 1.0  | -41  |
| Sri Ganganagar        | 0.0  | -100 | 0.0  | -100 | 2.0  | -47  |
| <b>Gujarat Region</b> |      |      |      |      |      |      |
| Ahmedabad             | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Anand                 | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Banaskantha           | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Baroda                | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Broach                | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| DNH                   | **   | **   | **   | **   | **   | **   |



|                              |      |      |      |      |      |      |
|------------------------------|------|------|------|------|------|------|
| Dahod                        | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Daman                        | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Dangs                        | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Gandhinagar                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Kheda                        | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Mehsana                      | 0.0  | -100 | 0.0  | -100 | 0.4  | -43  |
| Narmada                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Navsari                      | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Panchmahal                   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Patan                        | 0.0  | -100 | 0.0  | -100 | 1.0  | 0    |
| Sabarkantha                  | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Surat                        | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Tapi                         | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Valsad                       | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| <b>S K &amp; Diu region</b>  |      |      |      |      |      |      |
| Amreli                       | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Bhavnagar                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Diu                          | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Jamnagar                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Junagarh                     | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Kutch                        | 0.0  | -100 | 0.0  | -100 | 1.2  | 131  |
| Porbandar                    | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Rajkot                       | 0.0  | -100 | 0.0  | -100 | 0.4  | -43  |
| Surendranagar                | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| <b>Maharashtra &amp; Goa</b> |      |      |      |      |      |      |
| <b>Konkan &amp; Goa</b>      |      |      |      |      |      |      |
| Mumbai City                  | 0.0  | -100 | 2.4  | 500  | 0.0  | -100 |
| Mumbai Suburban              | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| North Goa                    | 0.4  | -84  | 16.0 | 14   | 6.8  | 144  |
| Raigad                       | 0.0  | -100 | 3.0  | 67   | 0.0  | -100 |
| Ratnagiri                    | 0.0  | -100 | 0.0  | -100 | 3.2  | 252  |
| Sindhudurg                   | 0.1  | -91  | 0.0  | -100 | 20.2 | 622  |
| South Goa                    | 17.2 | 913  | 25.7 | 112  | 9.7  | 149  |
| Thane                        | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| <b>Madhya Maharashtra</b>    |      |      |      |      |      |      |
| Ahmednagar                   | 0.0  | -100 | 0.0  | -100 | 0.5  | -72  |
| Dhule                        | **   | **   | **   | **   | **   | **   |
| Jalgaon                      | 0.0  | -100 | 0.0  | -100 | 0.1  | -86  |
| Kolhapur                     | 5.6  | -37  | 10.8 | 7    | 19.0 | 188  |
| Nandurbar                    | **   | **   | **   | **   | **   | **   |
| Nasik                        | 0.0  | -100 | 0.0  | -100 | 0.0  | -96  |
| Pune                         | 2.2  | -23  | 2.1  | -58  | 2.3  | -8   |
| Sangli                       | 3.2  | -57  | 8.4  | -26  | 15.7 | 208  |
| Satara                       | 0.0  | -100 | 10.8 | 64   | 18.6 | 377  |
| Solapur                      | 0.7  | -60  | 6.8  | 61   | 0.6  | -78  |
| <b>Marathwada</b>            |      |      |      |      |      |      |
| Aurangabad                   | 0.0  | -100 | 0.0  | -100 | 1.3  | 43   |
| Beed                         | 0.0  | -100 | 1.4  | -38  | 0.5  | -75  |
| Hingoli                      | 0.0  | -100 | 1.5  | -27  | 5.2  | 333  |
| Jalna                        | 0.0  | -100 | 0.0  | -99  | 1.2  | 52   |
| Latur                        | 0.3  | -90  | 7.3  | 159  | 7.3  | 567  |

|  |      |      |      |      |      |      |
|--|------|------|------|------|------|------|
| Nanded   | 0.6  | -20  | 9.7  | 343  | 11.6 | 382  |
| Usmanabad  | 0.2  | -88  | 8.3  | 167  | 0.3  | -92  |
| Parbhani   | 0.0  | -100 | 6.5  | 172  | 1.5  | 22   |
| <b>Vidarbha</b>                                  |      |      |      |      |      |      |
| Akola  | 0.0  | -100 | 0.0  | -100 | 1.7  | 136  |
| Amraoti  | 0.0  | -100 | 0.8  | -6   | 1.2  | 46   |
| Bhandara   | 2.3  | 77   | 8.4  | 250  | 4.6  | 60   |
| Buldhana   | 0.0  | -100 | 0.0  | -100 | 4.9  | 512  |
| Chandrapur                                       | 1.3  | -47  | 12.5 | 466  | 5.4  | 51   |
| Gadchiroli                                       | 7.4  | 310  | 6.0  | 72   | 0.0  | -100 |
| Gondia   | 0.8  | 16   | 3.8  | 168  | 9.4  | 309  |
| Nagpur   | 0.9  | -34  | 4.2  | 100  | 0.8  | -40  |
| Wardha   | 0.0  | -100 | 4.0  | 54   | 0.4  | -77  |
| Washim   | 0.0  | -100 | 0.0  | -100 | 0.0  | -100 |
| Yeotmal  | 0.5  | -58  | 5.2  | 224  | 0.0  | -99  |
| <b>Odisha</b>                                    |      |      |      |      |      |      |
| Angul  | 19.0 | 131  | 14.2 | 69   | 1.8  | -89  |
| Balasore   | 64.8 | 264  | 11.5 | -46  | 1.4  | -95  |
| Bargarh  | 24.3 | 540  | 0.0  | -100 | 0.0  | -100 |
| Bhadrak  | 79.8 | 301  | 7.1  | -63  | 23.0 | -21  |
| Bolangir   | 23.0 | 447  | 0.6  | -89  | 1.7  | -82  |
| Boudh  | 27.3 | 131  | 0.0  | -100 | 3.7  | -83  |
| Cuttack  | 29.0 | 79   | 0.7  | -96  | 7.7  | -63  |
| Deogarh  | 25.1 | 513  | 13.2 | 83   | 0.0  | -100 |
| Dhenkanal  | 53.2 | 363  | 8.9  | -51  | 0.0  | -100 |
| Gajapati   | 35.4 | 6    | 25.3 | -3   | 9.2  | -81  |
| Ganjam   | 47.9 | 231  | 5.5  | -50  | 0.1  | -99  |
| Jagatsingpur                                     | 33.6 | 110  | 2.4  | -85  | 9.9  | -69  |
| Jajpur   | 68.0 | 251  | 13.0 | -28  | 2.2  | -92  |
| Jharsuguda                                       | 17.7 | 247  | 0.3  | -96  | 0.0  | -100 |
| Kalahandi  | 30.5 | 301  | 8.9  | 20   | 0.0  | -100 |
| Kandhamal  | 39.1 | 231  | 4.7  | -61  | 8.2  | -62  |
| Kendrapara                                       | 53.1 | 556  | 7.8  | -60  | 2.7  | -84  |
| Keonjhar   | 35.8 | 69   | 19.7 | -2   | 1.4  | -94  |
| Khurda   | 49.2 | 387  | 6.5  | -31  | 5.2  | -73  |
| Koraput  | 42.2 | 193  | 20.8 | 5    | 9.9  | -64  |
| Malkangiri                                       | 53.2 | 549  | 2.2  | -81  | 0.0  | -100 |
| Mayurbhanj                                       | 77.4 | 269  | 24.5 | 37   | 3.3  | -85  |
| Nawapara   | 15.1 | 165  | 5.0  | -43  | 5.0  | -32  |
| Nawarangpur                                      | 61.0 | 784  | 27.6 | 46   | 15.3 | -2   |
| Nayagarh   | 35.4 | 176  | 17.2 | 60   | 1.2  | -88  |
| Puri   | 65.9 | 745  | 0.1  | -99  | 2.4  | -86  |
| Rayagada   | 34.4 | 228  | 24.9 | 45   | 8.7  | -75  |
| Sambalpur  | 34.7 | 746  | 1.6  | -77  | 0.0  | -100 |
| Sonepur  | 37.3 | 1283 | 0.0  | -100 | 0.0  | -100 |
| Sundargarh                                       | 9.7  | 184  | 9.5  | 40   | 0.0  | -100 |
| <b>West Bengal &amp; Andaman Nicobar Islands</b> |      |      |      |      |      |      |
| <b>A &amp; N ISLAND</b>                          |      |      |      |      |      |      |
| Nicobar  | 23.4 | -46  | 22.5 | -63  | 37.5 | -47  |
| North & Middle Andaman                           | 14.6 | -37  | 15.2 | -71  | 28.3 | -41  |

|                          |       |     |      |     |      |      |
|--------------------------|-------|-----|------|-----|------|------|
| South Andaman            | 23.9  | -46 | 10.1 | -81 | 30.4 | -51  |
| <b>GWB</b>               |       |     |      |     |      |      |
| Bankura                  | 61.5  | 299 | 33.5 | 148 | 0.0  | -100 |
| Birbhum                  | 29.8  | 137 | 15.2 | 19  | 0.6  | -97  |
| Burdwan                  | 34.5  | 156 | 2.6  | -82 | 0.3  | -98  |
| East Midnapore           | 107.0 | 710 | 21.0 | -15 | 0.1  | -99  |
| Hooghly                  | 45.8  | 179 | 17.8 | -11 | 0.0  | -100 |
| Howrah                   | 60.9  | 271 | 7.8  | -55 | 0.0  | -100 |
| Kolkata                  | 59.7  | 266 | 23.5 | 18  | 0.0  | -100 |
| Murshidabad              | 6.0   | -9  | 8.0  | -45 | 37.0 | 130  |
| Nadia                    | 37.4  | 143 | 1.2  | -94 | 1.4  | -92  |
| 24 Pargana (N)           | 90.1  | 353 | 5.4  | -81 | 0.7  | -96  |
| Purulia                  | 29.8  | 129 | 31.7 | 211 | 0.0  | -100 |
| 24 Pargana (S)           | 33.7  | 180 | 11.6 | -42 | 0.0  | -100 |
| West Midnapore           | 51.7  | 187 | 8.2  | -56 | 0.0  | -100 |
| <b>SHWB &amp; Sikkim</b> |       |     |      |     |      |      |
| Cooch Behar              | 50.6  | -12 | 77.1 | 21  | 26.6 | -57  |
| Darjeeling               | 45.6  | -4  | 40.2 | -17 | 52.1 | -1   |
| East Sikkim              | 119.8 | 147 | 77.4 | 37  | 41.1 | -42  |
| Jalpaiguri               | 43.4  | -9  | 45.6 | -29 | 34.6 | -41  |
| Malda                    | 36.5  | 226 | 4.0  | -81 | 64.8 | 221  |
| North Dinajpur           | 38.5  | 229 | 1.0  | -97 | 35.0 | 25   |
| North Sikkim             | 41.3  | -23 | 53.8 | -33 | 40.0 | -43  |
| South Dinajpur           | 26.4  | 29  | 0.5  | -98 | 29.5 | -15  |
| South Sikkim             | 55.7  | 15  | 37.6 | -33 | 40.6 | -43  |
| West Sikkim              | 29.5  | -45 | 31.0 | -61 | 66.0 | -7   |
| <b>Karnataka</b>         |       |     |      |     |      |      |
| <b>Coastal Karnataka</b> |       |     |      |     |      |      |
| Dakshina Kannada         | 31.8  | 146 | 32.7 | 44  | 67.4 | 270  |
| Udupi                    | 5.2   | -48 | 8.6  | -58 | 15.4 | 0    |
| Uttara Kannada           | 14.1  | 78  | 14.6 | 0   | 32.2 | 236  |
| <b>NI Karnataka</b>      |       |     |      |     |      |      |
| Bagalkote                | 1.0   | -87 | 1.9  | -77 | 5.5  | -14  |
| Belagavi                 | 3.5   | -65 | 8.2  | -46 | 41.6 | 338  |
| Bidar                    | 17.8  | 305 | 16.0 | 196 | 1.9  | -57  |
| Dharwad                  | 27.9  | 58  | 18.2 | 2   | 27.1 | 105  |
| Gadag                    | 15.1  | 24  | 12.6 | -9  | 8.4  | -11  |
| Haveri                   | 15.8  | -5  | 27.7 | 45  | 24.8 | 94   |
| Kalaburgi                | 10.8  | 92  | 3.0  | -35 | 2.8  | -55  |
| Koppal                   | 39.7  | 475 | 4.5  | -22 | 0.1  | -98  |
| Raichur                  | 33.1  | 524 | 5.1  | 41  | 2.3  | -67  |
| Vijayapura               | 2.3   | -68 | 3.5  | -37 | 9.6  | 84   |
| Yadgir                   | 7.4   | 28  | 4.8  | 19  | 11.2 | 81   |
| <b>SI Karnataka</b>      |       |     |      |     |      |      |
| Ballari                  | 26.4  | 187 | 7.6  | -14 | 8.3  | -8   |
| Bangalore Rural          | 15.8  | 22  | 50.9 | 151 | 4.3  | -70  |
| Bangalore Urban          | 55.2  | 309 | 29.9 | 58  | 3.9  | -80  |
| Chamarajanagar           | 33.5  | 58  | 23.5 | -15 | 38.1 | 51   |
| Chikaballapur            | 13.9  | 83  | 14.2 | 6   | 8.0  | -20  |
| Chikkamagaluru           | 34.5  | 71  | 27.8 | 28  | 34.2 | 152  |



|                    |       |      |      |      |       |     |
|--------------------|-------|------|------|------|-------|-----|
| Chitradurga        | 12.3  | 31   | 32.1 | 209  | 12.7  | 26  |
| Davangere          | 6.3   | -52  | 32.8 | 128  | 19.5  | 46  |
| Hassan             | 33.0  | 67   | 32.0 | 38   | 32.2  | 69  |
| Kodagu             | 51.5  | 84   | 42.4 | 38   | 40.9  | 51  |
| Kolar              | 2.5   | -74  | 16.9 | 74   | 6.5   | -53 |
| Mandya             | 14.4  | -5   | 30.5 | 45   | 33.0  | 79  |
| Mysuru             | 34.5  | 71   | 23.8 | -2   | 31.7  | 21  |
| Ramanagara         | 34.7  | 90   | 34.7 | 34   | 28.8  | 35  |
| Shivamogga         | 27.8  | 117  | 21.4 | 30   | 37.1  | 264 |
| Tumakuru           | 30.8  | 188  | 16.0 | 0    | 12.1  | -10 |
| <b>Kerala</b>      |       |      |      |      |       |     |
| Alappuzha          | 35.2  | -7   | 7.1  | -85  | 49.0  | -6  |
| Kannur             | 31.3  | 77   | 42.0 | 60   | 70.9  | 130 |
| Ernakulam          | 42.4  | 27   | 24.4 | -43  | 61.1  | 46  |
| Idukki             | 61.2  | 53   | 27.7 | -25  | 49.0  | 20  |
| Kasaragod          | 63.8  | 241  | 3.7  | -79  | 50.7  | 117 |
| Kollam             | 41.1  | -15  | 6.1  | -87  | 31.7  | -36 |
| Kottayam           | 52.4  | 56   | 21.9 | -48  | 100.3 | 109 |
| Kozhikode          | 19.1  | -23  | 6.3  | -78  | 69.7  | 101 |
| Malappuram         | 31.7  | 30   | 27.9 | -26  | 45.6  | 9   |
| Palakkad           | 39.8  | 41   | 18.7 | -43  | 73.5  | 197 |
| Pathanamthitta     | 128.3 | 153  | 30.1 | -49  | 52.2  | -12 |
| Thiruvananthapuram | 58.2  | 86   | 1.2  | -97  | 55.5  | 49  |
| Thrissur           | 38.7  | 84   | 9.1  | -75  | 100.0 | 117 |
| Wynad              | 20.3  | -17  | 48.6 | 101  | 64.7  | 153 |
| <b>Tamil Nadu</b>  |       |      |      |      |       |     |
| Ariyalur           | 20.5  | 215  | 0.0  | -100 | 9.3   | -46 |
| Chennai            | 13.5  | 265  | 0.0  | -100 | 0.6   | -94 |
| Coimbatore         | 44.6  | 200  | 14.7 | -33  | 46.9  | 191 |
| Cuddalore          | 38.4  | 735  | 2.0  | -81  | 12.3  | -3  |
| Dharmapuri         | 27.5  | 137  | 22.5 | 30   | 38.7  | 133 |
| Dindigul           | 21.5  | 23   | 8.5  | -57  | 31.6  | 63  |
| Erode              | 34.8  | 143  | 6.2  | -65  | 18.5  | 6   |
| Kanchipuram        | 24.1  | 266  | 6.5  | -9   | 0.9   | -93 |
| Kanyakumari        | 12.3  | -50  | 5.8  | -82  | 43.0  | 52  |
| Karikal            | 3.9   | -9   | 0.0  | -100 | 23.0  | 297 |
| Karur              | 27.0  | 86   | 2.1  | -86  | 18.5  | 52  |
| Krishnagiri        | 13.0  | -3   | 26.6 | 54   | 18.1  | -6  |
| Madurai            | 29.5  | 102  | 16.0 | 31   | 49.5  | 159 |
| Nagapattinam       | 15.8  | 147  | 1.3  | -86  | 13.6  | 61  |
| Namakkal           | 30.4  | 99   | 6.0  | -68  | 18.7  | 4   |
| Nilgiris           | 19.8  | 0    | 31.3 | 39   | 75.8  | 229 |
| Perambalur         | 45.8  | 301  | 0.0  | -100 | 23.0  | 80  |
| Puducherry         | 64.4  | 2700 | 0.0  | -100 | 16.2  | -7  |
| Pudukottai         | 21.9  | 138  | 2.9  | -72  | 37.9  | 261 |
| Ramanathapuram     | 22.3  | 64   | 2.2  | -75  | 48.5  | 294 |
| Salem              | 56.1  | 260  | 1.2  | -94  | 27.3  | 45  |
| Sivaganga          | 21.6  | 77   | 5.6  | -49  | 26.8  | 58  |
| Thanjavur          | 45.2  | 357  | 2.6  | -77  | 41.6  | 197 |

|                               |      |     |      |      |      |      |
|-------------------------------|------|-----|------|------|------|------|
| Theni                         | 43.8 | 128 | 20.3 | -5   | 79.3 | 530  |
| Tirunelveli                   | 34.5 | 134 | 14.4 | -13  | 28.4 | 112  |
| Tirupur                       | 39.6 | 164 | 4.5  | -75  | 40.6 | 188  |
| Tiruvallur                    | 22.3 | 365 | 10.4 | 79   | 0.2  | -98  |
| Tiruvannamalai                | 27.8 | 356 | 0.0  | -100 | 0.4  | -98  |
| Tiruvarur                     | 73.6 | 569 | 14.7 | 47   | 39.1 | 221  |
| Toothukudi                    | 13.0 | 22  | 2.6  | -74  | 38.3 | 321  |
| Trichy                        | 26.7 | 122 | 6.6  | -50  | 16.4 | 25   |
| Vellore                       | 13.0 | 80  | 5.2  | -51  | 0.7  | -96  |
| Villupuram                    | 44.0 | 763 | 0.0  | -100 | 7.2  | -41  |
| Virudhunagar                  | 9.8  | -41 | 6.3  | -63  | 50.8 | 199  |
| <b>Andhra Pradesh</b>         |      |     |      |      |      |      |
| <b>Coastal Andhra Pradesh</b> |      |     |      |      |      |      |
| East Godavari                 | 18.0 | 144 | 10.6 | 17   | 0.0  | -100 |
| Guntur                        | 7.3  | 109 | 1.0  | -80  | 0.0  | -100 |
| Krishna                       | 0.7  | -85 | 1.0  | -84  | 0.0  | -100 |
| Nellore                       | 2.3  | -53 | 16.1 | 103  | 0.0  | -100 |
| Prakasam                      | 4.6  | 6   | 10.4 | 44   | 0.0  | -100 |
| Sirkakulam                    | 19.3 | 227 | 12.8 | 19   | 4.9  | -78  |
| Visakhapatnam                 | 47.5 | 271 | 9.0  | -48  | 10.2 | -70  |
| Vizianagram                   | 13.6 | 89  | 23.6 | 60   | 8.9  | -72  |
| West Godavari                 | 1.9  | -69 | 1.6  | -69  | 0.4  | -98  |
| <b>Rayalaseema</b>            |      |     |      |      |      |      |
| Anantapur                     | 18.0 | 239 | 4.3  | -57  | 0.8  | -90  |
| Chittoor                      | 15.0 | 93  | 22.4 | 92   | 3.2  | -76  |
| Cuddapah                      | 6.0  | -2  | 13.3 | 90   | 0.0  | -100 |
| Kurnool                       | 15.7 | 148 | 7.2  | 0    | 0.6  | -94  |
| <b>Telangana</b>              |      |     |      |      |      |      |
| Adilabad                      | 6.2  | 121 | 8.8  | 203  | 6.2  | 48   |
| Hyderabad                     | 4.9  | -5  | 0.0  | -100 | 0.1  | -98  |
| Karimnagar                    | 11.1 | 226 | 1.5  | -64  | 1.9  | -73  |
| Khammam                       | 16.3 | 172 | 1.8  | -75  | 8.6  | -38  |
| Mehabubnagar                  | 9.6  | 57  | 1.1  | -72  | 0.7  | -90  |
| Medak                         | 6.2  | 19  | 1.5  | -52  | 0.0  | -100 |
| Nalgonda                      | 10.3 | 202 | 3.0  | -29  | 0.0  | -100 |
| Nizamabad                     | 6.0  | 200 | 1.6  | -51  | 0.3  | -96  |
| Rangareddy                    | 10.3 | 58  | 7.3  | 11   | 0.1  | -98  |
| Warangal                      | 25.5 | 921 | 0.3  | -93  | 1.3  | -79  |

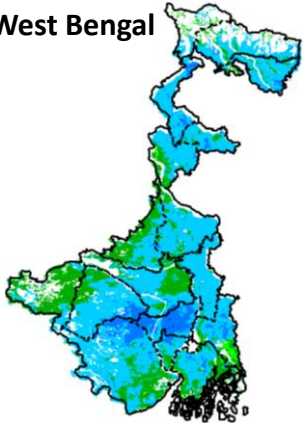
### Legends

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

Annexure II

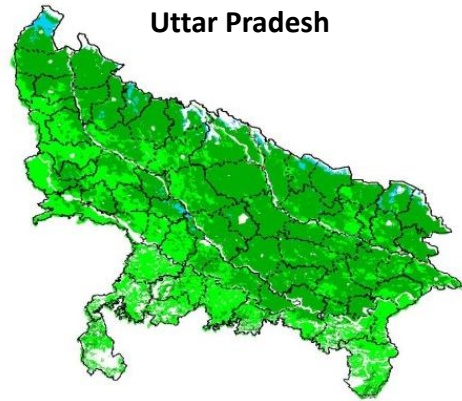
**INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON 13<sup>th</sup> May 2015 FOR DIFFERENT STATES**

**West Bengal**



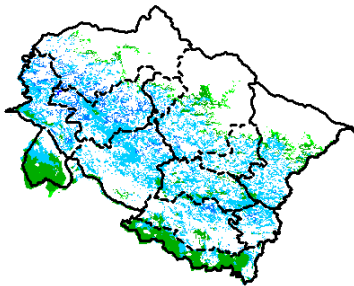
Agricultural vigour is good over the parts of West Bengal, whereas central part of West Bengal shows dominantly higher values of NDVI varying from 0.4-0.6. NDVI values are normal over south western part of state.

**Uttar Pradesh**



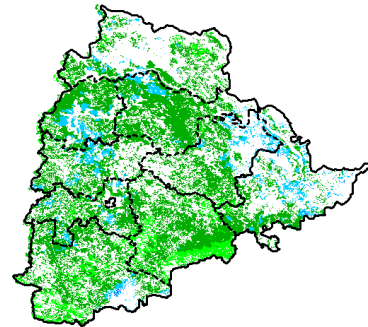
Agricultural vigour is normal over the entire state of Uttar Pradesh where NDVI value varies from 0.2 - 0.4.

**Uttarakhand**



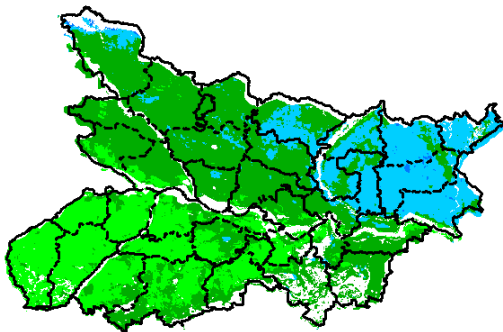
Agriculture vigour is good over central parts of Uttarakhand with NDVI value varying between 0.4-0.5, whereas isolated patches with normal value of NDVI are observed over remaining parts of the state.

**Telangana**



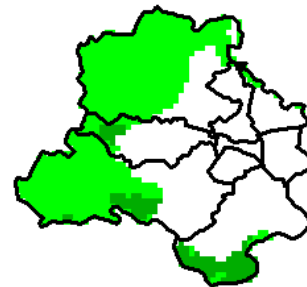
NDVI values vary from 0.2 - 0.5 over Telangana. Higher (> 0.4) values are seen over central and western parts of Telangana.

**Bihar**



Eastern part of Bihar shows comparatively a high value (0.4-0.6) of NDVI, whereas normal value of NDVI is observed over the remaining parts of the state.

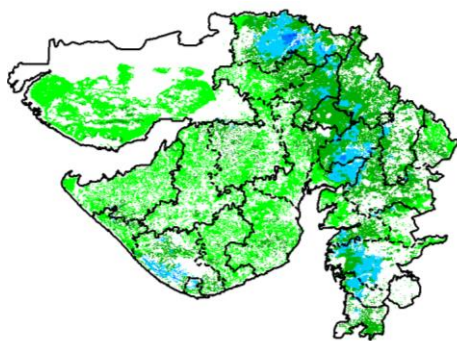
**Delhi**



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

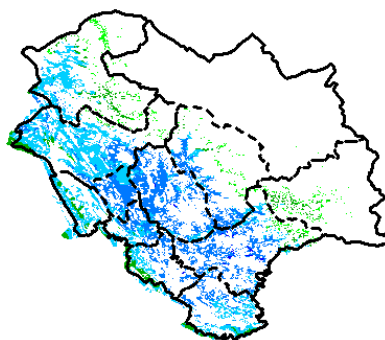


### Gujarat



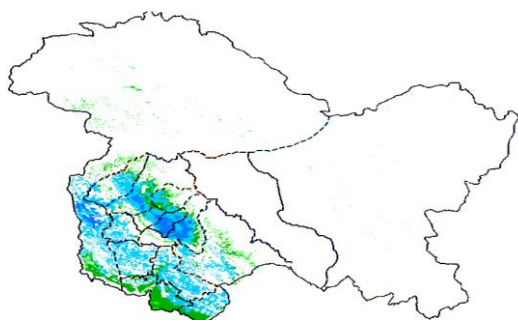
Agriculture vigour is good over central part of Gujarat where NDVI value lies between 0.4-0.6, whereas normal NDVI is observed in Kutch and Saurashtra.

### Himachal Pradesh



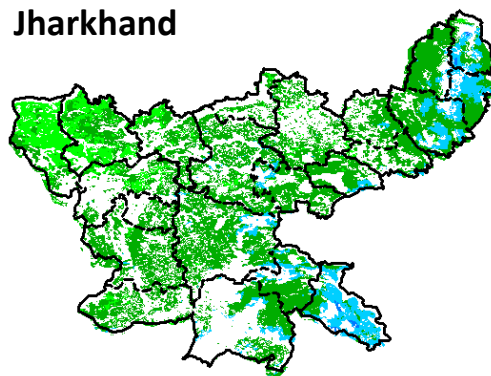
Agriculture vigour is good over southern and south western parts of Himachal Pradesh with NDVI value varying between 0.5-0.6, whereas isolated patches of normal NDVI are observed over remaining parts of the state.

### Jammu & Kashmir



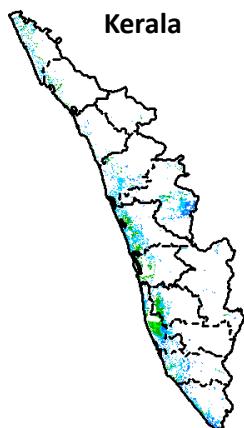
Agriculture vigour is normal all over Jammu and Kashmir. NDVI value varies in between 0.4-0.6 in south western parts.

### Jharkhand



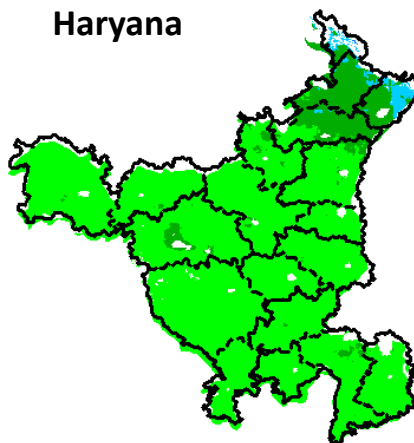
Agriculture vigour is normal (0.2-0.3) over entire state of Jharkhand except the south east and north east districts that show increased NDVI value from 0.4-0.5.

### Kerala



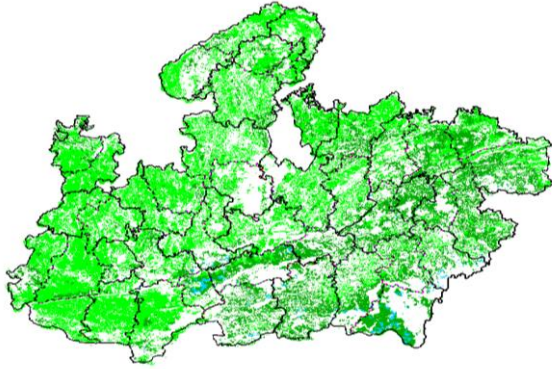
Central and coastal regions of Kerala show NDVI value varying from 0.3 to 0.5, whereas rest of agricultural vigour of Kerala shows good values of NDVI.

### Haryana



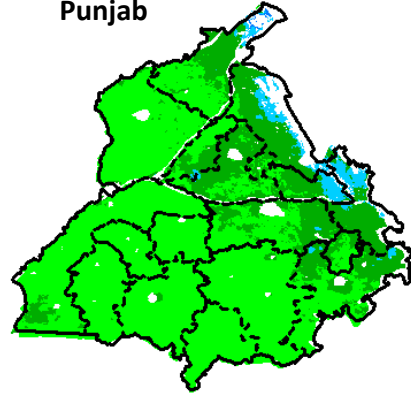
Agriculture vigour is normal over the state of Haryana. NDVI value varies between 0.2- 0.3 over the state. Except in few patches in northern region with NDVI values between 0.4-0.5.

### Madhya Pradesh



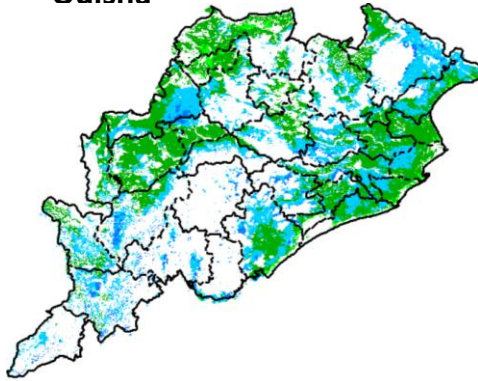
Agriculture vigour is normal (0.2-0.3) over entire state Madhya Pradesh.

### Punjab



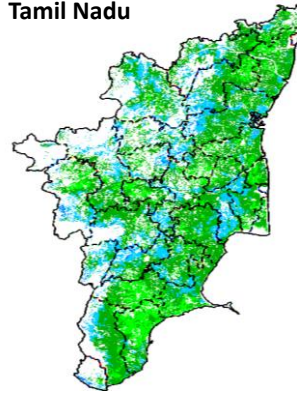
Agricultural vigour is normal over entire state of Punjab except North Eastern part, showing comparatively high NDVI value ranges from 0.4-0.6.

### Odisha



Agricultural vigour is good in eastern coastal and few pockets in western parts of Odisha with NDVI value ranging between 0.4 - 0.6. The remaining parts show normal NDVI values.

### Tamil Nadu



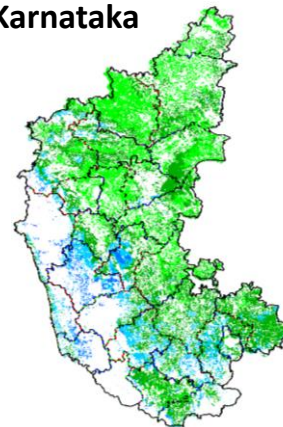
Agricultural vigour is normal over Tamil Nadu with NDVI values varying from 0.3 - 0.5. In western parts of Tamil Nadu NDVI show comparatively high values varying between 0.4-0.5 in some patches.

### Chhattisgarh



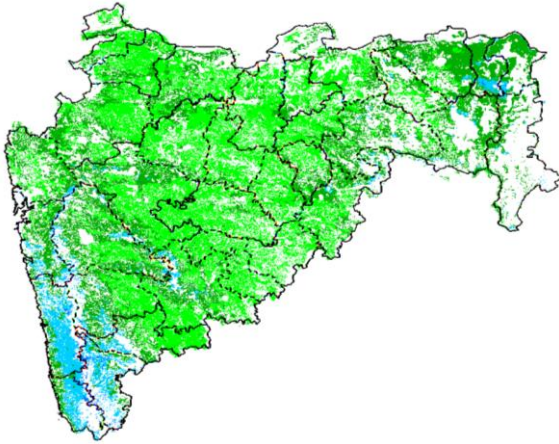
Agriculture vigour is good in central part of Chhattisgarh where NDVI value lies in between 0.4-0.5. NDVI values are normal over rest parts of the state.

### Karnataka



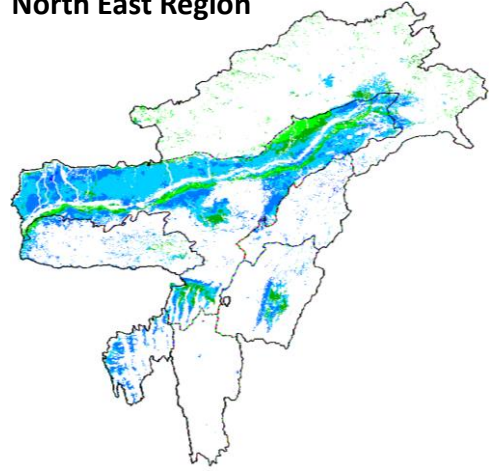
Agriculture vigour is good over some pockets of west coast of Karnataka between 0.4-0.6. Rest of the parts shows normal NDVI values up to 0.2-0.3

### Maharashtra



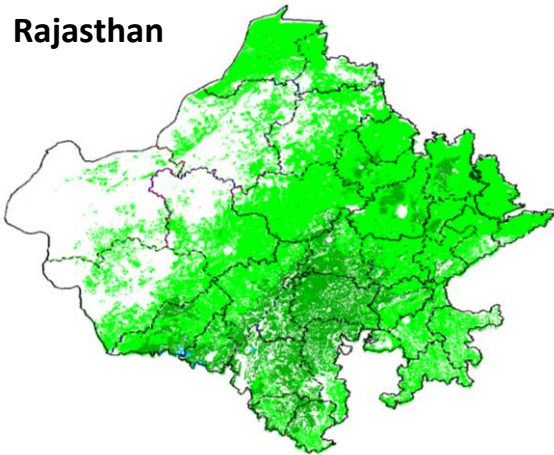
Agricultural vigour is good over south west part with NDVI values from 0.4 - 0.5, whereas NDVI is moderate over parts of Marathwada, Vidarbha and Madhya Maharashtra region.

### North East Region



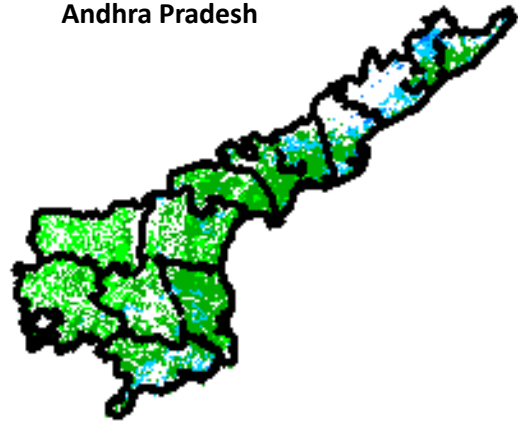
Agriculture vigour is good in valleys of North-East states which cover parts of Assam. NDVI values vary from 0.4-0.5. Normal NDVI conditions are observed all over NE region.

### Rajasthan



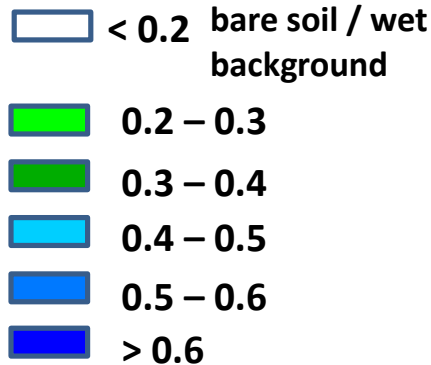
Agriculture vigour is normal (0.2-0.3) over entire state of Rajasthan.

### Andhra Pradesh



Agriculture vigour vary from 0.3 - 0.4 over central and coastal parts of Andhra Pradesh. The NDVI is normal over rest parts of the state.

### Persistent cloud /





### Annexure III List of varieties

#### Karnataka

**Ragi:** GPU- 28,MR -01, 02 and 06, KMR-301.

**Redgram:** TTB -7, BRG -01, BRG- 02,HYD -3C.

#### Tamil Nadu:

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

#### Andhra Pradesh:

**Rice:** MTU-1010, Nellore masuri, Dharani, Shwetha.

#### Assam

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

**Summer green gram:** T-44, AAU-34, AAU-39, Pratap, Kopergaon, K-85, ML-55.

**Summer black gram :** T-9, Pant U-19, JU-78.

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

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

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

**Kharif Maize :** Hybrid variety : Ganga 5, Hi starch.

Composite variety like NLD, Dhawal, Naviot, Diara.

Normal hybrids : Ganga 11, Deccan 107, Deccan 109, Vivek 9.

Quality Protein Hybrid : HQPM-1.

Normal Composite variety : NLD, Parbhat, Novjot, Pusa Comp 1 & 2.

Quality Protein composite : Shakti-1.

**Cucumber:** Pusa Sanyog, Chinese Green etc.

**Ridge Gourd :** Pusa Nasdar and selected local varieties.

**Sugarcane :** Kolong, Luhit, Dhansiri, Co 1148, Co 6315, Co 997, 80/77 (Co BLN 9104), 43/83 (Co BLN 9605).

**Summer sesame :** TC 25, Vinayak.

**Ginger :** Rio-de-Generio, Nadia, Moran, Jorhat, Karkai, Chaina.

**Summer sesame :** TC 25 and Vinayak.

**Turmeric :** Shillong Type, Tall clone, CL-24, PTS-38, PCT-13, PCT-13, VK-145.

**Banana :** Dwarf Cavendish (Dwarf Cultivar), Cheni Champa, Malbhog (Medium Tall cultivars).

Sword sucker of dwarf variety : Jahaji.

Medium tall variety : Chenichampa, Malbhog, Barjahaji.

**Papaya :** Ranchi, Washington, Halflong, Coorg Honeydew.

Mesta : HC 583 and AMC 108.

#### Arunachal Pradesh

**Jhum rice:** Bhalum1,2,3 & 4.

#### Manipur

**Okra:** Pusa Sawani, Arka Anamika.

**Turmeric:** Megha turmeric.

**Ginger:** Nadia.

**Soybean:** JS-335.

**Groundnut:** ICGS-76.

#### Tripura:

**Urad:** T-9, PanthUrd 35.

**Green Gram:** PDM 139 (Samrat), TMV 37.

**Cowpea:** Maharaja, Kasi Kanchan .

**Jhum rice :** Garo Malati, Binnietc.

#### Meghalaya

**Jhum rice :** Bhalum 1, 2, 3; IRAT 109, IR 50.

**Ginger :**Nadia, Poona, Riodegenerio.

**Turmeric :** Lakadong, RCT-1.

#### Odisha

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

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

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

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

### **Bihar**

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

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

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

### **Jharkhand:**

**Summer rice:** IR-36, IR-64, Naveen, lalat, Parijat (80-85 days).

**Summer maize:** Birsa Makka-1, Birsa Makka-2, Suwan-1(Hybrid), HQPM (Hybrid).

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

**Sugarcane:** BO 147.

### **Jammu & Kashmir**

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

### **Uttarakhand**

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

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

**Potato:** Kufri- Jyoti, Ashok, Anand.

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

### **Himachal Pradesh**

**Late variety of Cauliflower:** broccoli.

**Cauliflower:** Pusa-snowwall.

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

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

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

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

**Chilli:** Surajmukhi.

**Sunflower:** EC-68415.

**Moong:** Pusa Baishakhi.

**Mash:**UG-218.

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

**Carrot:**Nantes and Chantenay.

**Palak:**PusaHarit, Pusa Bharti.

### **East Uttar Pradesh**

**Moong:** samrat,hum-2, hum-12, malviyajanchetana, malviyajoyti, neredra moong-1.

**Urad:** T-9, azad urd-1, azadurd-2, shekher-2.

**Sugar cane:** coj-64, cos-96268, cos-98231, cos-767, cos-84, cos-32, copant-84212 ,etc.

**Maize:** pusa, agatishanker, makka-2, azad, uttam, sweta, Prakash.

### **Punjab**

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

### **Rajasthan**

**Sugarcane** (late sown): COL8001.