

# National Agromet Advisory Service Bulletin

**Friday 19<sup>th</sup> June 2015**

**(For the period 19<sup>th</sup> to 23<sup>rd</sup> June 2015)**

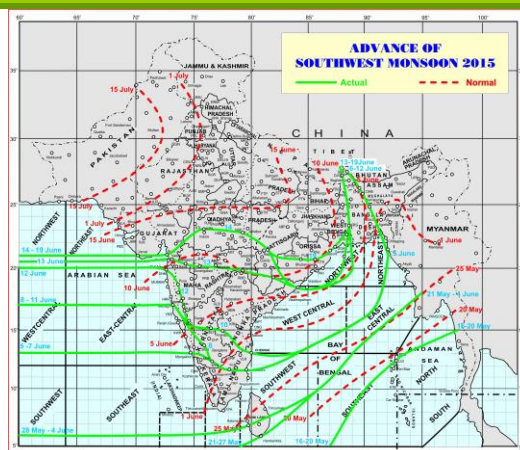


**Issued by**

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

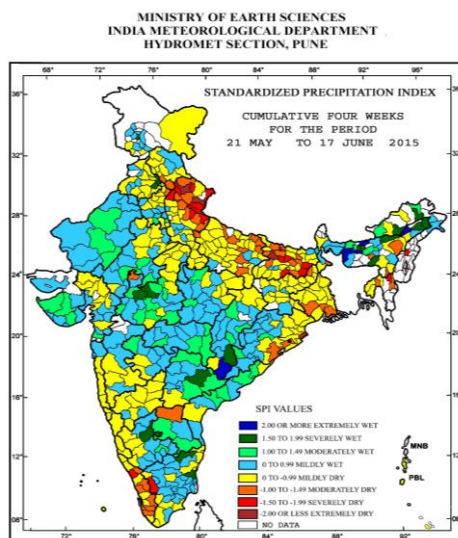


## Monsoon Watch



- The southwest monsoon has further advanced into some more parts of Chhattisgarh, Odisha and Gangetic West Bengal and remaining parts of Coastal Andhra Pradesh and Bay of Bengal.
- The Northern Limit of Monsoon (NLM) now passes through Lat. 21.0°N / Long. 60.0°E, Veraval, Surat, Ujjain, Narsinghpur, Raipur, Phulbani, Cuttack, Digha, Krishnanagar and Darjeeling.
- Conditions are favourable for further advance of southwest monsoon into some more parts of Chhattisgarh, Odisha and West Bengal during next 48 hours. Conditions are also favourable for further advance of southwest monsoon into some more parts of north Arabian sea and Gujarat during next 72 hours.

## Standardised Precipitation Index Four Weekly for the Period 21<sup>st</sup> May to 17<sup>th</sup> June 2015

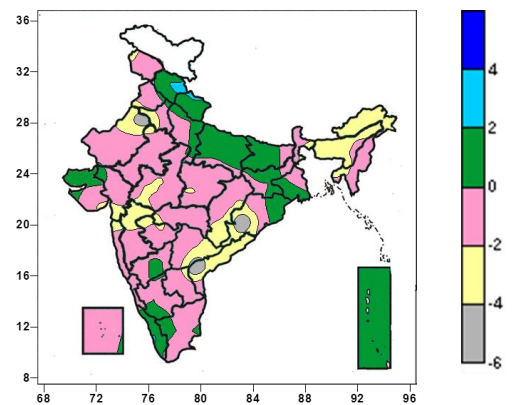
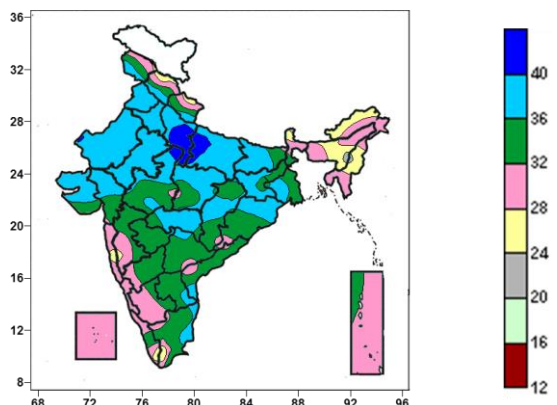


- Extremely/severely wet conditions experienced in few districts of Assam, Arunachal Pradesh; Shajapur, Ujjain districts of Madhya Pradesh; Mohali, Fatehgarh Sahib districts of Punjab; Pulwama district of Jammu & Kashmir; Bastar, Dantewada districts of Chhattisgarh; Warangal district of Telangana; Cuddalore, Vellore districts of Tamilnadu; Chitradurga district of Karnataka.
- Extremely/Severely dry conditions experienced in many districts of Uttarakhand; Imphal East district of Manipur; Kolasib district of Mizoram; Kohima district of Nagaland; Kendrapara district of Odisha; Banka, Bhagalpur, Nawada, Samastipur, Saran, Sheohar, Vaishali districts of Bihar; Pilibhit, Rampur, Saharanpur districts of Uttar Pradesh; Coimbatore district of Tamilnadu; Kozhikode district of Kerala.
- Moderately dry conditions experienced in few districts of Bihar, Uttarakhand; Karbi Anglong, Hailakandi districts of Assam; Ri-Bhoi district of Meghalaya; Aizwal district of Mizoram; Dhalai district of Tripura; South Dinajpur, Howrah, Kolkata, West Midnapore districts of West Bengal; Ganjam, Khurda districts of Odisha; Dumka, Godda districts of Jharkhand; Ambedkar Nagar, Bahraich, Deoria, Farrukhabad, Gonda, Jaunpur, Kushi Nagar, Maharajganj, Mirzapur, Bareilly, Bijnor, Moradabad, Shahjahanpur districts of Uttar Pradesh; Yamuna Nagar district of Haryana; Sirmaur, Solan districts of Himachal Pradesh; Neemuch district of Madhya Pradesh; Kurnool district of Rayalaseema.
- 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 17.06.2015**

**Actual Mean Maximum Temperature (°C) in India for the week ending 17.06.2015**

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 17.06.2015**

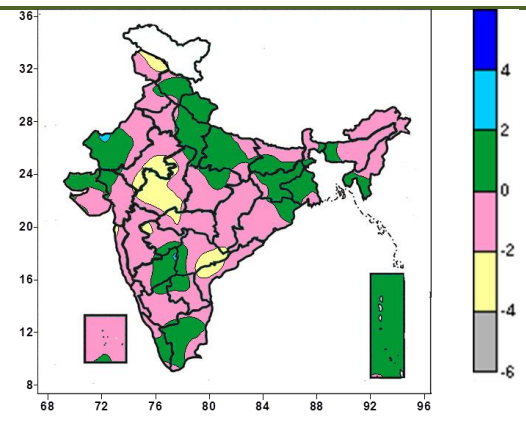
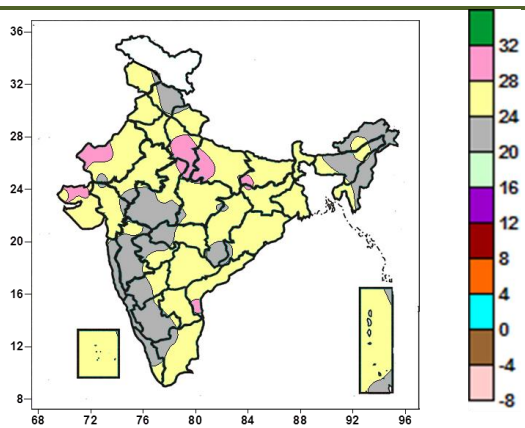


- Mean maximum temperature was above 40°C over some parts of Uttar Pradesh and isolated pockets of Madhya Pradesh.
- Mean maximum temperature ranged between 36 to 40°C over Punjab, Haryana & Delhi Rajasthan, many parts of Uttar Pradesh, Madhya Pradesh, Gujarat, Bihar, Jharkhand, Vidarbha, some parts of Chhattisgarh, Gangetic West Bengal and Odisha, isolated pockets of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Rajasthan, Marathwada, Telangana, Coastal Andhra Pradesh, Rayalaseema and Tamil Nadu.
- It was below 36°C over remaining parts of the country.

- Mean maximum temperature were above normal by 2 to 4°C over isolated pockets of Himachal Pradesh and Uttarakhand.
- Mean maximum temperature were below normal by 4 to 6°C over isolated pockets of West Rajasthan, Odisha, Coastal Andhra Pradesh and Telangana.
- Mean maximum temperature were below normal by 2 to 4°C over Arunachal Pradesh, many parts of Assam & Meghalaya, Tripura and Coastal Andhra Pradesh, some parts of West Rajasthan, West Madhya Pradesh, Gujarat Region, Chhattisgarh, Madhya Maharashtra, Odisha and Telangana, isolated pockets of Jammu & Kashmir, Punjab, Haryana & Delhi, East Rajasthan, East Madhya Pradesh, Saurashtra, Konkan, Marathwada, Vidarbha, Sub-Himalayan West Bengal and Rayalaseema.
- It was normal to near normal in remaining parts of the country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 17.06.2015**

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 17.06.2015**

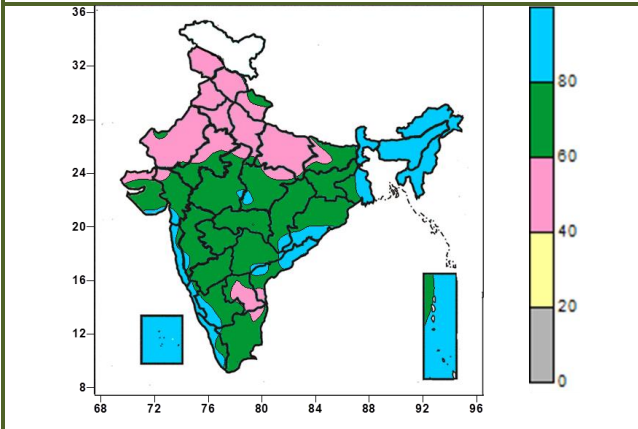


- Mean minimum temperature ranged between 20 to 24°C over Coastal Karnataka and Manipur, many parts of Himachal Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, West Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Marathwada, Interior Karnataka and Kerala, some parts of Vidarbha, Chhattisgarh and Tamil Nadu isolated pockets of Jammu & Kashmir, Uttarakhand, Rajasthan, Gujarat Region, East Madhya Pradesh, Odisha, Rayalaseema and Andaman & Nicobar Islands
- Mean minimum temperature was above 24°C over rest of the country.

- Mean minimum temperature was below normal by 2 to 4°C over many parts of West Madhya Pradesh, some parts of Jammu & Kashmir, East Rajasthan, Telangana and Coastal Andhra Pradesh, isolated pockets of Konkan, Marathwada, Vidarbha and Chhattisgarh.
- Mean minimum temperature was above normal by 2 to 4°C over isolated pockets of West Rajasthan and North Interior Karnataka.
- It was normal to near normal in remaining parts of the country.

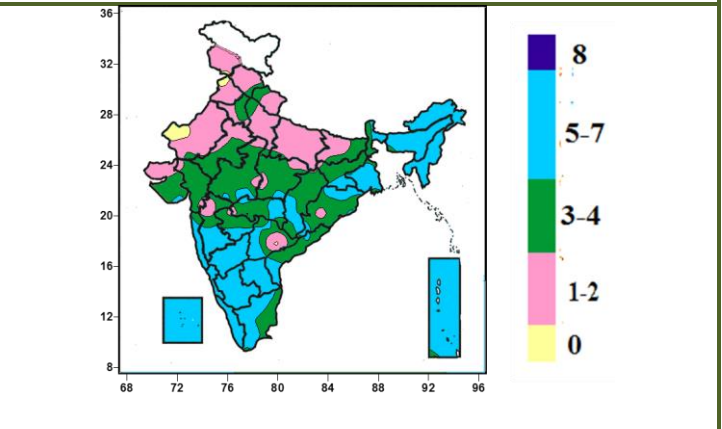
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 17.06.2015**

**Relative Humidity (%) over India for the week ending 17.06.2015**



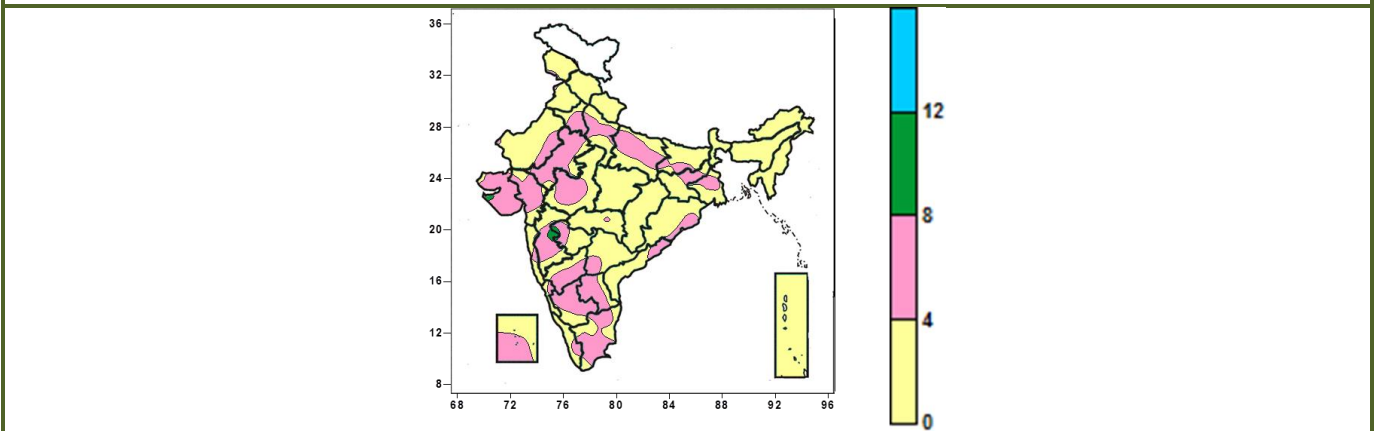
- Mean Relative humidity was above 80% over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Sub-Himalayan West Bengal & Sikkim and Lakshadweep, many parts of Gangetic West Bengal, Konkan & Goa, Coastal Karnataka, Coastal Andhra Pradesh, Kerala and Andaman & Nicobar Islands, some parts of Odisha and North Interior Karnataka, isolated pockets of Bihar, Madhya Pradesh, Gujarat Region, Saurashtra, Madhya Maharashtra, Chhattisgarh and Telangana.
- Mean Relative humidity was 60 to 80% over Jharkhand, Marathwada, Vidarbha and North Interior Karnataka, many parts of East Rajasthan, Gujarat, Madhya Pradesh, Chhattisgarh, Bihar, Odisha, Madhya Maharashtra, Telangana, South Interior Karnataka and Tamil Nadu, some parts of Uttarakhand, Gangetic West Bengal, Coastal Andhra Pradesh, Rayalaseema, Kerala and Andaman & Nicobar Islands, isolated pockets of West Rajasthan, Uttar Pradesh, Konkan & Goa and Coastal Karnataka.
- Mean Relative humidity was 20 to 60% over rest of the country.

**Cloud amount (okta) over India for the week ending 17.06.2015**



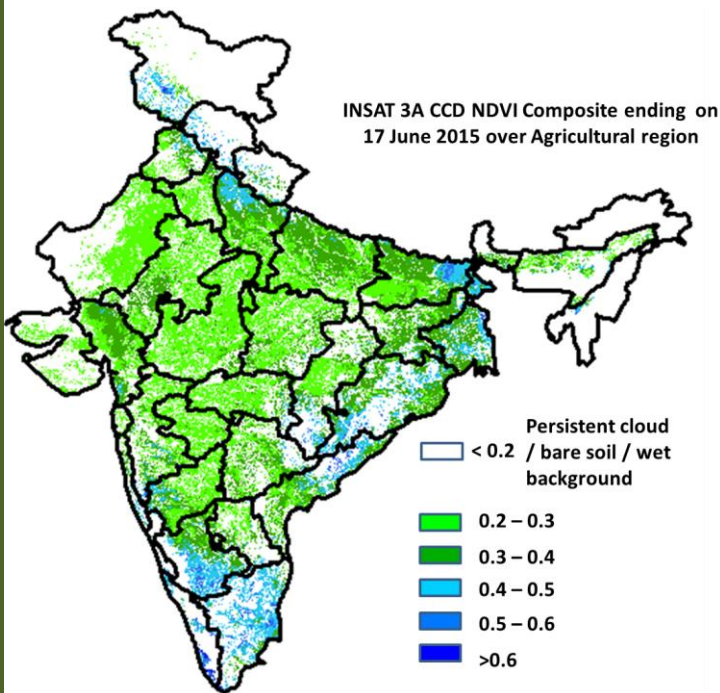
- Sky remained generally cloudy (5-7 okta) over Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Karnataka, Kerala, Rayalaseema and Lakshadweep, many parts of Assam & Meghalaya, Gangetic West Bengal, Konkan & Goa, Madhya Maharashtra, Tamil Nadu and Andaman & Nicobar islands, some parts of Sub-Himalayan West Bengal & Sikkim, Jharkhand, Odisha, Chhattisgarh, Vidarbha, Marathwada, Telangana and Coastal Andhra Pradesh, isolated pockets of Saurashtra and Madhya Pradesh.
- Sky remained partly cloudy (3 to 4 okta) over many parts of Punjab & Haryana, Gujarat, East Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, Sub-Himalayan West Bengal & Sikkim, Vidarbha, Marathwada, Telangana and Coastal Andhra Pradesh, some parts of Himachal Pradesh, Uttarakhand, Bihar Madhya Maharashtra and Tamil Nadu, isolated pockets of Uttar Pradesh, West Rajasthan, Meghalaya, Gangetic West Bengal, Konkan & Goa and Andaman & Nicobar Islands.
- Sky remained mainly clear /clear sky (1 to 2/0 okta) over rest of the country.

**Wind speed (knots) over India for the week ending 17.06.2015**



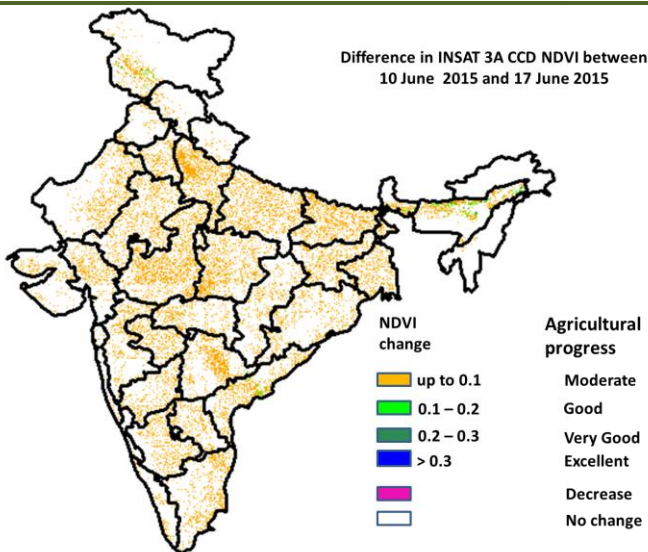
- Mean wind speed was 8 to 12 knots over isolated pockets of Madhya Maharashtra, Marathwada and Saurashtra.
- Mean wind speed was 4 to 8 knots over many parts of Gujarat, East Rajasthan, Uttar Pradesh, Punjab & Haryana, Rayalaseema, Interior Karnataka, Tamil Nadu and Lakshadweep, some parts of West Rajasthan, West Madhya Pradesh, Bihar, Jharkhand, Gangetic West Bengal, and isolated pockets of Vidarbha, Odisha, Telangana, Coastal Andhra Pradesh and Kerala.
- It was less than 4 knots over rest of the country.

## INSAT 3A CCD NDVI COMPOSITE ENDING ON 17<sup>th</sup> June 2015 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is very good in some parts of West Bengal, some pockets of east Bihar, Kerala, coastal parts of Andhra Pradesh and South Interior Karnataka, where NDVI varies from 0.4 to 0.6. Agricultural growth was good over most parts of Uttar Pradesh and Bihar and some parts of Gujarat, Punjab and Haryana (NDVI: 0.3-0.4). NDVI remains within the range of 0.2 to 0.3 over most parts of rest of India.

### Difference in INSAT 3A CCD NDVI between 10<sup>th</sup> June 2015 and 17<sup>th</sup> June 2015



- Moderate progress (up to 0.1) in NDVI was observed over west Rajasthan and West Uttar Pradesh, Madhya Pradesh, Maharashtra, Gujarat, West Bengal, Odisha, northeast Uttar Pradesh, parts of Bihar, South Interior Karnataka, Andhra Pradesh, Telangana, Rayalaseema, some parts of Punjab and Haryana.

- INSAT 3A CCD NDVI composite maps for the week ending on 17<sup>th</sup> June 2015 for different States are given below in Annexure II.

## Weather Forecast for next 5 days valid upto 0830 hours of 24<sup>th</sup> June 2015

- No significant change in maximum temperatures over plains of northwest India during next 24 hours and fall by 2-3°C thereafter.

### 5 Day Rainfall Forecast (MORNING) 19 June 2015

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

#### % Station Reporting Rainfall

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

#### Weather Warning during next 5 days

- 19 June (Day 1):** Heavy to very heavy rainfall would occur at isolated places over Konkan & Goa, Coastal Andhra Pradesh. Heavy rainfall would occur at isolated places over Odisha, Telangana, Marathwada, Coastal Karnataka, Kerala, Sub-Himalayan West Bengal & Sikkim and Andaman Nicobar Islands.
- 20 June (Day 2):** Heavy to very heavy rainfall would occur at isolated places over Konkan & Goa, Telangana, Coastal Andhra Pradesh and Odisha. Heavy rainfall would occur at isolated places over Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal & North Interior Karnataka, Kerala and Sub-Himalayan West Bengal & Sikkim.
- 21 June (Day 3):** Heavy to very heavy rainfall would occur at isolated places over Konkan & Goa,

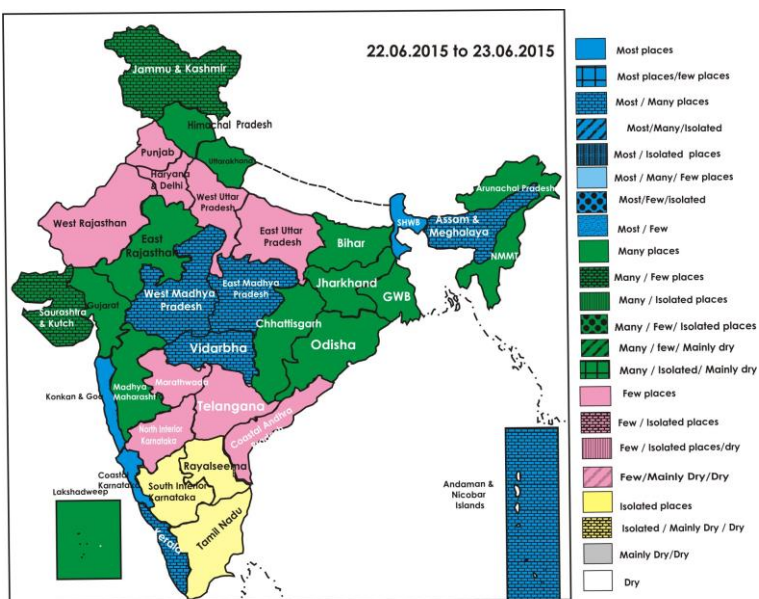
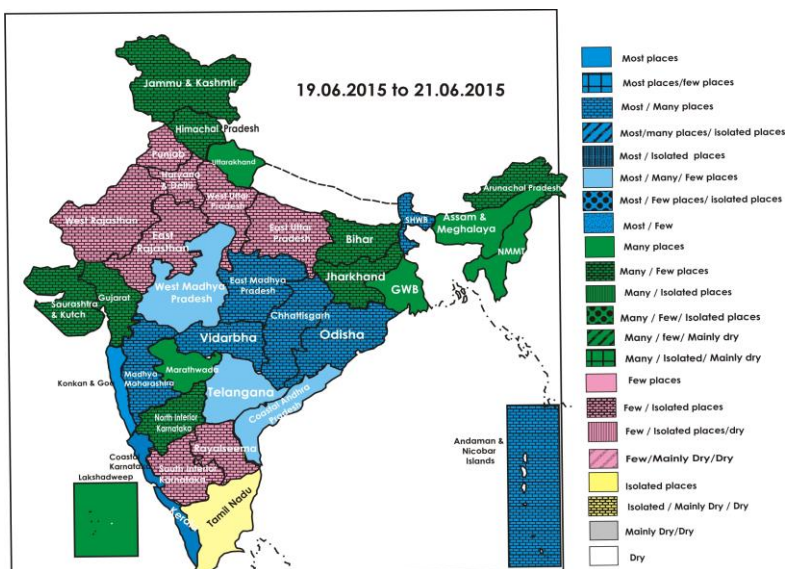
Vidarbha, Chhattisgarh, Odisha and Sub-Himalayan West Bengal & Sikkim. Heavy rainfall would occur at isolated places over Uttarakhand, Gujarat, Madhya Pradesh, Madhya Maharashtra, Telangana, Coastal Karnataka, Kerala, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

- **22 June (Day 4):** Heavy to very heavy rainfall would occur at isolated places over Konkan & Goa, Vidarbha and Sub-Himalayan West Bengal & Sikkim. Heavy rainfall would occur at isolated places over Uttarakhand, Gujarat Region, Madhya Pradesh, Madhya Maharashtra, Marathwada, Coastal Karnataka, Kerala, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Andaman & Nicobar Islands.
- **23 June (Day 5):** Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim. Heavy rainfall would occur at isolated places over East Rajasthan, Gujarat Region, Konkan & Goa, Coastal Karnataka and Assam & Meghalaya.

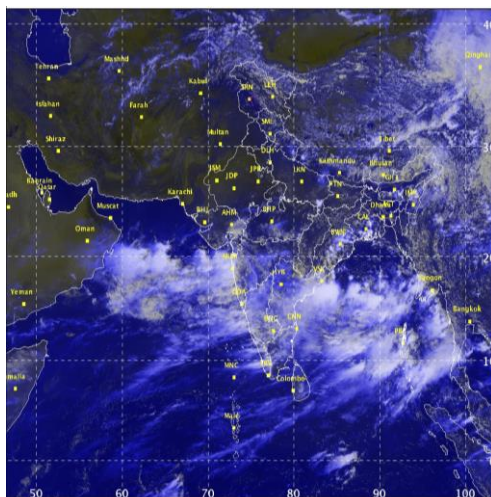
### Weather Outlook for subsequent 2 days from 24<sup>th</sup> June 2015 to 26<sup>th</sup> June 2015

- Rain/thundershowers would occur at most places along west coast with isolated heavy rainfall.
- Rain/thundershowers would occur at many places over Indo Gangetic Plains, east and northeast India and Andaman & Nicobar Islands.
- Rain/thundershowers would occur at a few places over rest of the country outside West Rajasthan, Rayalaseema and Tamil Nadu where it would be isolated.

### Weather Forecast Map (Valid upto 0830 hours of 24<sup>th</sup> June, 2015)



## Satellite image dated, 19.06.2015 0600 UTC



## Salient Advisories

- In **Kerala**, continue transplanting of *virippu* rice in Southern and Central Zones and continue wet seeding of rice (Uma variety) in the Problem Area Zone.
- In Central Brahmaputra Valley Zone and Hill Zone of **Assam**, continue nursery bed preparation for *sali* rice. In North Bank Plain Zone, complete sowing of long duration rice with cultivars like Ranjit, Gitesh, Pankaj, Bahadur, Kushal, Piolee of *Sali* rice after receding of flood water. In flood affected areas, harvest the *boro/ahu* rice wherever possible. Keep the harvested rice at safer places and keep the bundles in upright position for avoiding sprouting. Drain out excess water from jute, sugarcane and banana fields.
- In **Konkan**, continue direct sowing of *kharif* rice and ragi in uplands after current spell of heavy rain. Prepare drainage channels to drain out excess water from fruit crop nursery (mango, cashew, coconut), rice and finger millet nursery in view of likely occurrence of heavy/very heavy rain. In **Madhya Maharashtra**, complete nursery sowing of *kharif* rice in Kolhapur region and western ghat region. Continue land preparation and sowing of jowar, bajra, soybean in Kolhapur region.
- In **Marathwada**, continue sowing of irrigated cotton. Continue land preparation and sowing of green gram, black gram and red gram. Continue nursery sowing of *kharif* rice in East Vidarbha (Gondia, Bhandara, Gadchiroli, Chandrapur districts).
- Continue nursery sowing of rice in **Coastal Karnataka**, land preparation and nursery sowing of rice, sowing of ragi, maize, groundnut and red gram in **South Interior Karnataka** and sowing of greengram, blackgram, jowar, soybean and pigeonpea in **North Interior Karnataka**.
- In **Coastal Andhra Pradesh**, continue nursery sowing of rice and land preparation for sowing of sesame, maize, pulses, cotton, black gram, finger millet and for planting of rainfed sugarcane. In **Royalaseema**, continue land preparation and sowing of irrigated groundnut, chilli and maize utilizing the realised and expected rainfall.
- Continue land preparation and sowing of cotton, maize, groundnut, jowar, soybean, pulses, castor, pigeon pea, green gram etc. in **Telangana**.
- In **Madhya Pradesh**, undertake land preparation and sowing of soybean and groundnut and continue land preparation and sowing of maize, redgram, black gram and green gram in Satpura Plateau Zone and nursery sowing of rice and *kharif* vegetables utilizing the realised and expected rainfall.
- Continue nursery sowing of rice, vegetables and land preparation and sowing of *kharif* crops like soybean, groundnut, seasame utilizing the realised and expected rainfall in **Chhattisgarh**.



## Detailed Zonewise Agromet Advisories

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



**Land preparation/Sowing**

**Sugarcane**

**Chilli**

**Rice Nursery**

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala and Coastal Karnataka; Bidar district of North Interior Karnataka; Bengaluru Urban, Kodagu and Shivamogga districts of South Interior Karnataka; Karaikal, Nagapattinam, Thiruvannamalai, Tiruvarur and Vellore districts of Tamil Nadu; all districts of Coastal Andhra Pradesh except Nellore, Prakasam and Srikakulam; all districts of Telangana except Mahbubnagar. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Andhra Pradesh:**
    - In North Coastal Zone, continue nursery sowing of rice and sowing of groundnut, sesame and mesta.
    - Continue sowing of irrigated cotton, okra, castor, maize and cluster beans and undertake sowing of irrigated groundnut in Anantapur district in the Scarce Rainfall Zone. Continue sowing of jowar, *korra* in black soil, maize and medium and long duration varieties of turmeric in Kurnool district.
    - Continue land preparation for direct seeded chilli, nursery sowing of rice, maize, pulses and cotton in the Krishna Godavari Zone utilizing the expected rainfall.
    - In High Altitude Tribal Zone, continue sowing of maize, finger millet and rice. Continue sowing of *kharif* groundnut and rice in Chittoor and Kadapa districts and land preparation for transplanting of rice in Nellore district in the Southern Zone.
    - Prevailing cloudy weather conditions are congenial for incidences of sucking pests, wooly aphids and mealy bugs in sugarcane in the Krishna Godavari Zone. To control, spray Malathion @ 2 ml or Monocrotophos @ 1.6 ml or Eciphate @ 1 g /litre of water after current spells of rain.
  - **Telangana:**
    - Continue land preparation for sowing of groundnut, jowar, soybean, pulses, castor, pigeon pea and digging of pits for planting new orchards in Southern Telangana Zone. Raise rice nurseries of medium and long duration varieties and undertake sowing of sunhemp and dhaincha as in-situ green manure crop preceding to rice in regions under command areas and tanks using realized rainfall.
    - Continue land preparation for sowing of rice, maize and cotton (irrigated and rainfed) in the Northern Telangana Zone.
    - Incidence of mite is noticed in sweet oranges in Southern Telangana. To control, spray Wettable Sulphur @ 3 g or or Propargite @ 2 ml per litre of water after current spells of rain.
  - **Karnataka:**
    - Continue nursery sowing of rice in the Coastal Zone.
    - Undertake sowing of groundnut, redgram and maize in the Eastern Dry Zone; greengram, blackgram, jowar, soybean and pigeonpea in the North East Transition Zone; greengram, sunflower, maize, Bt. cotton, redgram, bajra, sesamum, navane and groundnut (bunch type) in the North Dry Zone; greengram, blackgram and pigeonpea in the North east Dry Zone utilizing the realised and expected rainfall.
    - Continue sowing of maize, green gram, black gram, groundnut, cotton and soybean in North Transition Zone; cotton, greengram, redgram, cowpea and groundnut in Central Dry Zone; rice, cotton, ginger and turmeric in Hill Zone utilizing the realised and expected rainfall.
    - Undertake land preparation for sowing of jowar, redgram and groundnut in the Southern Dry Zone.
    - Undertake nursery preparation for ragi and vegetables, land preparation for nursery sowing of rice and sowing of maize utilizing the realised and expected rainfall in the Southern Transition Zone.
  - **Kerala:**
    - As rain is expected at most/many places in Kerala along with heavy rain at isolated places, provide adequate drainage in rice nurseries and vegetable fields. Continue transplanting of *virippu* rice in the Southern and Central Zone.
    - Undertake nursery preparation of rice (Athira and Kanchna variety) and planting of cardamom and arecanut in the High Altitude Zone and continue land preparation for transplanting of rice and planting of banana in the Northern Zone.
    - In Problem Area Zone, continue wet seeding of rice (Uma variety) and planting of coconut saplings. In the High Altitude Zone, sigatoka leaf spot disease may become severe due to increase in relative humidity in rainfed bananas (4-5 months old). Spray 1% Bordeaux mixture or Tilt 25 EC (1ml/lit of water) after cutting the severely affected parts to control the incidence.
    - Prevailing temperature and humidity is congenial for incidence of Erwinia rot and Panama wilt diseases in banana in

Problem Area Zone. For control, drench the pit with Steptocycline @ 2 g with 10 litres of water for Erwina rot and for panama wilt, mix Copper Oxy Chloride @ 3 g with 1 litre water and drench the pit after current spells of rain.

- Due to high relative humidity, there are chances of leaf folder attack in rice nursery in the Central Zone. To control, use Trichogramma cards (2CC per one acre). If the attack is severe, spray Quinalphos @ 2ml per one litre of water after current spells of rain.

▪ **Tamil Nadu:**

- Continue nursery sowing of *kuruvai* rice and nursery preparation for SRI cultivation of rice in the Cauvery Delta Zone.
- Undertake sowing of ragi under rainfed conditions in Erode district and continue sowing of irrigated maize and sunflower and transplanting of short duration rice varieties in the Western Zone.
- Due to prevailing humid weather, mealy bug incidence is noticed in cotton in Trichy district in Cauvery Delta Zone and in the Southern Zone and likely to spread. To control, spray Profenophos 400 ml/acre. + Azadirachtin 10000 ppm @ 200 ml/acre on a non rainy day.
- In Karaikal, due to prevailing weather, there is chance of blast incidence in transplanted rice. Spray Hinosan @ 200 ml/ac or Tricyclazole @ 200g/ac and prophylactic spray of *Pseudomonas* talc powder formulation @ 500 g/ac in 200 litres of water on a non rainy day during late evening hours.
- Due to continuous rainfall during last two weeks, Fusarium wilt is noticed in garlic crop in the High Altitude Hilly Zone. To control, apply Carbendazim @ 2 gram/ litre of water as soil drenching.
- Suitable varieties for sowing are given in Annexure III.

• **Animal Husbandry**

- Prevailing weather conditions are congenial for Enterotoxaemia in livestock in Northern Telangana and sheep pox in sheep in Southern Telangana. To prevent the diseases, vaccinate the animals.
- Vaccinate the livestock for Black Quarter and Foot and Mouth diseases in the North East Dry and North East Transition Zone. Vaccinate sheep and goats against Enterotoxemia (ET vaccine) in the North Dry Zone of Karnataka.

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



*Land preparation/Sowing*

*Banana*

*Okra*

*Cabbage*

- **Realised Rainfall:** Rainfall occurred in all districts of Arunachal Pradesh except East Kameng and Upper Subansari; all districts of Assam except Golaghat and Sibsagar; all districts of Meghalaya; Aizwal, Kolasib, Saiha and Serchhip districts of Mizoram; Imphal East, Imphal West and Thoubal districts of Manipur; Dimapur and Kohima districts of Nagaland and all districts of Tripura. Weather remained mainly dry over rest of the region.

• **Advisories:**

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

- In North Bank Plain Zone of Assam, complete sowing of long duration rice cultivars like Ranjit, Gitesh, Pankaj, Bahadur, Kushal, Piolee of *Sali* rice after flood water recedes. In flood affected areas, harvest the *Boro* or *Ahu* rice wherever possible. Keep the harvested rice at safer places and keep the bundles in upright position for avoiding sprouting. Drain out excess water from jute, sugarcane and banana fields.
- In Hill Zone and Lower Brahmaputra Valley Zone of Assam, continue sowing of arhar (red gram).
- In Upper Brahmaputra Valley Zone of Assam, continue nursery bed preparation and sowing of *Sali rice*, continue planting of guava, papaya and sowing of fodder crops.
- In Arunachal Pradesh, continue nursery sowing of *kharif* rice.
- In Meghalaya, continue nursery bed preparation and sowing of *kharif* rice, sowing of kharif soybean, groundnut, black gram, green gram and red gram.
- In Hill Zone of Assam, due to heavy rain, ginger and turmeric crops are affected by rhizome rot. Drench the affected fields with Mancozeb 75 WP @ 2g/litre of water after current spells of rain.
- In Barak Valley Zone of Assam, due to high temperature and high relative humidity, there is chance of attack of leaf eating caterpillars in summer vegetables, ridge gourd, bitter gourd, cucumber and sponge gourd. Spray Malathion @ 1ml/litre of water to manage the pest after current spells of rain.
- In Arunachal Pradesh, in the humid weather condition, there is chance of attack of stem borer in *jhun* rice and early sown WRC rice at active tillering stage. Spray Triazophos 40EC @ 4ml/litre of water after current spells of rain.
- In Meghalaya, high relative humidity is favourable for the attack of shoot and fruit borer in brinjal. Spray Neem Seed Kernel Extract (NSKE) 5% to manage the attack. Also there is chance of attack of blast in *jhun* rice at active tillering stage. Apply Mancozeb @ 2g/litre or Carbendazim @ 1g/litre. Apply pesticides after current spells of rain.

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

- In Manipur, continue nursery raising of *kharif* rice and land preparation of main fields for transplanting of *kharif* rice.

Continue sowing of soybean and groundnut and nursery raising of cauliflower. Maintain water level at 5-8 cm in pre-kharif rice at grain filling stage.

- In Nagaland, continue sowing of maize and nursery sowing for lowland rice.
- In Mizoram, continue land preparation for planting of ginger and turmeric and sowing of maize. Continue transplanting of rice.
- In Tripura, continue sowing of maize in upland and medium uplands, nursery preparation of *aman* rice and planting of banana.
- In Nagaland, high humidity favours attack leaf eating caterpillars in cucurbits. Apply Neem oil @ 5ml/litre of water for control after current spells of rain.
- Suitable varieties are given in Annexure III.
- **Animal Husbandry**
- In Northeastern states, keep animals indoor during heavy rainfall periods. Also keep animal sheds dry and avoid dampness during rainy days. Also undertake regular immunization of cattle & buffaloes against Foot & Mouth disease, Haemorrhagic Septicaemia & Black Quarter. Vaccinate pigs against swine fever, poultry against RD and IBD.
- **Fishery**
- In Central Brahmaputra Valley Zone, Upper Brahmaputra Valley Zone and North Bank Plain Zone of Assam, prepare the fingerling rearing tanks and nurseries by cleaning them and applying agricultural lime for raising fingerlings. Apply cowdung at the rate of 500 gm per sq m. at least 15 days ahead of releasing fingerlings into the tanks. Farmers may release fish prawn in their ponds during this period.

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



**Banana**



**Sugarcane**



**Groundnut**



**Land preparation/Sowing**

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, Marathwada and Vidarbha; Ahmednagar, Dhule, Jalgaon, Nandurbar and Nashik districts of Madhya Maharashtra; Baroda, Broach, Dadra & Nagar Haveli, Dahod, Daman, Dangs, Narmada, Navsari, Surat, Tapi and Valsad districts of Gujarat Region; Amreli, Jamnagar and Rajkot districts of Saurashtra & Kutch Region. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Maharashtra:**
    - In Konkan, continue direct sowing of *kharif* rice and ragi in uplands after current spell of heavy rain. Undertake ploughing and puddling in main field for transplanting of rice. For new planting of mango, cashew, coconut and arecanut, fill the pits with mixture of soil, 30 to 40kg of FYM or Compost and 1 kg single super phosphate before planting. Undertake land preparation for sowing of groundnut in uplands. Undertake sowing of vegetable crops like okra, cucumber, snake gourd, ridge gourd with improved varieties after current spell of heavy rain. Prepare drainage channels to drain out excess water from fruit crop nursery (mango, cashew, coconut), rice and finger millet nursery in view of likely occurrence of heavy/very heavy rain.
    - In Madhya Maharashtra, complete nursery sowing of rice in Kolhapur region and in western ghat region. Undertake the puddling operation in the main fields. Continue land preparation and sowing of groundnut, jowar, bajra, finger millet and soybean in Kolhapur region. Complete land preparation and undertake sowing of *kharif* crops like bajra, soybean, jowar, groundnut in remaining region.
    - In Marathwada, continue sowing of irrigated cotton. Utilizing the realized rainfall, continue sowing of *kharif* cotton, soybean, sunflower, jowar, green gram, black gram, red gram and sesame.
    - In Vidarbha, continue nursery sowing of *kharif* rice in East Vidarbha (Gondia, Bhandara, Gadchiroli, Chandrapur districts). Complete land preparation and undertake sowing of *kharif* crops like green gram, red gram, soybean and *kharif* cotton in Central Vidarbha.
  - **Gujarat:**
    - In South Gujarat Heavy Rainfall Zone, undertake sowing of pulses (black gram, green gram, cowpea, pigeon pea); undertake nursery sowing of *kharif* rice utilising the realized and expected rainfall. Undertake plantation of new orchards. In South Gujarat Zone, continue land preparation and undertake sowing of *kharif* cotton after receipt of sufficient rainfall. Continue land preparation for sowing of cotton; undertake sowing of groundnut and soybean under optimum soil moisture condition in South Saurashtra Zone.
    - In North Saurashtra Zone, continue land preparation for sowing of *kharif* groundnut, cotton, pulses (green gram, black gram, cowpea, pigeon pea), pearl millet and sesame. Procure good quality seeds for *kharif* sowing. Undertake Bunding of fields to conserve rain water.

- In Middle Gujarat Zone, continue land preparation and sowing of Bt. cotton (ANKUR-651) utilising the realised and expected rainfall. Undertake plantation of new orchards.
- In Bhal and Coastal Zone, continue land preparation and undertake sowing of Bt. cotton utilising the available soil moisture and expected rain; procure the seeds of high yielding varieties of Bt. hybrid cotton or Govt. approved varieties of Bt. cotton. Undertake planting of fruit crops like mango, papaya, sapota, lemon and pomegranate.
- In North Gujarat Zone, carry out gap filling in early sown cotton and groundnut. Undertake land preparation and keep inputs ready for *kharif* sowing in North West Zone.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Gujarat, ensure vaccination of animals for different diseases in rainy season. Sprinkle phenol in the animal shed to avoid flies and mosquitoes. Provide 30-35 gm mineral mixture in daily diet.

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



**Sugarcane**

**Jute**

**Land preparation/Sowing**

**Onion**

- **Realised Rainfall:** Rainfall occurred in all districts Andaman & Nicobar Islands; all districts of West Bengal & Sikkim; all districts of Odisha except Ganjam, Jagatsinghpur, Kendrapara and Khudra; Araria, Arwal, Darbhanga, Gopalganj, Jahanabad, Kishanganj, Madhubani, Purnia, Supaul and West Champaran districts of Bihar; all districts of Jharkhand except Chatra, East Singhbhum, Godda, Gumla, Koderma, Lohardaga and Seraikela. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **West Bengal:**
    - In Coastal Saline Zone, undertake sowing of wet seeded *aman* rice and prepare pit for plantation of saplings of mango, guava and coconut.
    - In Laterite and Red Soil Zone, undertake land preparations for nursery sowing of rice under lowland condition.
    - In Old Alluvial Zone, continue nursery preparation for vegetables like early cauliflower, brinjal and onion after current spells of heavy rain.
    - In Terai Zone of West Bengal, continue seedbed preparation of *Aman* rice and continue land preparation for sowing of soybean in Hill Zone after current spells of heavy rain. Provide adequate drainage in ginger, turmeric and vegetables fields in view of likely occurrence of heavy/very heavy rain.
    - In New Alluvial Zone, due to high humid weather, there is chance of attack of stem weevil in jute. Spray Dimethoate @ 2 ml or Carbaryl @ 2 g/litre of water after current spells of rain.
  - **Andaman and Nicobar Islands:**
    - As rain would occur at most/many places during the period along with heavy rainfall at isolated places, postpone inter-cultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in vegetable fields.
  - **Odisha:**
    - In East and South Eastern Coastal Plain Zone, continue direct seeding of rice in medium low and deep low lands. In uplands, continue land preparation and sowing of cotton, groundnut, castor, cotton and arhar.
    - In Western Undulating Zone, continue nursery sowing of rice, sowing of maize, cotton and arhar and land preparation for sowing of *kharif* pulses in upland areas. Also undertake line sowing of rice followed by early weeding and weeding.
    - In Mid Central Table Land Zone, undertake line sowing of direct seeded rice in lowlands and nursery raising of rice.
    - In East and South Eastern Coastal Plain Zone, fruit and shoot borer in brinjal has been noticed and likely to increase in the present weather. To control, install Pheromone traps and spray Sevin WP @ 4 g or Malathion @ 2 ml /litre of water after current spells of rain.
  - **Bihar:**
    - In North East and North West Alluvial Plain Zone, continue nursery preparation for *kharif* rice and onion, continue planting of yam, ginger & turmeric and undertake land preparation and sowing of *kharif* maize utilising the realised and expected rainfall.
    - In South Bihar Alluvial Zone, undertake nursery preparation for *kharif* onion, nursery sowing of medium duration rice varieties for medium land and undertake sowing of fodder crops like jowar, bajra and guar.
    - In North West Alluvial Plain Zone, present weather is congenial for infestation of the fruit fly in cucurbitaceous crop,

to control, spray Rogor@ 2 ml+10gram of sugar /liter of water after current spells of rain.

- In North East Alluvial Zone, in the present temperature conditions, there is chance of attack of fruit & shoot borer in brinjal and fruit borer in tomato. To control, apply Emamectin Benzoate @1 g/ 3 liter of water after current spells of rain.
- **Jharkhand:**
- In South Eastern Plateau Zone, complete nursery bed preparation for long (140-150 days) duration rice varieties & continue land preparation for direct seeded upland rice varieties, maize and pigeon pea. Undertake transplanting of finger millet.
- In North Eastern plateau Zone, continue field preparation for sowing of vegetables like long gourd, round gourd, bitter gourd, sponge gourd and cucumber, continue cultivation of high yielding varieties of maize.
- In Western Plateau Zone, continue land preparation for sowing of pulses and sowing /transplanting of vegetables and continue raising of rice nursery.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Gangetic West Bengal, 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.

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



*Sugarcane*

*Land preparation/Sowing*

*Okra*

*Onion*

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh except Anuppur, Katni, Panna, Rewa, Sagar, Satna, Shahdol, Sidhi, Singrauli, Tikamgarh and Umaria; all districts of West Madhya Pradesh except Ashoknagar, Bhind, Datia, Gwalior, Harda, Morena, Neemuch, Sheopur, Shivpuri and Vidisha; all districts of Chhattisgarh except Bijapur, Korba, Koriya, Kowardha, Naryanapur and Surguja.
- **Advisories:**
  - **Madhya Pradesh:**
    - Undertake land preparation and sowing of soybean and groundnut and continue land preparation and sowing of maize, redgram, black gram and green gram in Satpura Plateau Zone and undertake nursery sowing of rice in Kymore Plateau and Satpura Hill Zone utilizing the realised and expected rainfall.
    - Undertake land preparation and sowing of maize, soybean and black gram and nursery sowing of *kharif* vegetables like tomato, chilli, brinjal, cauliflower etc. in Jhabua Hill Zone and undertake land preparation for sowing of bajra and soybean and nursery preparation for vegetables in Grid Zone utilizing the realised and expected rainfall.
    - Continue land preparation for sowing of *kharif* soybean and cotton and nursery preparation for sowing of *kharif* vegetables in Malwa Plateau Zone utilizing the realised and expected rainfall.
  - **Chhattisgarh:**
    - Continue nursery sowing of rice and vegetables in Plain Zone of Chhattisgarh and land preparation and sowing of tuber crops utilizing the realised and expected rainfall.
    - Continue land preparation and sowing of *kharif* crops like soybean, groundnut, sesame and vegetables, nursery sowing of rice in North Hill Zone utilizing the realised and expected rainfall.
    - Undertake nursery sowing of rice in Bastar Plateau Zone utilizing the realised and expected rainfall.
    - 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 after current spells of rain.
    - Suitable varieties are given in Annexure III.

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



*Cotton*

*Sugarcane*

*Land preparation/Sowing*

*Cabbage*

- **Realised Rainfall:** Rainfall occurred in South Delhi and West Delhi districts of Delhi; Baramula District of Jammu & Kashmir; Faridababd district of Haryana; Bundi, Jhalwar, Kota and Jodhpur districts of Rajasthan; Balrampur, Gazipur, Shrawasti and Azamgarh districts of East Uttar Pradesh. Weather remained mainly dry over rest of the region.

- **Advisories:**

- **Jammu & Kashmir:**

- In Sub Tropical Zone, undertake sowing of maize with seed rate of 20-30 kg/ha and continue field preparation for transplanting of Basmati rice.
    - Undertake sowing of maize and land preparation for sowing of pulses, mash and moong in Intermediate Zone and continue transplanting of rice and sowing of bhindi and pole type beans in Valley temperate Zone.
    - In Sub Tropical Zone and Intermediate Zone, due to cloudy condition, there may be attack of red pumpkin beetle in vegetables. To control, spray Hexavin 50WP @ 75-150 g in 50-100 litres of water/acre or Imidachloprid @ 0.3 ml/liter of water after current spells of rain.

- **Uttarakhand:**

- Undertake nursery sowing of short duration rice varieties (Saket-4, Govind, Narendra-80, Pusa 2-21) and scented rice varieties (Pant Sugandh-15, Tarawadi Basmati, Pusa Basmati-1, Type-3, Basmati-370) in Bhabar and Tarai Zone. Also undertake land preparation for sowing of groundnut, sorghum, pearl millets, pigeon pea and sesame utilising the realised and expected rainfall.
    - In Hill Zone of Uttarakhand, continue land preparation and sowing of pulses and soybean.
    - In Sub-humid Sub-tropic Zone, undertake nursery sowing of rice and land preparation for sowing of cotton and bajra.
    - In Hill Zone, due to increase in temperature, there may be attack of stem and fruit borer in brinjal & tomato, to control spray Imidacloprid @ 1ml / 2 litres of water after current spells of rain.

- **Himachal Pradesh:**

- Continue sowing of maize, French bean and nursery sowing of tall/dwarf basmati varieties of rice in Sub-Montane and Low Hills Sub-Humid Tropical Zone. Continue planting of ginger, turmeric, colocasia and elephant foot (Zimmikand) in low and mid hill regions. Undertake sowing of maize for fodder purpose along with cowpea and soybean.
    - In mid hill areas of Sub-Montane and Low Hills Sub-Humid Tropical Zone, continue transplanting of tomato, brinjal, capsicum, chilli and direct sowing of okra, French bean, cucumber, bitter gourd, summer squash, bottle gourd and ridge gourd.
    - Continue transplanting of tomato, cabbage and cauliflower in High Hill Temperate Dry zone.
    - Due to partly cloudy condition, there are chances of attack of mites in vegetables like brinjal, capsicum and tomato in Mid Hills and Sub-Humid Zone. For control, apply Fenazaquin (Megister) @ 30ml in 15litres of water after current spells of rain.
    - Due to partly cloudy weather condition, there is chance of premature leaf fall in apple and appearance of apple scab in Mild Hills Sub Humid Zone. For control, spray Dodine @ 150 g per 200 litres of water after current spells of rain.

- **Rajasthan:**

- Continue nursery preparation for *kharif* onion in Transitional Plain Zone of Inland drainage and continue sowing of guar in Irrigated Northwestern Plain Zone.
    - In South Eastern Humid Plain Zone, continue nursery preparation for rice.
    - In Arid Western Plain Zone, continue land preparation for sowing of irrigated groundnut, pearl millet, green gram, guar and moth bean.
    - In Semi Arid Eastern Plain Zone, continue field preparation for sowing of *kharif* crops like groundnut, pearl millet, sorghum, maize and cluster bean, green gram and cowpea. Also continue nursery raising of tomato.
    - Undertake sowing of hybrid cotton and Bt. cotton, undertake land preparation for sowing of maize, soybean and and undertake nursery for brinjal, tomato, onion, cauliflower, chilli and papaya in Sub Humid Southern Plain and Aravali Hill Zone.

- **Punjab, Haryana and Delhi:**

- In Punjab, continue nursery preparation for sowing of rice in Undulating Plain Zone, complete nursery sowing of rice in Central Plain Zone and Western Zone of Punjab. Also undertake sowing of maize in Central Plain Zone.
    - In Western Zone of Haryana, continue sowing of pigeon pea. In view of less than normal rainfall forecast, farmers are advised to cultivate less water requirement crop such as maize, pulses, pearl millets and vegetables. Continue transplanting of tomato and chilli and sowing of desi cotton.

- Continue nursery preparation for sowing of long duration rice and early cauliflower in Western Semi-Arid Zone of Delhi. Continue sowing of ladies finger and pigeon-pea and nursery sowing of vegetables like chilli, tomato and brinjal. In view of less than normal rainfall forecast, farmers are advised to cultivate less area under rice. In those areas where irrigation facilities are limited farmers should cultivate crops such as arhar, pearl millet, guar, pulses etc. which require less water.
- Under hot weather condition, there is chance of attack of spider mite in brinjal in Western Zone of Punjab and Central Plain Zone of Punjab. Spray Omite 57 EC @ 300ml or Kelthane 18.5 EC @ 300ml or Fosmite 50 EC @ 450 ml in 150 litres of water on a non rainy day.
- Due to prevailing hot weather condition, there is chance of attack of black bug in sugarcane in Central Plain Zone of Punjab, spray of Dursban/Lethal/Massban 20 EC @ 350 ml in 400 litres of water per acre on a non rainy day.
- Summer moong is severely attacked by thrips in Central Plain Zone of Punjab, spray the crop at flower bud initiation stage with Triazophos 40 EC @ 600 ml or Rogor 30 EC @ 100 ml or Malathion 50 EC in 80-100 litres of water per acre on a non rainy day.
- **Uttar Pradesh:**
  - In Central Plain Zone, continue land preparation for sowing of sunflower, jowar, moong, urad, arhar, groundnut, soybean, maize and nursery sowing of rice, bottle guard, cucumber, bitter guard, tinda etc. Continue planting of banana, transplanting of brinjal, chilli and cauliflower.
  - In Bundelkhand Zone, continue land preparation for sowing of urad, moong, arhar, groundnut, soybean, maize, jowar, bajra and sesame.
  - In Western Plain Zone, continue sowing of moong, urad and continue land preparation for nursery sowing of rice and sowing of jowar, lobia for fodder.
  - In Eastern Plain Zone, complete nursery sowing of long duration varieties of rice and continue sowing of medium duration varieties of rice. Continue planting of sugarcane and nursery of kharif onion. Undertake nursery sowing of tomato, brinjal, bhindi, chilli and cauliflower. In irrigated areas, continue sowing of arhar and maize.
  - In North Eastern Plain Zone, in the prevailing temperature condition, there are chances of attack of top borer in sugarcane at grand growth stage. For control, spray Corazine @ 150 g in 200 litres of water per acre on a non rainy day.
  - Suitable varieties for sowing are given in Annexure III.
- **Horticulture**
  - In Sub-Montane and Low Hills Sub Humid Zone of Himachal Pradesh, attack of fruit borer is observed in litchi fruit. For control, spray Cypermethrin 10 EC @ 1 ml per litre of water per ha.
- **Apiculture**
  - In Sub-Montane and Low Hills Sub Humid Zone of Himachal Pradesh, keep the bee colonies in shady places and sprinkle water if possible to reduce the heat.
- **Animal Husbandry**
  - Undertake vaccination against Foot and mouth disease in cattle in Sub-Montane and Low Hills Sub Humid Zone of Himachal Pradesh. Spray Butox @ 2-3ml/litre of water to protect the animals against ecto-parasites.
- **Poultry**
  - In Uttarakhand, ensure proper ventilation in poultry houses. Replace the poultry houses with fresh litter and keep the houses clean and provide plenty of drinking water to the birds.

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

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

Sub-Divisions	03.06.15		10.06.15		17.06.15	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	72.5	-18	91.1	-28	137.3	12
Dibang Valley	**	**	**	**	**	**
East Kameng	20.1	-56	50.5	-28	28.0	-70
East Siang	169.9	72	594.6	305	139.2	-26
Kurung Kumey	**	**	**	**	**	**
Lohit	140.5	64	223.7	168	55.6	-44
Lower Dibang Valley	166.0	44	606.9	701	114.2	31

Lower Subansari	**	**	**	**	**	**
Papumpara	167.0	-2	465.8	248	169.7	16
Tawang	73.0	-36	35.0	-75	85.0	-46
Tirap	68.4	-41	132.8	17	193.8	30
Upper Siang	99.6	-28	176.8	-16	209.0	5
Upper Subansari	46.6	24	4.0	-92	25.8	-24
West Kameng	52.6	-54	376.2	167	282.4	78
West Siang	50.0	-37	145.0	88	190.0	54
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	233.7	50	356.2	141	59.1	-66
Barpeta	349.0	120	448.6	203	134.2	-22
Bongaigaon	315.6	130	298.0	98	144.2	-5
Cachar	95.7	-20	48.2	-64	77.0	-31
Chirang	425.4	210	662.0	339	216.6	43
Darrang	**	**	**	**	**	**
Dhemaji	182.0	90	230.0	97	65.0	-48
Dhubri	226.4	70	399.6	198	175.3	24
Dibrugarh	114.6	60	157.3	90	95.8	7
Goalpara	341.5	170	439.5	253	277.2	100
Golghat	72.3	30	30.2	-46	29.1	-55
Hailakandi	76.1	-40	48.8	-63	87.7	-9
Jorhat	109.1	80	47.5	-27	34.9	-51
Kamrup(Rural)	248.4	180	105.0	38	79.8	-8
Kamrup(Metro)	94.7	10	62.7	-18	118.9	38
Karbi Anglong	32.8	-10	8.8	-81	46.3	-22
Karimganj	216.6	40	118.6	-16	120.2	-32
Kokrajhar	326.7	80	518.8	214	118.8	-42
Lakhimpur	209.8	120	264.5	127	174.4	40
Morigaon	52.6	10	23.8	-55	59.6	-23
N.C.Hills	99.1	10	88.0	-9	147.6	78
Nowgong	39.3	-30	17.3	-73	38.6	-41
Nalbari	260.5	160	328.4	186	102.6	-37
Sonitpur	94.1	20	269.9	211	71.4	-15
Sibsagar	87.5	40	81.5	64	21.7	-65
Tinsukia	129.9	90	159.8	97	103.5	9
Udalgiri	97.5	10	234.6	178	66.8	-43
<b>Meghalaya</b>						
East Garo Hills	242.6	172	255.7	86	642.9	342
East Khasi Hills	597.3	167	1074.2	233	501.2	42
Jaintia Hills	125.0	-34	152.0	-32	278.0	-30
Ribhoi	30.8	-60	13.5	-73	78.5	0
South Garo Hills	51.0	-46	44.0	-64	328.0	188
West Garo Hills	247.8	161	143.2	17	228.4	101
West Khasi Hills	180.0	90	99.0	8	315.0	66
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	63.8	-37	6.3	-94	98.2	-19
Champhai	**	**	**	**	**	**
Kolasib	36.0	-60	7.0	-93	34.0	-68
Lawngtlai	**	**	**	**	**	**



Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	1.0	-98	25.0	-70	104.0	8
Serchhip	0.0	-100	4.3	-95	109.0	5
<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	13.8	-79	25.5	-69	39.3	-62
Imphal west	17.9	-58	12.5	-84	172.9	81
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	2.0	-96	1.0	-99	37.0	-65
Ukhrul	**	**	**	**	**	**
<b>Nagaland</b>						
Dimapur	5.3	-89	12.6	-81	75.7	21
Kephire	**	**	**	**	**	**
Kohima	13.4	-70	12.3	-84	49.0	-40
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	**	**	**	**	**	**
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	59.1	-53	12.6	-89	54.9	-60
North Tripura	147.9	15	50.3	-59	109.0	-16
South Tripura	63.5	-35	3.3	-97	106.6	-16
West Tripura	119.9	17	4.8	-95	127.2	15
<b>Himachal Pradesh</b>						
Bilaspur	1.5	-84	6.0	-55	6.5	-72
Chamba	9.8	71	13.7	-6	13.7	-52
Hamirpur	6.7	-37	11.0	-39	7.5	-63
Kangra	4.0	-61	7.5	-53	26.8	-1
Kinnaur	2.3	-72	5.1	-40	3.0	-69
Kullu	6.4	-32	29.3	97	10.6	-42
Lahaul and Spiti	4.0	-67	14.0	16	0.0	-100
Mandi	5.0	-72	17.0	-25	22.9	-22
Shimla	9.8	-27	9.2	-51	9.9	-57
Sirmaur	1.2	-85	0.1	-99	8.1	-61
Solan	4.6	-56	9.8	-47	2.9	-89
Una	3.7	-37	9.4	-14	2.7	-76
<b>Punjab</b>						
Amritsar	4.0	75	3.6	-3	15.0	33
Barnala	5.4	86	0.6	-84	1.5	-82
Bhatinda	0.0	-100	0.7	-82	6.0	-23
Faridkot	12.1	653	12.8	205	8.0	-17
Fatehgarh Saheb	45.5	1200	16.3	269	0.3	-97
Ferozpur	1.6	0	0.9	-79	3.1	-35

Gurdaspur	0.3	-93	1.5	-78	7.8	-30
Hoshiarpur	0.1	-97	1.3	-84	5.6	-64
Jalandhar	0.0	-100	0.6	-82	2.5	-75
Kapurthala	4.5	88	4.5	7	9.0	32
Ludhiana	2.5	-3	1.6	-75	4.4	-51
Mansa	0.0	-100	0.8	-74	4.2	-51
Moga	12.4	786	0.0	-100	3.9	-36
Muktesar	5.0	92	17.0	179	9.0	109
Nawashahar	2.3	-22	4.0	-52	3.4	-80
Patiala	0.7	-83	9.1	33	7.3	-22
Ropar	1.9	-41	9.0	3	0.5	-96
Sangrur	3.0	-32	2.3	-63	8.3	-19
Mohali	13.0	217	56.0	882	7.0	-49
TarnTaran	0.3	-52	0.0	-100	4.5	22
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						
Ambala	1.0	-79	4.9	-70	5.0	-73
Bhiwani	1.7	-43	0.5	-93	11.5	54
Chandigarh	8.3	-11	24.6	77	2.4	-90
Faridabad	0.8	-77	0.0	-100	33.6	469
Fatehabad	0.6	-87	1.2	-72	9.8	55
Gurgaon	3.0	-6	0.0	-100	15.0	121
Hissar	0.3	-92	0.4	-93	14.3	98
Jhajar	5.1	77	3.3	8	15.4	100
Jind	1.1	-73	0.3	-95	7.7	-7
Katihah	1.3	-52	2.6	-66	4.4	-52
Karnal	0.1	-96	0.0	-100	14.3	19
Kurukshetra	2.5	-39	2.0	-73	5.6	-57
Mahendragarh	3.5	-35	1.2	-85	4.3	-45
Mewat	0.0	-100	0.0	-100	2.0	-60
Palwal	0.0	-100	1.0	-41	3.0	-52
Panchkkula	0.7	-88	14.3	-1	1.7	-90
Panipat	0.6	-81	0.0	-100	6.6	-39
Rewari	4.0	8	7.2	140	22.8	230
Rohtak	1.5	-72	0.0	-100	21.8	127
Sirsa	1.5	-44	0.0	-100	11.2	72
Sonepat	3.8	21	0.0	-100	17.4	60
Yamunanagar	1.1	-70	0.7	-97	1.2	-93
<b>Delhi</b>						
Central Delhi	6.0	71	0.0	-100	18.0	36
East Delhi	3.0	-14	0.0	-100	13.0	-2
New Delhi	3.1	-11	0.0	-100	25.8	95
North Delhi	11.1	216	1.8	-62	15.7	19
North East Delhi	3.0	-14	0.0	-100	18.0	36
North West Delhi	6.8	95	3.3	-28	3.0	-77
South Delhi	12.2	249	1.3	-72	47.0	256
South West Delhi	11.1	217	2.9	-38	28.8	118
West Delhi	7.0	100	4.0	-13	37.6	185
<b>Jammu &amp; Kashmir</b>						
Anantnag	8.9	-34	41.5	151	21.1	38
Badgam	3.9	-51	17.2	115	17.2	35

Bandipore	**	**	**	**	**	**
Baramula	14.3	-20	33.4	94	34.5	64
Doda	22.4	56	24.8	132	20.6	26
Ganderbal	7.8	-10	33.0	263	22.0	102
Jammu	2.9	-38	1.1	-84	5.0	-60
Kargil	**	**	**	**	**	**
Kathua	6.4	144	2.7	-50	16.1	14
Kistwar	**	**	**	**	**	**
Kulgam	1.1	-88	28.3	71	12.7	-17
Kupwara	2.9	-86	39.6	241	10.3	-22
Ladakh(Leh)	1.0	100	3.7	367	0.3	-47
Poonch	**	**	**	**	**	**
Pulwama	5.4	46	24.4	166	27.5	105
Rajouri	3.2	-60	4.5	-35	29.2	147
Ramban	16.0	75	35.7	234	9.6	-41
Reasi	11.4	171	9.4	-33	8.6	-43
Samba	6.8	48	0.4	-95	3.5	-72
Shopian	**	**	**	**	**	**
Srinagar	3.2	-63	24.5	169	13.8	26
Udhampur	11.5	42	7.3	-48	11.6	-23
<b>East Madhya Pradesh</b>						
Anuppur	5.1	-44	0.0	-100	28.9	-14
Balaghat	0.0	-100	1.6	-90	40.5	47
Chhatarpur	9.6	167	0.8	-91	51.6	316
Chindwara	4.5	-44	6.5	-61	61.6	113
Damoh	0.0	-100	0.0	-100	38.0	138
Dindori	8.2	86	0.0	-100	53.2	31
Jabalpur	0.3	-95	0.2	-99	33.8	86
Katni	0.0	-100	0.0	-100	15.1	-1
Mandla	0.0	-100	6.3	-52	64.7	143
Narsingpur	0.0	-100	0.0	-100	95.3	379
Panna	0.0	-100	0.0	-100	5.0	-52
Rewa	0.0	-100	0.0	-100	9.0	-42
Sagar	2.9	-56	0.0	-100	27.6	36
Satna	0.4	-84	0.0	-100	29.2	89
Seoni	8.7	70	14.2	18	37.1	15
Shahdol	0.0	-100	0.0	-100	8.0	-47
Sidhi	0.0	-100	0.0	-100	15.8	-14
Singrauli	1.8	500	0.0	-100	1.5	-93
Tikamgarh	12.0	208	0.0	-100	6.5	-47
Umaria	0.0	-100	0.0	-100	7.1	-54
<b>West Madhya Pradesh</b>						
Agar	**	**	0.0	-100	148.3	162
Alirajpur	0.0	-100	0.0	-100	123.4	352
Asoknagar	0.0	-100	0.0	-100	12.5	4
Badwani	0.0	-100	0.0	-100	44.8	60
Betul	0.0	-100	0.0	-100	97.4	252
Bhind	0.0	-100	2.5	-53	3.8	-48
Bhopal	8.4	-3	0.0	-100	100.4	423
Burhanpur	0.0	-100	0.0	-100	43.1	42
Datia	0.0	-100	6.0	67	5.7	-29

Dewas	0.0	-100	0.0	-100	99.5	300
Dhar	0.0	-100	0.0	-100	75.4	140
Guna	0.0	-100	0.0	-100	38.6	182
Gwalior	0.0	-100	2.2	-51	6.9	-47
Harda	0.0	-100	0.0	-100	6.8	-71
Hosangabad	1.7	-80	18.9	48	40.1	81
Indore	0.0	-100	0.0	-100	93.0	217
Jhabua	0.0	-100	0.0	-100	43.4	56
Khandwa	0.0	-100	0.0	-100	93.0	292
Khargone	0.2	-97	0.5	-97	107.8	280
Mandsaur	0.0	-100	0.0	-100	45.2	157
Morena	0.0	-100	0.0	-100	4.3	-40
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	2.4	-53	0.0	-100	65.4	221
Rajgarh	0.8	-83	11.0	-6	52.9	191
Ratlam	0.0	-100	0.0	-100	92.3	350
Sehore	0.0	-100	0.0	-100	61.1	195
Shajapur	6.0	0	0.0	-100	85.5	313
Sheopur Kalani	0.0	-100	0.0	-100	5.5	-52
Shivpuri	0.0	-100	0.0	-100	11.3	0
Ujjain	0.0	-100	0.0	-100	122.2	363
Vidisha	0.9	-79	0.0	-100	26.8	47
<b>Chhattisgarh</b>						
Bastar	0.1	-99	20.2	-22	150.8	287
Bijapur	0.0	-100	20.1	43	21.5	-56
Bilaspur	2.7	-61	16.9	3	103.5	228
Dantewara	2.0	-77	41.8	166	113.8	174
Dhamtari	10.0	56	9.2	-23	70.2	137
Durg	9.3	47	7.9	-55	36.8	8
Janjgir	34.4	549	8.2	-37	86.6	115
Jashpurnagar	0.0	-100	2.2	-94	67.2	40
Kanker	0.0	-100	13.6	1	73.6	118
Korba	61.1	1148	16.9	26	24.1	-42
Koriya	0.0	-100	2.5	-86	6.1	-74
Kawardha	0.0	-100	32.6	186	22.0	-26
Mahasumund	2.1	-78	12.5	-32	122.2	257
Narayanpur	0.0	-100	65.4	196	0.0	-100
Raigarh	0.0	-100	0.7	-97	90.4	122
Raipur	6.0	-6	24.3	31	50.2	49
Rajandgaon	4.4	-22	19.0	31	33.8	7
Surguja	0.0	-100	0.0	-100	20.6	-45
<b>East Uttar Pradesh</b>						
Allahabad	0.1	-97	0.0	-100	4.0	-73
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	37.0	126
Bahraich	0.0	-100	0.0	-100	8.0	-72
Ballia	0.0	-100	0.0	-100	8.7	-67
Balrampur	0.0	-100	0.0	-100	35.0	45
Banda	0.0	-100	0.0	-100	26.1	163
Barabanki	0.0	-100	0.0	-100	4.6	-82
Basti	0.0	-100	0.0	-100	10.3	-45

Chandauli	0.0	-100	0.0	-100	8.0	-57
Deoria	0.0	-100	0.0	-100	4.5	-82
Faizabad	0.0	-100	0.0	-100	6.9	-65
Farrukhabad	0.0	-100	0.4	-93	0.0	-100
Fatehpur	0.0	-100	0.0	-100	4.1	-62
Gazipur	0.0	-100	2.5	-80	31.3	21
Gonda	0.0	-100	0.0	-100	1.0	-96
Gorakhpur	0.0	-100	1.7	-94	20.9	-27
Hardoi	0.0	-100	0.6	-94	5.2	-56
Jaunpur	0.0	-100	0.0	-100	0.2	-98
Kannauj	0.0	-100	2.8	-38	1.8	-81
Kanpur City	0.2	-94	0.9	-83	0.2	-98
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	1.3	-90
Kheri	0.7	-92	0.0	-100	12.5	-47
Kushi nagar	0.0	-100	0.0	-100	18.0	-55
Lucknow	0.0	-100	0.0	-100	6.1	-47
Maharajganj	0.0	-100	0.0	-100	19.0	-53
Mau	0.0	-100	0.0	-100	2.1	-90
Mirzapur	0.0	-100	0.0	-100	6.3	-98
Pratapgarh	0.0	-100	0.0	-100	4.7	-62
RaiBareilly	0.0	-100	0.0	-100	11.3	-7
Sahuji Maharajnagar	4.0	38	0.0	-100	20.1	139
Sant Kabirnnagar	0.0	-100	0.0	-100	4.0	-77
Sant Ravidas Nagar	0.0	-100	0.0	-100	11.8	-37
Shrawasti	0.0	-100	28.1	38	32.5	13
Sidharthnagar	0.0	-100	5.9	-74	17.6	-30
Sitapur	0.8	-56	0.3	-98	3.5	-83
Sonbhadra	0.0	-100	0.7	-96	6.5	-69
Sultanpur	0.0	-100	0.0	-100	16.5	13
Unnao	0.0	-100	0.5	-95	1.3	-91
Varanasi	0.0	-100	0.0	-100	5.2	-69
<b>West Uttar Pradesh</b>						
Agra	0.0	-100	1.8	-66	6.1	-10
Aligarh	0.0	-100	0.4	-92	15.6	164
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	4.0	-62
Baghpat	6.5	141	9.3	166	9.7	38
Bareilly	0.0	-100	0.2	-99	1.1	-94
Bijnor	0.3	-97	0.0	-100	0.0	-100
Bulandsahar	0.1	-99	0.4	-94	11.4	47
Etah	0.3	-94	2.4	-35	4.0	-38
Etawah	0.0	-100	11.5	53	1.7	-82
Firozabad	0.0	-100	3.0	-30	9.2	61
GBNagar	0.0	-100	0.0	-100	6.0	100
Ghaziabad	1.0	-62	0.0	-100	6.5	-20
Hamirpur	0.0	-100	0.0	-100	0.5	-95
Jalaun	0.0	-100	0.5	-89	0.0	-100
Jhansi	1.7	-60	0.5	-93	6.0	-45
Jotiba Phule Nagar	0.0	-100	0.0	-100	1.0	-85
Kanshiramnagar	0.0	-100	6.0	82	9.0	20

Lalitpur	8.0	48	1.5	85	21.5	63
Mahamaya Nagar	2.5	-17	1.5	-60	7.0	11
Mahoba	0.0	-100	0.0	-100	8.2	58
Mainpuri	0.0	-100	1.7	-56	0.0	-100
Mathura	0.0	-100	0.0	-100	2.5	-57
Meerut	1.2	-76	0.2	-98	7.7	-14
Moradabad	0.0	-100	0.0	-100	1.4	-89
Muzaffarnagar	2.2	-37	0.7	-92	5.5	-55
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	0.3	-97	1.3	-92
<b>Uttarakhand</b>						
Almora	0.5	-97	0.0	-100	1.0	-96
Bageshwar	3.8	-80	0.0	-100	8.0	-71
Chamoli	1.3	-90	2.0	-87	16.8	-27
Champawat	2.5	-83	0.0	-100	2.5	-92
Dehradun	3.0	-83	0.0	-100	3.7	-88
Garhwal Pauri	0.0	-100	0.0	-100	1.1	-93
Garhwal Tehri	1.3	-93	0.0	-99	0.3	-99
Haridwar	0.0	-100	0.0	-100	1.1	-94
Nainital	1.4	-94	0.0	-100	7.0	-80
Pithorgarh	1.8	-93	0.0	-100	11.9	-83
Rudraprayag	0.6	-97	1.7	-94	11.9	-78
Udham Sing Nagar	0.0	-100	0.0	-100	0.4	-99
Uttarkashi	5.0	-79	3.8	-86	9.3	-59
<b>Bihar</b>						
Araria	37.3	2	0.0	-100	49.4	-16
Arwal	0.0	-100	6.9	-55	35.8	58
Aurangabad	3.7	-35	9.7	-28	15.3	-51
Banka	0.8	-95	0.0	-100	9.4	-70
Begusarai	0.0	-100	0.0	-100	6.3	-82
Bhabua	0.0	-100	5.9	-54	4.9	-82
Bhagalpur	5.8	-70	0.0	-100	3.0	-92
Bhojpur	0.0	-100	0.0	-100	4.4	-83
Buxar	0.0	-100	0.0	-100	8.5	-70
Darbhanga	0.0	-100	0.0	-100	37.9	34
East Champaran	0.0	-100	0.0	-100	25.1	-29
Gaya	0.2	-97	6.2	-52	7.6	-74
Gopalganj	0.0	-100	0.0	-100	58.0	81
Jahanabad	2.9	-42	1.2	-92	44.6	66
Jamui	0.0	-100	0.0	-100	17.8	-49
Katihar	41.2	36	0.0	-100	22.6	-59
Khagadia	0.0	-100	0.6	-98	0.1	-99
Kishanganj	49.7	-8	46.6	-5	66.9	-27
Lakhisarai	0.0	-100	0.0	-100	2.7	-92
Madhepura	2.0	-92	0.0	-100	26.0	-50
Madhubani	0.0	-100	0.0	-100	37.7	0
Monghyar	0.2	-98	18.4	-41	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	7.1	-75
Nalanda	0.0	-100	8.0	-41	22.5	-7

Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	27.3	314	0.0	-100	7.5	-76
Purnea	37.8	-2	0.0	-100	51.5	-19
Rohtas	0.0	-100	0.0	-100	23.3	67
Saharsha	0.0	-100	0.0	-100	10.0	-81
Samstipur	0.0	-100	0.0	-100	3.2	-91
Saran	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	12.1	-57
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	7.2	-81	17.4	-57
Siwan	0.0	-100	0.0	-100	12.6	-58
Supaul	8.6	-62	0.0	-100	45.5	1
Vaishali	0.0	-100	0.0	-100	2.7	-93
West Champaran	0.0	-100	0.0	-100	87.1	85
<b>Jharkhand</b>						
Bokaro	0.7	-95	19.8	-38	40.8	16
Chatra	1.0	-87	7.4	-54	14.2	-56
Deoghar	1.9	-83	0.0	-100	37.3	-7
Dhanbad	3.4	-77	6.5	-81	31.2	-31
Dumka	9.3	-47	2.0	-94	87.7	102
East Singbhum	20.4	6	21.1	-40	26.9	-43
Garhwa	0.0	-100	**	**	31.5	37
Giridih	0.0	-100	8.8	-68	36.3	-21
Godda	4.7	-67	0.0	-100	18.0	-49
Gumla	0.2	-99	35.9	16	14.5	-74
Hazaribagh	0.0	-100	14.9	-40	55.3	16
Jamtara	15.6	-31	0.0	-100	30.3	-32
Khunti	0.0	-100	2.5	-91	59.5	8
Koderna	0.0	-100	11.1	-51	9.1	-79
Latehar	4.0	-54	14.5	-24	42.4	21
Lohardagga	0.0	-100	33.9	73	18.1	-54
Pakur	20.9	-27	6.5	-85	52.0	0
Palamau	0.7	-85	1.6	-91	37.4	19
Ramgarh	0.0	-100	0.0	-100	79.4	62
Ranchi	2.5	-84	7.4	-73	55.2	17
Sahebganj	13.4	-47	4.6	-88	46.6	-17
Saraikele	3.8	-73	12.5	-64	21.2	-64
Simdega	4.4	-63	1.7	-93	68.8	31
West Singbhum	34.4	108	5.1	-86	105.2	129
<b>East Rajasthan</b>						
Ajmer	0.5	-90	4.0	20	15.4	90
Alwar	1.4	-68	1.8	-67	2.4	-67
Banswara	0.3	-94	0.0	-100	19.4	-8
Baran	0.0	-100	0.0	-100	27.6	97
Bharatpur	0.0	-100	0.5	-87	18.2	189
Bhilwara	2.7	-52	2.2	-60	24.3	111
Bundi	0.3	-92	4.8	-21	44.7	302
Chittorgarh	5.9	-8	5.0	-18	29.5	138
Dausa	0.0	-100	0.0	-100	5.6	-21
Dholpur	2.3	-10	0.7	-89	7.0	-5
Dungarpur	1.3	-69	0.6	-91	17.3	4

Jaipur	0.0	-100	5.7	-9	6.5	-26
Jhalawar	0.4	-93	0.3	-96	54.1	251
Jhunjhunu	7.2	30	5.9	-29	8.9	-31
Karauli	0.0	-100	0.0	-100	5.8	-27
Kota	0.0	-100	0.8	-89	33.5	175
Pratapgarh	1.0	-83	0.0	-100	27.8	31
Rajsamand	9.3	43	2.1	-70	28.3	157
Sawai Madhopur	0.0	-100	0.0	-100	28.3	185
Sikar	2.9	-51	6.3	-6	12.9	35
Sirohi	17.6	176	0.0	-100	14.3	24
Tonk	0.1	-97	3.0	-37	11.8	20
Udaipur	11.0	115	5.1	-12	25.4	70
<b>West Rajasthan</b>						
Barmer	8.4	64	6.0	199	1.2	-74
Bikaner	22.1	401	4.3	24	16.4	96
Churu	10.8	163	1.0	-84	13.3	68
Hanumangarh	3.9	38	3.6	-15	25.4	209
Jaisalmer	13.5	609	3.7	148	1.7	-64
Jalore	10.1	135	0.0	-100	10.6	74
Jodhpur	5.2	-5	0.5	-80	31.1	446
Nagaur	5.7	14	2.2	-37	21.8	203
Pali	8.8	21	0.9	-79	29.3	343
Sri Ganganagar	4.0	61	8.8	152	8.3	21
<b>Gujarat Region</b>						
Ahmedabad	0.2	-90	12.2	7	24.6	56
Anand	0.0	-100	0.0	-100	22.5	22
Banaskantha	0.9	-70	0.0	-100	2.6	-75
Baroda	0.0	-100	1.4	-92	46.3	68
Broach	0.0	-100	0.5	-98	53.0	81
DNH	0.0	-100	59.4	-1	149.3	127
Dahod	0.0	-100	0.0	-100	35.3	52
Daman	0.0	-100	41.2	-31	37.5	-43
Dangs	0.0	-100	60.5	108	74.5	3
Gandhinagar	0.3	-88	4.0	-7	0.2	-99
Kheda	0.0	-100	0.9	-93	8.3	-60
Mehsana	3.4	70	0.0	-100	4.9	-64
Narmada	0.0	-100	2.1	-90	68.2	83
Navsari	0.0	-100	22.9	-26	120.4	101
Panchmahal	0.0	-100	0.0	-100	19.7	2
Patan	0.0	-100	0.1	-95	5.3	-52
Sabarkantha	1.7	-73	0.0	-100	13.6	-19
Surat	0.0	-100	5.3	-79	84.1	124
Tapi	0.0	-100	6.2	-78	42.0	-26
Valsad	0.0	-100	89.9	206	126.5	93
<b>S K &amp; Diu region</b>						
Amreli	**	**	7.1	-52	70.2	286
Bhavnagar	0.0	-100	14.3	-25	25.0	7
Diu	0.0	-100	2.4	-75	9.5	-34
Jamnagar	0.0	-100	20.4	115	32.2	229
Junagarh	0.0	-100	7.7	-56	15.0	-46
Kutch	0.0	-100	14.6	218	1.9	-67



Porbandar	0.0	-100	5.2	-53	26.7	32
Rajkot	0.0	-100	6.9	-37	57.1	346
Surendranagar	0.2	-94	9.5	0	13.7	-12
<b>Maharashtra &amp; Goa</b>						
<b>Konkan &amp; Goa</b>						
Mumbai City	0.0	-100	14.2	-78	249.8	88
Mumbai Suburban	0.0	-100	4.9	-92	230.5	73
North Goa	**	**	80.8	-47	229.6	-9
Raigad	0.0	-100	15.1	-79	150.1	7
Ratnagiri	1.9	-95	43.3	-59	166.4	-14
Sindhudurg	10.0	-81	86.4	-41	197.8	-13
South Goa	**	**	89.9	-38	223.3	-10
Thane	0.0	-100	10.2	-80	129.5	72
<b>Madhya Maharashtra</b>						
Ahmednagar	7.9	-14	27.6	4	30.0	14
Dhule	0.0	-100	12.9	-34	76.1	186
Jalgaon	0.0	-100	2.7	-86	51.8	92
Kolhapur	25.6	17	43.8	-9	28.4	-58
Nandurbar	0.0	-100	7.6	-67	56.2	71
Nasik	0.0	-100	26.1	-8	34.6	0
Pune	6.9	-33	43.8	33	17.3	-44
Sangli	35.7	111	45.8	49	5.2	-80
Satara	16.8	15	40.5	22	13.4	-53
Solapur	13.0	2	25.1	-11	19.8	-30
<b>Marathwada</b>						
Aurangabad	0.0	-100	23.5	-17	110.5	266
Beed	1.0	-91	21.0	-29	35.3	1
Hingoli	1.7	-81	14.4	-25	112.9	168
Jalna	0.7	-93	22.0	-11	74.4	111
Latur	1.8	-85	23.9	-3	45.4	43
Nanded	2.9	-66	14.3	-35	97.6	171
Usmanabad	3.1	-81	18.7	-40	38.8	11
Parbhani	0.5	-95	13.4	-47	57.9	59
<b>Vidarbha</b>						
Akola	0.0	-100	0.2	-99	89.7	158
Amraoti	0.1	-98	6.2	-59	84.7	179
Bhandara	4.7	-6	0.4	-97	63.1	110
Buldhana	0.0	-100	17.5	0	55.5	67
Chandrapur	31.4	423	6.2	-50	92.2	181
Gadchiroli	1.3	-84	77.1	348	53.0	33
Gondia	8.8	193	10.3	-31	95.6	213
Nagpur	5.4	-22	14.0	-18	63.0	96
Wardha	2.0	-79	1.9	-88	61.6	61
Washim	0.0	-100	10.4	-48	104.8	199
Yeotmal	7.2	-9	5.8	-69	58.7	56
<b>Odisha</b>						
Angul	4.8	-76	30.9	-14	65.2	36
Balasore	11.2	-68	2.2	-96	101.4	85
Bargarh	9.8	0	15.0	-20	62.5	33
Bhadrak	7.1	-72	1.4	-97	60.8	15
Bolangir	22.8	79	11.9	-39	44.3	0






Boudh	1.5	-93	23.0	-8	125.0	160
Cuttack	8.8	-57	11.0	-73	75.4	59
Deogarh	9.8	-32	6.1	-76	51.9	12
Dhenkanal	2.6	-87	13.6	-66	57.8	33
Gajapati	13.2	-33	30.8	-11	54.8	-32
Ganjam	0.9	-94	4.1	-85	21.5	-55
Jagatsingpur	0.0	-100	4.6	-89	28.8	-54
Jajpur	0.0	-100	0.0	-99	45.4	-27
Jharsuguda	25.4	94	16.4	-44	40.2	-14
Kalahandi	40.3	118	5.5	-76	53.4	16
Kandhamal	10.5	-50	30.9	24	44.1	-8
Kendrapara	0.0	-100	1.7	-96	2.7	-94
Keonjhar	36.2	36	11.2	-75	57.2	0
Khurda	5.1	-68	1.2	-95	26.4	-45
Koraput	24.2	22	31.1	10	57.0	21
Malkangiri	0.0	-100	47.0	139	105.6	120
Mayurbhanj	25.5	9	7.6	-87	86.1	47
Nawapara	7.5	-30	79.1	354	31.6	-22
Nawarangpur	34.0	11	34.3	-5	123.9	108
Nayagarh	0.0	-100	24.7	-4	30.2	-48
Puri	0.3	-99	12.9	-45	33.0	-16
Rayagada	13.2	-30	29.1	30	75.0	31
Sambalpur	26.9	87	13.8	-46	45.4	-2
Sonepur	1.3	-88	4.5	-84	98.4	140
Sundargarh	9.9	-37	16.9	-43	57.5	21
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	21.5	-76	13.4	-79	134.9	109
North & Middle Andaman	64.5	-45	25.7	-82	90.6	-16
South Andaman	73.9	-39	34.6	-72	82.1	-21
<b>GWB</b>						
Bankura	7.7	-70	6.9	-83	30.7	-24
Birbhum	25.1	5	17.8	-51	63.9	41
Burdwan	4.3	-81	7.5	-79	73.7	69
East Midnapore	2.1	-95	1.7	-97	111.4	113
Hooghly	0.0	-100	8.3	-83	94.5	104
Howrah	0.0	-100	27.0	-43	38.3	-23
Kolkata	0.0	-100	0.5	-99	50.3	-22
Murshidabad	35.0	31	17.1	-70	37.1	-24
Nadia	0.0	-100	9.7	-77	77.8	54
24 Pargana (N)	0.0	-100	4.3	-92	91.3	52
Purulia	2.1	-89	6.9	-84	63.9	47
24 Pargana (S)	0.0	-100	5.5	-92	78.4	5
West Midnapore	0.3	-99	3.1	-93	42.7	-5
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	126.4	5	243.3	99	73.1	-57
Darjeeling	66.8	-7	82.2	-14	144.7	9
East Sikkim	167.6	86	166.4	152	79.5	-38
Jalpaiguri	153.3	38	370.2	207	95.1	-44
Malda	23.5	-26	0.0	-100	75.6	50

North Dinajpur	17.5	-65	16.5	-73	76.5	19
North Sikkim	354.8	225	106.6	-2	205.1	62
South Dinajpur	30.3	-36	0.0	-100	31.4	-63
South Sikkim	37.8	-58	60.5	-8	67.8	-47
West Sikkim	65.0	-41	50.0	-54	177.0	40
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshina Kannada	20.6	-77	142.4	-20	161.5	-31
Udupi	37.0	-61	122.8	-42	165.5	-36
Uttara Kannada	26.2	-49	64.2	-50	182.1	-4
<b>N I Karnataka</b>						
Bagalkote	37.5	81	21.4	1	10.8	-47
Belagavi	46.7	122	31.5	19	13.6	-43
Bidar	7.5	-46	12.6	-55	44.7	35
Dharwad	55.8	158	43.1	57	13.4	-45
Gadag	50.3	144	17.2	-35	5.1	-73
Haveri	39.9	128	16.5	-39	15.1	-33
Kalaburgi	5.3	-57	13.1	-46	29.9	-2
Koppal	32.1	120	13.4	-35	14.8	-19
Raichur	18.9	67	5.3	-68	9.1	-58
Vijayapura	19.5	16	24.8	-6	11.4	-54
Yadgir	6.2	-57	30.2	38	17.4	-44
<b>S I Karnataka</b>						
Ballari	42.7	133	14.5	-27	11.9	-34
Bangalore Rural	79.7	227	29.4	24	25.8	44
Bangalore Urban	40.7	42	12.3	-50	45.4	154
Chamarajanagar	49.4	98	23.0	51	8.2	-44
Chikaballapur	56.1	215	17.0	-8	12.1	-35
Chikkamagaluru	42.4	41	32.7	-52	27.8	-65
Chitradurga	74.1	326	22.7	51	19.7	52
Davangere	55.1	191	9.4	-53	17.1	2
Hassan	59.9	197	15.4	-35	14.1	-47
Kodagu	51.9	26	58.2	-38	50.1	-57
Kolar	46.4	120	15.6	-16	21.3	12
Mandya	59.0	207	17.6	14	4.6	-59
Mysuru	51.7	136	46.0	126	15.0	-12
Ramanagara	65.2	112	30.1	31	17.4	2
Shivamogga	26.8	14	38.3	-38	44.0	-38
Tumakuru	63.1	173	20.2	10	9.7	-39
<b>Kerala</b>						
Alappuzha	20.0	-80	109.3	-36	91.3	-33
Kannur	12.9	-86	109.4	-37	155.3	-20
Ernakulam	71.2	-38	46.8	-72	157.8	-6
Idukki	6.7	-91	53.5	-63	66.4	-53
Kasaragod	21.7	-79	145.3	-33	140.9	-42
Kollam	13.5	-83	91.9	-31	37.1	-62
Kottayam	108.6	-5	80.4	-51	99.0	-33
Kozhikode	4.4	-96	62.5	-70	112.8	-45
Malappuram	16.5	-79	94.9	-32	92.3	-40

Palakkad	32.9	-28	34.2	-63	50.9	-53
Pathanamthitta	0.7	-99	80.9	-47	61.6	-52
Thiruvananthapuram	15.5	-78	68.6	-39	47.1	-37
Thrissur	19.3	-80	71.6	-57	149.4	-8
Wynad	19.5	-64	64.7	-51	59.3	-58
<b>Tamil Nadu</b>						
Ariyalur	32.3	115	16.6	36	17.9	5
Chennai	2.6	-46	1.9	-83	13.1	-31
Coimbatore	15.8	37	10.0	47	8.2	20
Cuddalore	37.6	276	22.0	90	28.4	66
Dharmapuri	40.4	61	7.9	-54	27.4	154
Dindigul	18.7	23	35.2	206	5.5	-39
Erode	62.9	34	20.0	130	3.2	-51
Kanchipuram	4.4	-57	5.8	-58	15.6	-20
Kanyakumari	16.6	-60	29.9	-51	28.4	-25
Karikal	23.8	49	0.5	-96	53.3	194
Karur	21.0	119	31.1	370	0.0	-100
Krishnagiri	75.0	223	8.9	-47	23.2	67
Madurai	21.3	72	33.6	195	1.0	-92
Nagapattinam	6.7	0	5.3	-44	43.0	250
Namakkal	24.1	33	16.6	47	13.6	5
Nilgiris	52.6	116	21.8	-32	19.9	-41
Perambalur	31.0	187	1.0	-90	3.7	-67
Puducherry	25.2	334	0.0	-100	0.3	-98
Pudukottai	19.5	68	17.7	84	18.8	41
Ramanathapuram	6.5	24	2.2	-22	0.8	-87
Salem	34.1	59	24.1	48	23.2	41
Sivaganga	23.5	77	20.8	173	11.4	-8
Thanjavur	22.0	109	10.8	3	11.4	2
Theni	4.9	-44	11.8	118	6.4	60
Tirunelveli	8.7	30	2.5	-76	0.4	-95
Tirupur	38.1	250	18.3	220	0.3	-94
Tiruvallur	7.0	-30	19.6	58	13.1	-41
Tiruvannamalai	37.7	135	3.4	-78	41.8	141
Tiruvarur	0.9	-86	6.3	-22	33.3	197
Toothukudi	0.2	-96	14.3	579	0.1	-95
Trichy	43.0	252	14.3	51	4.6	-51
Vellore	63.4	214	13.7	-16	47.1	172
Villupuram	23.8	165	2.5	-78	3.1	-77
Virudhunagar	1.1	-90	13.5	174	0.0	-100
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	6.5	-54	69.4	235	34.4	0
Guntur	8.7	-25	31.9	68	60.3	152
Krishna	16.0	29	24.7	39	80.0	161
Nellore	19.0	163	12.5	9	19.0	32
Prakasam	4.9	-51	22.7	50	11.2	-37
Sirkakulam	2.5	-79	25.8	11	26.9	-32
Visakhapatnam	21.2	19	74.4	210	53.7	48

Vizianagram	23.3	15	89.4	245	47.5	34
West Godavari	17.3	53	43.9	113	57.5	53
<b>Rayalaseema</b>						
Anantapur	5.0	-55	20.8	20	9.1	-36
Chittoor	2.8	-71	20.6	18	19.0	-9
Cuddapah	2.0	-81	18.3	8	11.7	-42
Kurnool	20.4	95	20.6	12	4.0	-83
<b>Telangana</b>						
Adilabad	65.4	276	11.6	-46	87.4	132
Hyderabad	60.2	310	55.0	218	50.0	89
Karimnagar	39.9	173	21.7	-3	55.9	41
Khammam	5.1	-64	26.0	33	114.3	193
Mehabubnagar	0.0	-100	19.8	-1	19.6	-15
Medak	1.0	-1	12.3	-44	58.9	93
Nalgonda	0.0	-100	30.2	52	74.8	173
Nizamabad	22.9	170	10.4	-60	83.8	121
Rangareddy	2.5	-78	22.8	21	54.5	95
Warangal	5.5	-32	34.2	64	114.2	206

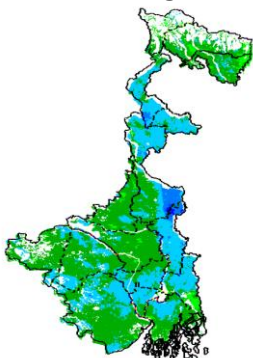
### Legends

	(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

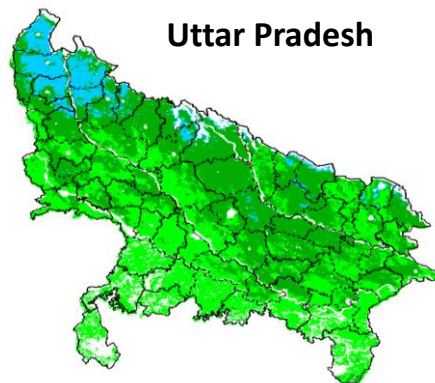
#### INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON 17<sup>th</sup> JUNE 2015 FOR DIFFERENT STATES

##### West Bengal



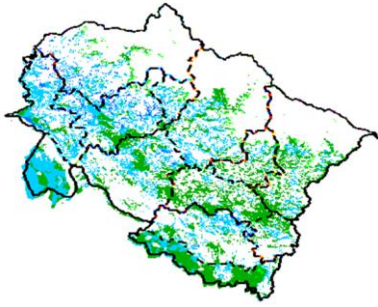
Agricultural vigour is very good over the parts of West Bengal, whereas eastern parts of West Bengal show dominantly higher values of NDVI varying from 0.4-0.6. NDVI values are normal over remaining part of state.

##### Uttar Pradesh



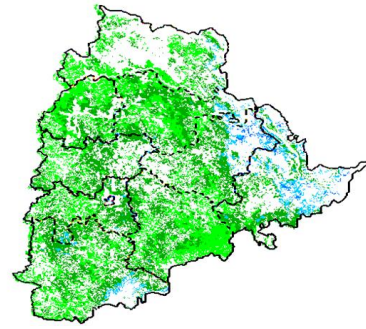
Agricultural vigour is normal over the entire state of Uttar Pradesh where NDVI value varies from 0.2 -0.4. Except for north western part were slightly higher values (0.4-0.5) of NDVI are observed.

### Uttarakhand



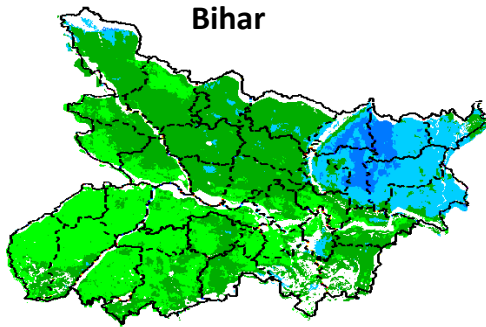
Agriculture vigour is very good over central parts of Uttarakhand with NDVI value varying between 0.4 - 0.6, whereas isolated patches with normal value of NDVI are observed over remaining parts of the state.

### Telangana



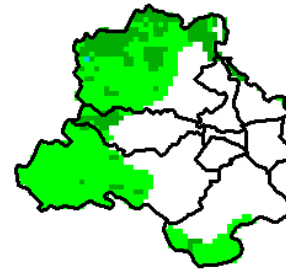
NDVI values vary from 0.2 - 0.4 over Telangana. Higher (> 0.4) values are seen in some patches over eastern parts of Telangana.

### Bihar



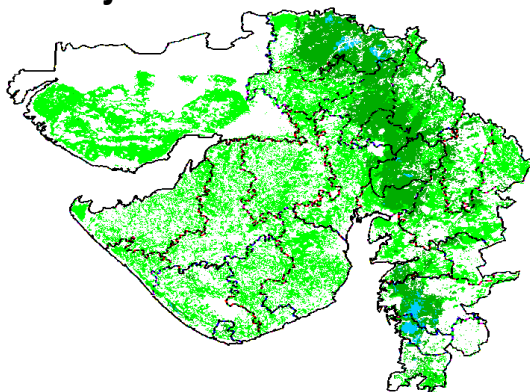
Eastern part of Bihar shows comparatively a high value (0.4-0.5) of NDVI, whereas normal value of NDVI is observed over the remaining parts of the state.

### Delhi



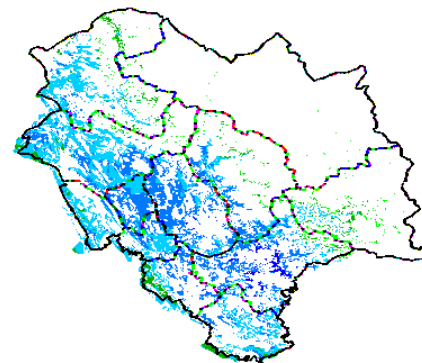
Agriculture vigour is normal all over Delhi where NDVI value lies between 0.2-0.3.

### Gujarat



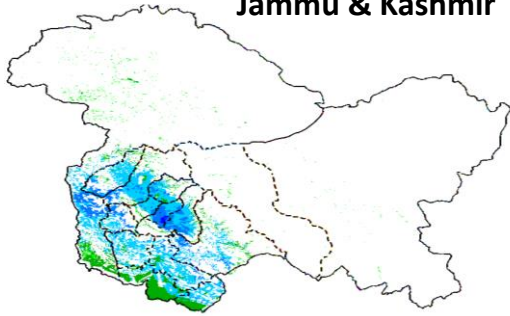
Agriculture vigour is normal (NDVI 0.2-0.4) over entire Gujarat, except few patches in south Gujarat which show higher NDVI values.

### Himachal Pradesh



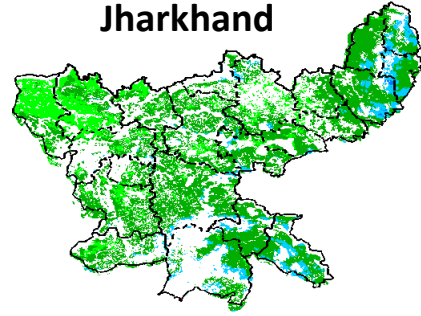
Agriculture vigour is very good over south and south western parts of Himachal Pradesh with NDVI value varying between 0.5-0.6, whereas isolated patches of normal NDVI are observed over remaining parts of the state.

### Jammu & Kashmir



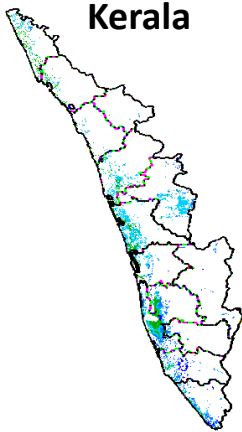
Agriculture vigour is normal all over Jammu and Kashmir. NDVI value varies in between 0.4-0.6 in south western parts.

### Jharkhand



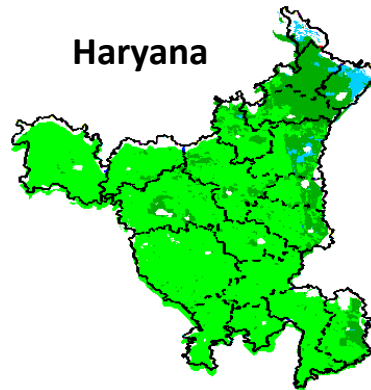
Agriculture vigour is normal (0.2-0.3) over entire state of Jharkhand.

### Kerala



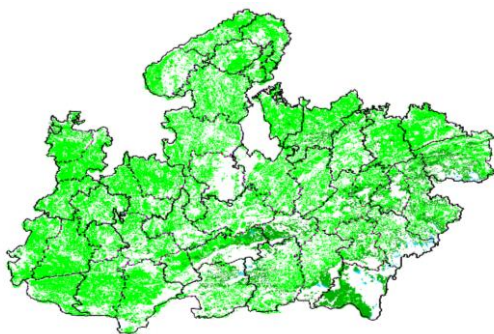
Central and coastal regions of Kerala shows increased NDVI values varying from 0.4 to 0.5, whereas rest of agricultural vigour of Kerala shows good values of NDVI.

### Haryana



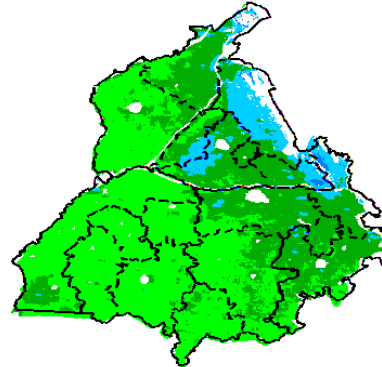
Agriculture vigour is normal over the state of Haryana. NDVI values varies between 0.2– 0.3 over the state. Except in few patches in northern region with NDVI values between 0.4-0.5.

### Madhya Pradesh



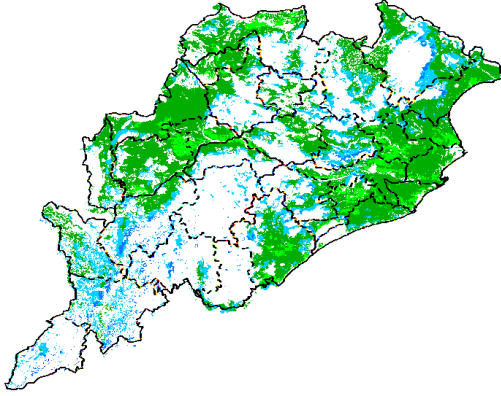
Agriculture vigour is normal (0.2-0.3) over entire state Madhya Pradesh.

### Punjab



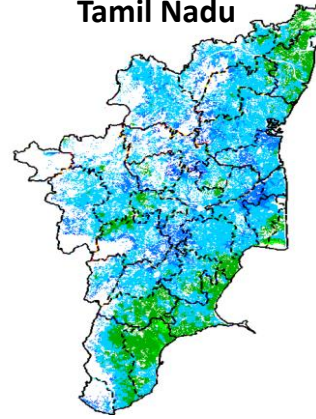
Agricultural vigour is normal over entire state of Punjab except North Eastern part, showing comparatively high NDVI value ranges from 0.4-0.6.

### Odisha



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

### Tamil Nadu



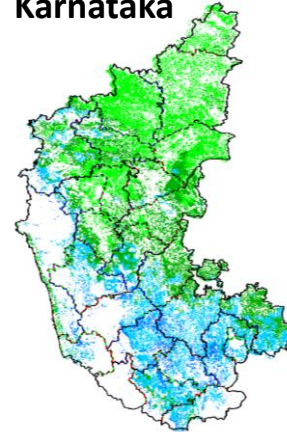
Agricultural vigour is good over Tamil Nadu with NDVI values varying from 0.4 - 0.6. Except North Eastern and South Eastern part, showing normal NDVI value ranges from 0.3-0.4.

### Chhattisgarh



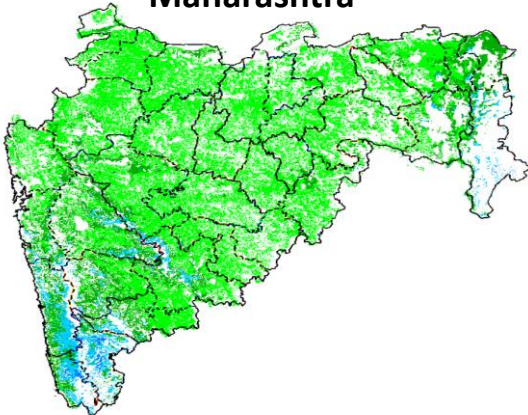
Agriculture vigour is Normal in central part of Chhattisgarh where NDVI value lies in between 0.2-0.3. South of state shows increased NDVI values in some pockets.

### Karnataka



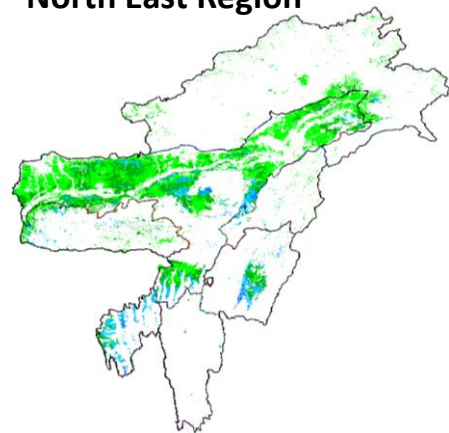
Agricultural vigour is good over south part of Karnataka between 0.4-0.6. Rest of the parts shows normal NDVI values from 0.2-0.3.

### Maharashtra



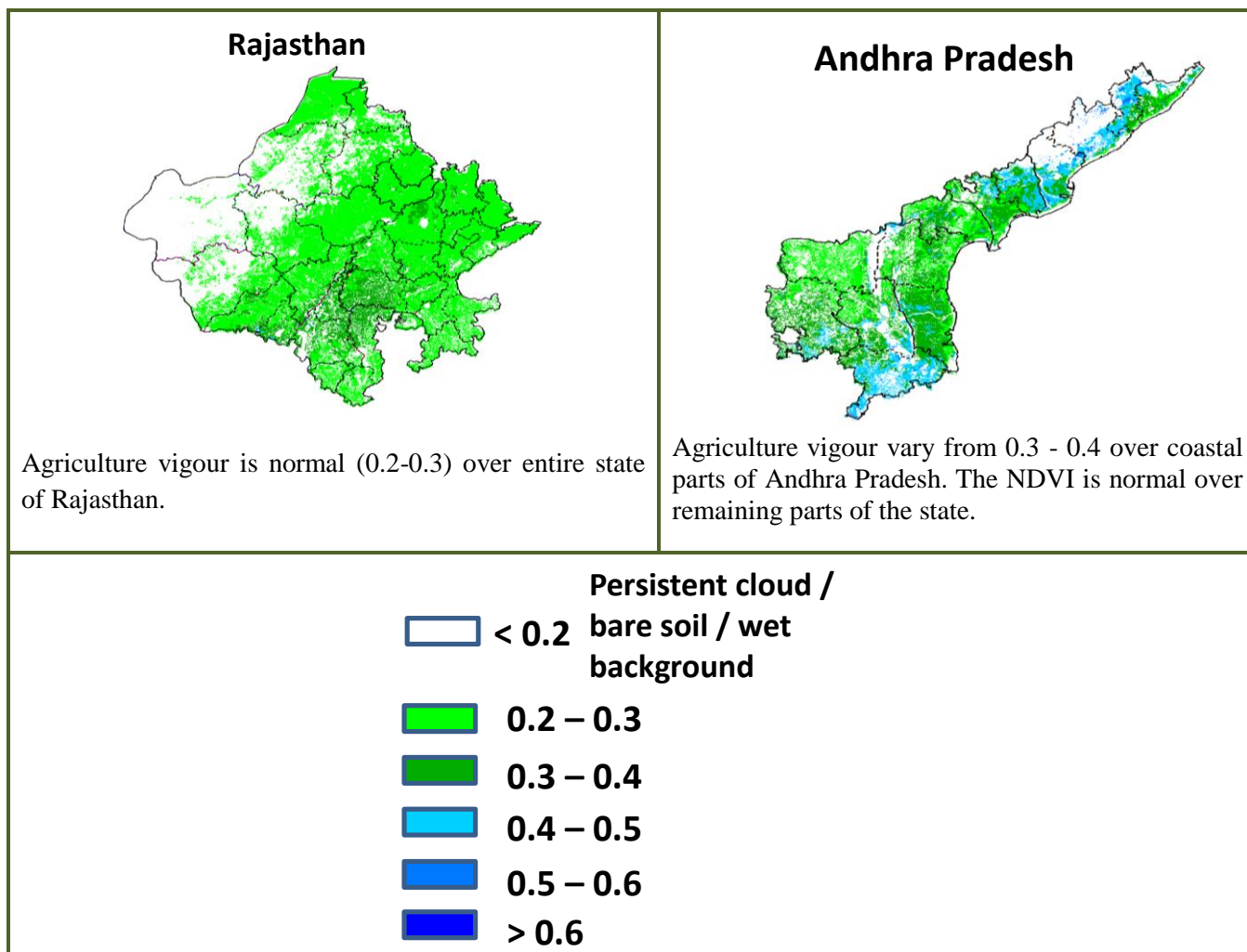
Agricultural vigour is good over south west part with NDVI values from 0.4 - 0.5, whereas NDVI is moderate over parts of Marathwada, Vidarbha and Madhya Maharashtra region.

### North East Region



Agriculture vigour is good in valleys of North-East states which cover parts of Assam. NDVI values vary from 0.2-0.3. Normal NDVI conditions are observed all over NE region.





### 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.

**Rice:** Jaya, Rasi, BPT-5204

#### Tamil Nadu

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

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

#### Andhra Pradesh

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

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

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

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

#### Assam

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

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

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

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

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

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

**Mesta :** HC 583 and AMC 108.

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

### **Manipur**

**Soybean:** JS-335.

**Groundnut:** ICGS-76.

### **Meghalaya**

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

Local varieties: Mendri, Manipuri.

**Groundnut:** ICGS 76, JL 24.

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

### **Nagaland**

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

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

### **Tripura**

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

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

### **West Bengal**

**Dry Seeded rice:** Sabita Foundation, Swarna sub-1 certified, IR-64, Hira T.L.

### **Odisha**

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

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

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

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

**Turmeric:** Roma, Surama, Rang, Rashmi

**Jute:**JRO-524(Naveen).

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

### **Bihar**

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

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

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

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

**Ginger:** Improved varieties - Maran ,Nadia

### **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.

**Upland Rice:** Birsa Dhan 108, Birsa Vikash Dhan109.110,111 & Vandana

### **Jammu & Kashmir**

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

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

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

### **Uttarakhand**

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

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

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

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

**Rice:**long duration varieties like Pusa-44, Jaya, NDR-359, Sarju-52, PR-113, PR-114, Pant Dhan-18 or Pant Dhan-19.late varieties VL-Dhan-154, Vivek Dhan-62, Vivek Dhan-65, VL Dhan-81, Vivek Dhan-82 or VL-Dhan-85.

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

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

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

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

### **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

**Rice:** sarayu-52, narendra-359, pant dhan-4, indrasan, NDR-97, pant dhan-12, narendra-80, ratna or pusa-35, mahsuri, swarna mahsuri, jal lahri, type-9, type-100, narendra-359, malviy dhan-36, narendra dhan-2026, narendra dhan-2064, narendra dhan-3112, sarju-52, pant dhan-4, Swarna, Pant-10, T-3, Poosa Basmati and Haryana Basmati.

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

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

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

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

### West Uttar Pradesh

**Ladies finger:**VRO-6, VRO-5

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

**Pigeon pea:**T-21, UPAS 120

**Cotton:** H777, Dhanalakshami, HD107

**For fodder Jowar:** JS 120, Lobia 88

### Punjab

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

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

### Delhi

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

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

### Rajasthan

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

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

**Kharif Onion** N-53 , Agrifound Dark Red

**Okra:** Ark abhay, Parbhani kranti, Pusa makhmali

**Guar:** RGC-936,986,1002,1017,HG -365,563,Hg2-20

**Cotton:** Hybrid varieties are- Hybrid-4, Hybrid-8 and Bikaneri Narma.

**Maize:** Hybrid varieties are-Mahi Dhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9.

### Gujarat

**Green gram:** GM-3, GM-4, K-851.

**Black gram:** T-9, GU-1.

**Cowpea:** Gujarat cowpea-1, 2, 4, Pusa Falguni.

**Pigeon Pea:** Vaishali, GT-100, GTH-1, BHSR-711.

**Rainfed cotton:** North Saurashtra Zone - GCH-6, GCH-8, Agritop-444, Solar-76, Beejdhan-2, Ajit-155, Mallika, RCH-II, Vikram-5; Middle Gujarat Zone - ANKUR-651.

**Kharif groundnut rainfed:** Semi spreading, GG-20, Bunch: GG-2, GG-5, TAG-24, TG-37 A, TPG-41, TLG-45, GG-7 and TG-26, GG-11.

**Sesame:** GT-1, GT-2 or GT-3.

**Soybean:** Gujarat Soybean-1,2,3.

**Pearl millet:** GHB-558,577,538,719,732,744.

**Ginger:** Athira.

**Irrigated Hybrid cotton:** G. cot. 6, 8, 10.

**Irrigated B.T. Cotton :** Gujarat Talod Hirsutam Hybrid -49 (Bolegaurd-2) or Govt. approved varieties.

**Groundnut (irrigated):** GG-20, GG-11,GG-7.

### Madhya Pradesh:

**Soybean:** JS 95-60 (early), JS 93 -05 (Medium), JS 335 (Late).

**Redgram:** TJJT 501, ICPL 87 (early) and JKM 189 (Medium).

**Groundnut:** TG 22, TG 26, JGN 3.

**Rice:** JR 345, JR-201, Poornima (short duration).

IR-64, IR-54, Madhuri, Kanti, Mahamaya, Pusa basmatai (medium duration).

**Black gram:** JU 86, JU 3, T 9.

**Maize:** JVM 421, JM 12, JM 216.

**Chhattisgarh:**

**Rice:** Purnima, Danteswari, Shabagi, MTU 1010, MTU 1001, Suwarna.

**Brinjal:** Punjab Shadabahr, KS 331, PH 5, PH 6, KS 224, ARBH 543.

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

**Soybean:** J.S. 335, Indira Soya-9, J.S. 80-21, J.S. 93-05.

**Groundnut:** SB -11 (J 11), ICGS-37, ICGS-44, T.A.G- 24, T.A.G-28.

**Til:** T.K.G-21, T.K.G-22, T.K.G-55, T.K.G-8.