



# *National Agromet Advisory Service Bulletin*



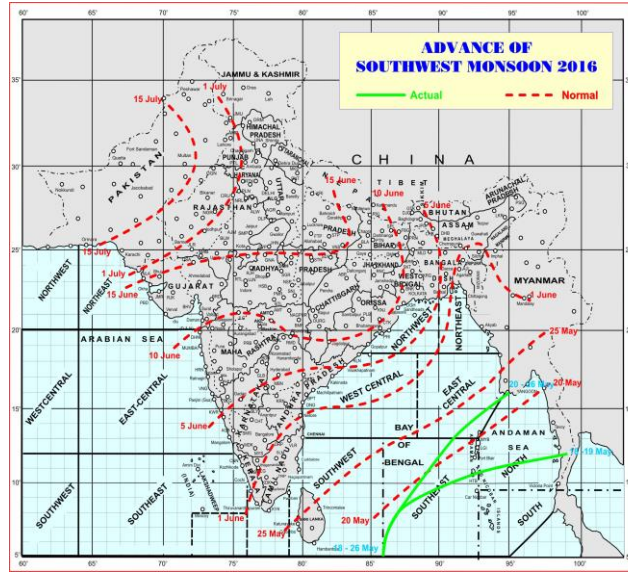
*Friday 27<sup>th</sup> May 2016*  
*(For the period 27<sup>th</sup> to 31<sup>st</sup> May 2016)*



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

**Weblink For**  
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>  
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

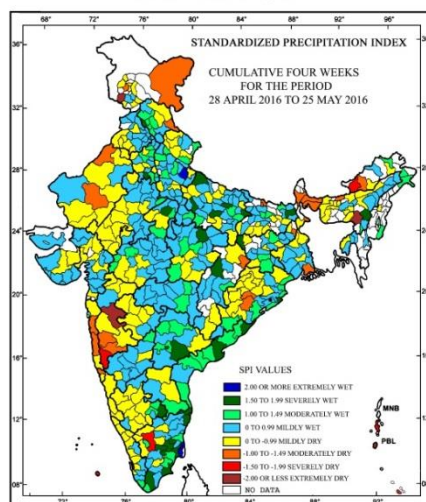
## Monsoon Watch



- The Northern Limit of Monsoon (NLM) continues to pass through Lat.  $5.0^{\circ}\text{N}$  / Long.  $86.0^{\circ}\text{E}$ , Lat.  $8.0^{\circ}\text{N}$  / Long.  $87.0^{\circ}\text{E}$ , Lat.  $13.0^{\circ}\text{N}$  / Long.  $91.0^{\circ}\text{E}$  and Lat.  $16.0^{\circ}\text{N}$  / Long.  $95.0^{\circ}\text{E}$ .

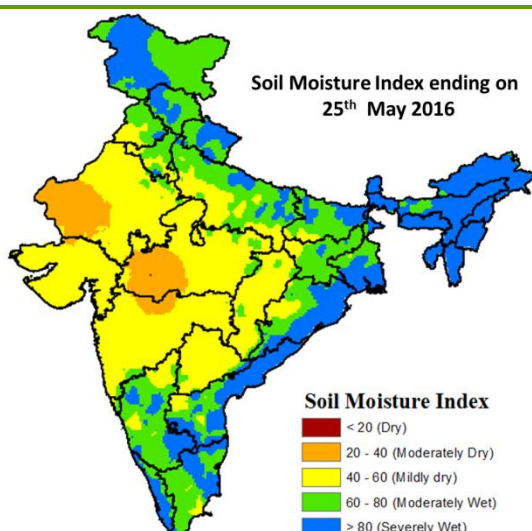
## Standardised Precipitation Index Four Weekly for the Period 28<sup>th</sup> April to 25<sup>th</sup> May 2016

MINISTRY OF EARTH SCIENCES  
INDIA METEOROLOGICAL DEPARTMENT  
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in few districts of TamilNadu and Puducherry; N. C. Hills district of Assam; Jagatsinghpur district of Odisha; Garhwa district of Jharkhand; Purnea district of Bihar; Ambedkar Nagar, Ballia, Kanpur City, Kheri, Pratapgarh, Bareilly districts of Uttar Pradesh; Una district of Himachal Pradesh; Gwalior, Satna districts of Madhya Pradesh; Bilaspur district of Chhattisgarh; East Godavari, Srikakulam districts of Andhra Pradesh; Hyderabad, Nalgonda district of Telangana; Kolar district of Karnataka.
- Extremely/Severely dry conditions experienced in most districts of Andaman & Nicobar Islands; West Kameng district of Arunachal Pradesh; Jaintia Hills district of Meghalaya; Rajouri districts of Jammu & Kashmir; Ahmednagar, Kolhapur districts of Maharashtra; Erode district of TamilNadu; Lakshadweep district of Lakshadweep.
- Moderately dry conditions experienced in few districts of West Bengal; Delhi; Konkan & Goa; East Kameng district of Arunachal Pradesh; Baksa district of Assam; Boudhgarh, Kandhamal district of Odisha; Pakur district of Jharkhand; Sitamarhi, Sheohar district of Bihar; Kinnaur district of Himachal Pradesh; Ladakh (Leh), Badgam district of Jammu & Kashmir; Sri Ganganagar, Jodhpur districts of Rajasthan; Sangli, Satara districts of Maharashtra; Jashpur district of Chhattisgarh.
- Rest of the country experienced moderately wet/ mildly dry/mildly wet conditions.

## Soil Moisture Index ending on 25<sup>th</sup> May 2016

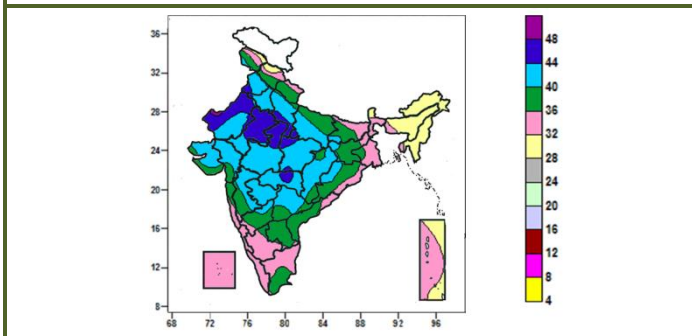


- Soil Moisture Index indicates severely wet condition in North-East Region, Jammu & Kashmir, West Bengal, coastal districts of Odisha, Andhra Pradesh, few districts of Karnataka, Tamil Nadu and Uttarakhand. Moderate wet condition in Jharkhand, Uttar Pradesh, Bihar Karnataka, Punjab and Haryana. Rest of the country shows Mild dry condition of soil moisture.



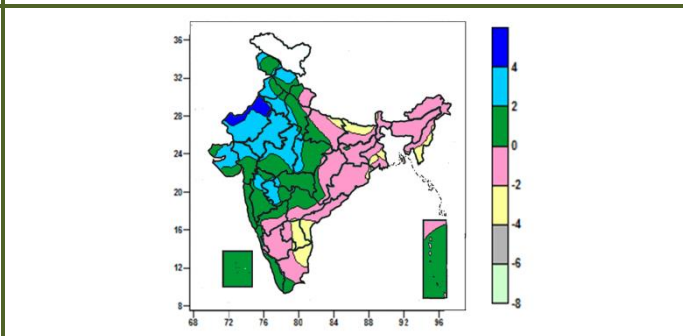
**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 25.05.2016**

**Actual Mean Maximum Temperature (°C) in India for the week ending 25.05.2016**



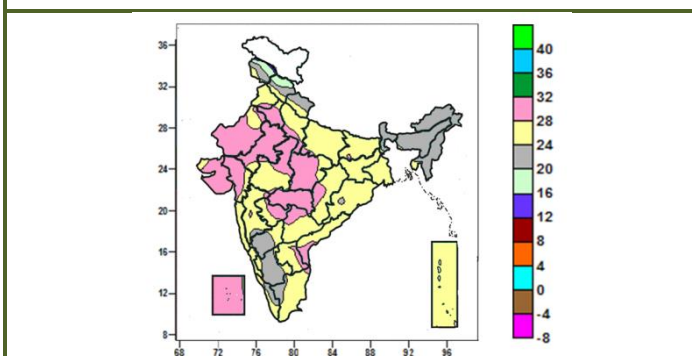
- Mean maximum temperature was between 48 to 52°C over isolated pocket of West Rajasthan.
- Mean maximum temperature was between 44 to 48°C over many parts of Rajasthan, some parts of Uttar Pradesh, Madhya Pradesh, Vidarbha and isolated pockets of Punjab and Haryana.
- Mean maximum temperature was between 40 to 44°C over Marathwada, many parts of Punjab, Haryana & Delhi, Uttar Pradesh, Gujarat, Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Vidarbha, Telangana, some parts of Rajasthan, Odisha, North Interior Karnataka and isolated pocket of Jammu & Kashmir, Bihar and Jharkhand.
- Mean maximum temperature was between 36 to 40°C over many parts of Uttarakhand, Bihar, Jharkhand, Odisha, Coastal Andhra Pradesh, North Interior Karnataka, Rayalaseema, some parts of Jammu & Kashmir, Himachal Pradesh, East Uttar Pradesh, Bihar, Gangetic West Bengal, Chhattisgarh, Telangana, Gujarat, Konkan, Madhya Maharashtra, Tamil Nadu and isolated pockets of West Uttar Pradesh, South Interior Karnataka.
- Mean maximum temperature was between 28 to 36°C over rest of the country.

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 25.05.2016**



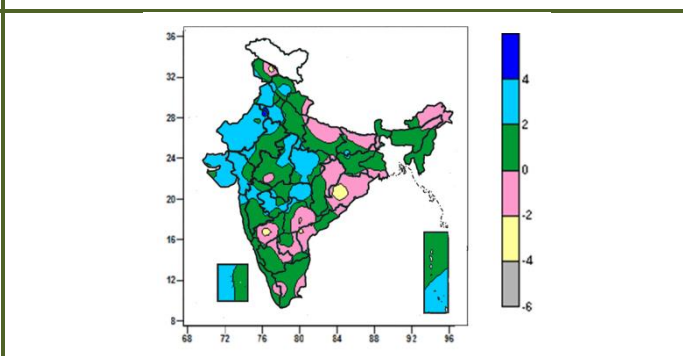
- Mean maximum temperature was above normal by 4 to 6°C over some parts of West Rajasthan.
- Mean maximum temperature was above normal by 2 to 4°C over many parts of Himachal Pradesh, Punjab, Haryana & Delhi, Rajasthan, Gujarat, West Madhya Pradesh, Marathwada, some parts of Jammu & Kashmir, West Uttar Pradesh, East Madhya Pradesh, Madhya Maharashtra and isolated pockets of Vidarbha.
- It was normal to near normal over rest of the country except many parts of Mizoram, Rayalaseema, some parts of East Uttar Pradesh, Bihar, Manipur, Gangetic West Bengal, Coastal Andhra Pradesh, Tamil Nadu and isolated pockets of Sikkim, Nagaland, Tripura, Odisha, Telangana, South Interior Karnataka where it was below normal by 2 to 4°C.

**Actual Mean Minimum Temperature (°C) in India for the week ending 25.05.2016**



- Mean minimum temperature was between 12 to 16°C over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was between 16 to 20°C over some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 20 to 28°C over rest of the country except Lakshadweep, many parts of Rajasthan, Haryana & Delhi, East Madhya Pradesh, Gujarat, Vidarbha, some parts of West Uttar Pradesh, West Madhya Pradesh, Chhattisgarh, Telangana, Rayalaseema, Coastal Andhra Pradesh, Marathwada and isolated pockets of Punjab, East Uttar Pradesh, Bihar, Madhya Maharashtra and Tamil Nadu, where it was

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 25.05.2016**



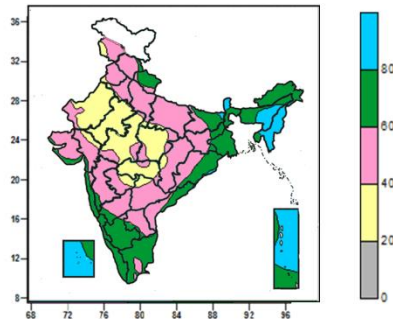
- Mean minimum temperature was above normal by 4 to 6°C over isolated pockets of Haryana and West Rajasthan.
- Mean minimum temperature was above normal by 2 to 4°C over many parts of Punjab, Haryana & Delhi, West Rajasthan, Gujarat, East Madhya Pradesh, Marathwada, some parts of Himachal Pradesh, East Rajasthan, West Madhya Pradesh, Vidarbha, Madhya Maharashtra, Konkan, Lakshadweep and Andaman & Nicobar Islands and isolated pockets of Jammu & Kashmir, Uttar Pradesh, Bihar, Jharkhand, Telangana.
- Mean minimum temperature was normal to near normal

between 28 to 32<sup>0</sup>C.

over rest of the country except some parts of Odisha, isolated pockets of Jammu & Kashmir, North Interior Karnataka, Telangana, Coastal Andhra Pradesh where it was below normal by 2 to 4<sup>0</sup>C.

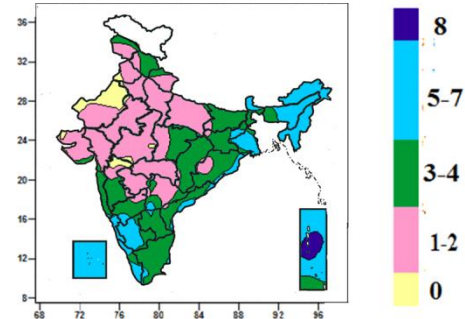
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 25.05.2016**

**Relative Humidity (%) over India for the week ending 25.05.2016**



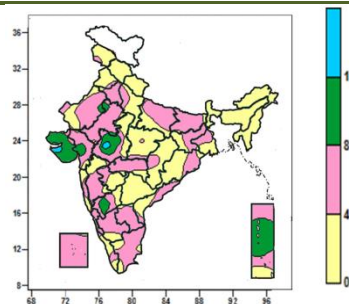
- Mean Relative humidity was above 80% over Sikkim, Nagaland, Manipur, Mizoram, many parts of Assam & Meghalaya, Andaman & Nicobar Islands, Lakshadweep and isolated pockets of Arunachal Pradesh, Tripura, Bihar and Odisha.
- Mean Relative humidity was between 60 to 80% over Coastal Karnataka, Kerala, many parts of Arunachal Pradesh, Gangetic West Bengal, Tripura, Konkan & Goa, Uttarakhand, Bihar, Sub-Himalayan West Bengal, Odisha, South Interior Karnataka, Tamil Nadu, some parts of Assam & Meghalaya, Jharkhand, Coastal Andhra Pradesh, Lakshadweep, Andaman & Nicobar Islands and isolated pockets of Himachal Pradesh, Gujarat, Madhya Maharashtra, North Interior Karnataka, Rayalaseema.
- Mean Relative humidity was between 40 to 60% over rest of the country except many parts of Rajasthan, Madhya Pradesh, Vidarbha, some parts of Marathwada, isolated pockets of Jammu & Kashmir, Punjab, Haryana, Uttar Pradesh, Gujarat Region, Telangana and Chhattisgarh where it was between 20 to 40%.

**Cloud amount (okta) over India for the week ending 25.05.2016**



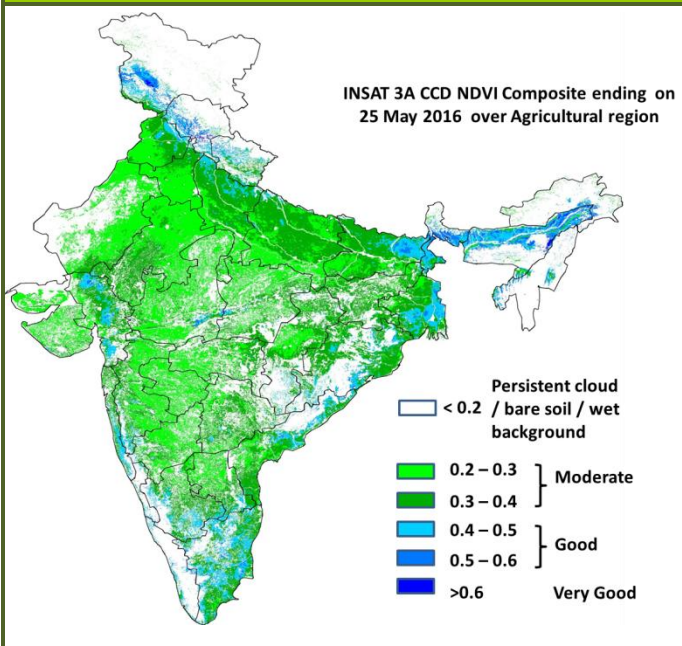
- Sky remained generally overcast (8 okta) over some parts of Andaman & Nicobar Islands.
- Sky remained generally cloudy (5-7 okta) over Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Lakshadweep and Coastal Karnataka, many parts of Assam & Meghalaya, Gangetic West Bengal, South Interior Karnataka, Kerala, Andaman & Nicobar Islands, some parts of Jharkhand, Sub-Himalayan West Bengal and isolated pockets of Odisha, Goa, Coastal Andhra Pradesh, Telangana, Rayalaseema, North Interior Karnataka, Tamil Nadu.
- Sky remained partly cloudy/mainly clear (3-4 okta/1 to 2) over rest of the country except many parts of West Rajasthan and isolated pockets of Punjab, Haryana, East Rajasthan, Kutch, Madhya Maharashtra, West Madhya Pradesh, where it was clear sky (0 okta).

**Wind speed (knots) over India for the week ending 25.05.2016**



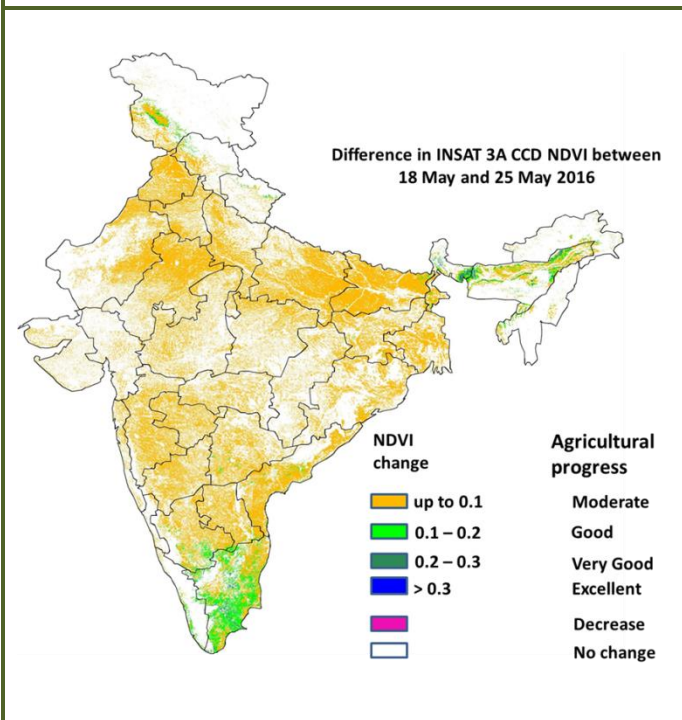
- Mean wind speed was 12 to 16 knots over isolated pockets of Saurashtra and West Madhya Pradesh.
- Mean wind speed was 8 to 12 knots over many parts of Saurashtra & Kutch, some parts of West Madhya Pradesh, North Interior Karnataka, Gujarat Region and Andaman & Nicobar Islands and isolated pockets of Rajasthan and Vidarbha.
- Mean wind speed was 4 to 8 knots over many parts of Haryana & Delhi, East Uttar Pradesh, Bihar, Jharkhand, Rajasthan, West Madhya Pradesh, Gujarat Region, Vidarbha, Madhya Maharashtra, Interior & Coastal Karnataka, Rayalaseema, Tamil Nadu, Lakshadweep, some parts of West Uttar Pradesh, Gangetic West Bengal, Odisha, Chhattisgarh, Konkan, Marathwada, Coastal Andhra Pradesh, Andaman & Nicobar Islands and isolated pockets of Jammu & Kashmir, Punjab, East Madhya Pradesh and Kerala.
- Mean wind speed was less than 4 knots over rest of the country.

**INSAT 3A CCD NDVI COMPOSITE ENDING ON 25<sup>th</sup> MAY 2016 OVER AGRICULTURAL REGION OF INDIA**



- Agricultural vigour is good over Tamil Nadu, Gujarat, patches in East Bihar, Coastal Andhra Pradesh, West Bengal, Assam, Coastal Maharashtra, patches in Uttar Pradesh and Himachal Pradesh where NDVI varies from 0.4 to 0.6. Agricultural growth was moderate 0.2 to 0.4 over most parts of Punjab, Haryana, rest Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, rest Gujarat, Telangana, rest Maharashtra, Karnataka and Odisha.

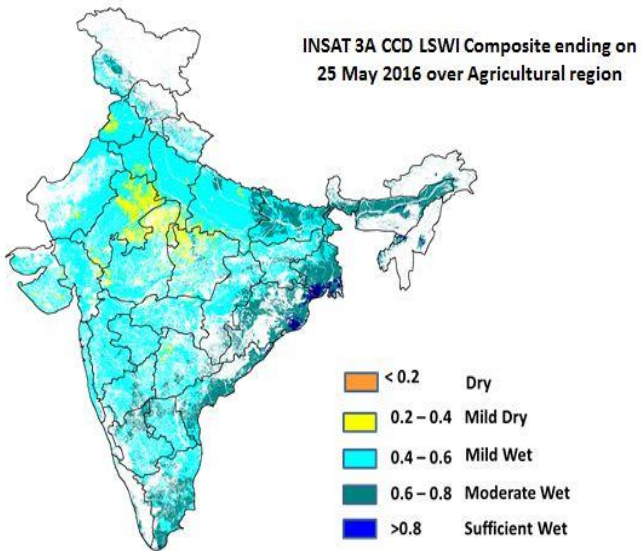
**Difference in INSAT 3A CCD NDVI between 18<sup>th</sup> and 25<sup>th</sup> May 2016**



- Moderate progress in NDVI is observed over most of the regions of India. Good progress in NDVI was observed over Tamil Nadu and patches in North east region.

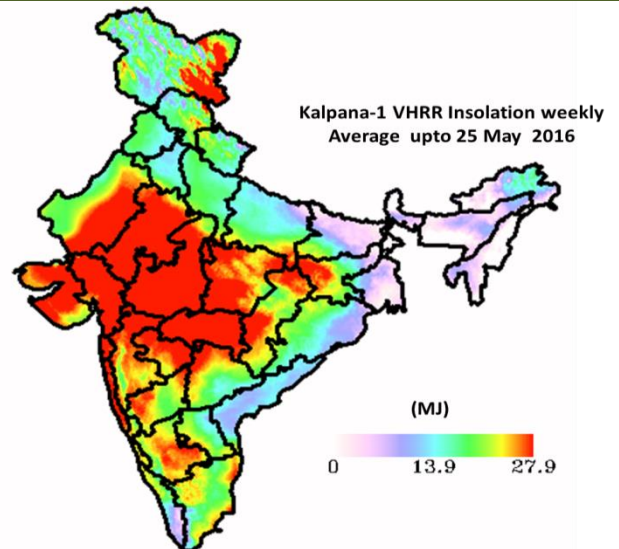
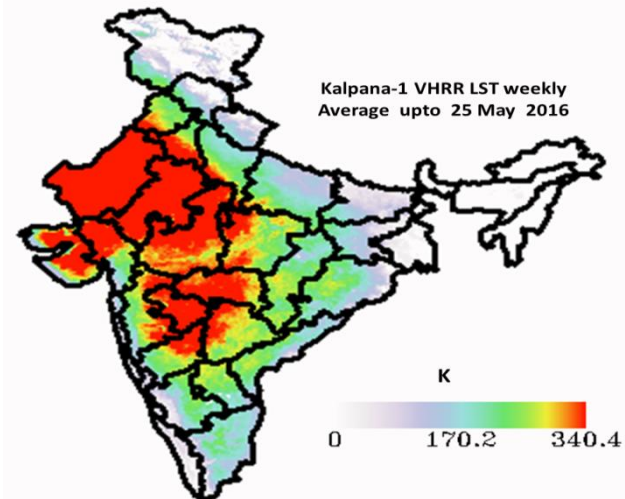
- INSAT 3A CCD NDVI composite maps for the week ending on 25<sup>th</sup> May 2016 for different States are given in Annexure II.

## INSAT 3A CCD LSWI COMPOSITE ENDING ON 25<sup>th</sup> MAY 2016 OVER AGRICULTURAL REGION OF INDIA



- Mild dry conditions are observed in patches of eastern Rajasthan, Northern Madhya Pradesh, Haryana and Punjab. Moderate wet conditions are observed in east Uttar Pradesh, patches in Bihar, Jammu & Kashmir, West Bengal, Odisha, North East region, coastal Tamil Nadu and Andhra Pradesh. The remaining regions of India show mild wet conditions. Also, very few patches of sufficient wet conditions are observed in West Bengal and Odisha.

### Other SAT MET Products





## Weather Forecast for next 5 days valid upto 0830 hours of 1<sup>st</sup> June 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Maximum & minimum temperatures likely to rise by 2-3°C over northwest and central India during next 24 hours and no significant change thereafter.

### 5 Day Rainfall Forecast (MID DAY) 27<sup>th</sup> May 2016

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

#### % 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

- **27 May (Day1):** Heat wave conditions likely at isolated places over Coastal Andhra Pradesh and Telangana. Dust/Thunderstorm very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh. Thunderstorm accompanied with squall likely at isolated places over Bihar, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Coastal Andhra Pradesh. Heavy rain very likely at isolated places over Andaman & Nicobar Islands, Kerala and Lakshadweep.
- **28 May (Day 2):** Heat wave conditions likely at isolated places over Coastal Andhra Pradesh and Telangana. Heavy rain very likely at isolated places over Assam & Meghalaya. Thunderstorm accompanied with squall very likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Gangetic West Bengal, Coastal Andhra Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Tamilnadu.
- **29 May (Day 3):** Heavy rain likely at isolated places over Sub-Himalayan West Bengal & Sikkim and



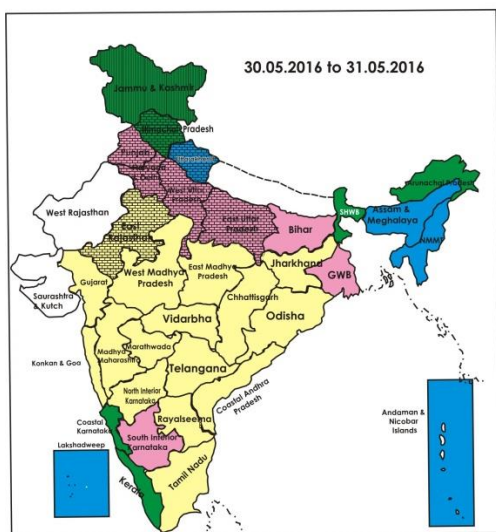
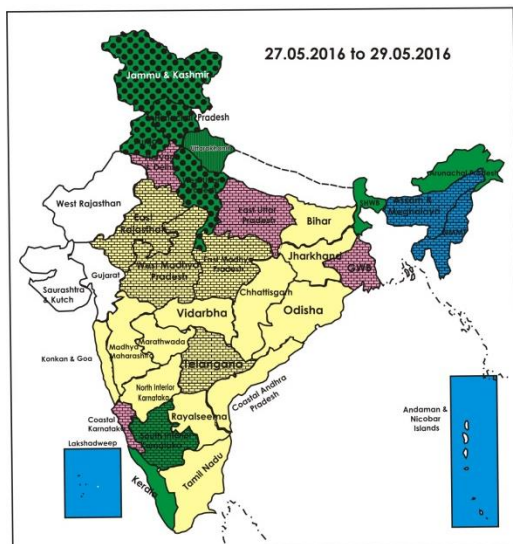
Assam & Meghalaya. Thunderstorm accompanied with squall very likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan and Bihar.

- **30 May (Day 4):** Heavy rain likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Andaman & Nicobar Islands. Thunderstorm accompanied with squall very likely at isolated places over East Rajasthan & Bihar.
- **31 May (Day 5):** Heavy rain likely at isolated places over Andaman & Nicobar Islands. Thunderstorm accompanied with squall very likely at isolated places over Bihar.

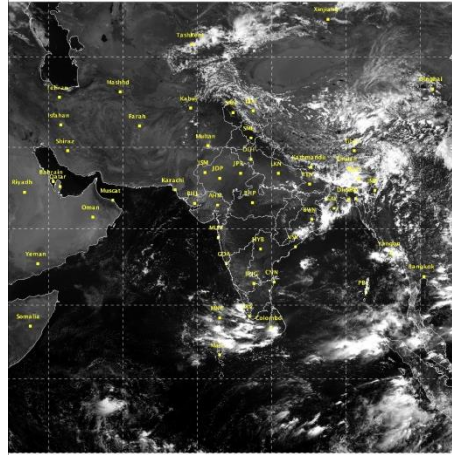
### Weather Outlook for subsequent 2 days from 1<sup>st</sup> to 3<sup>rd</sup> June 2016

- Rain/thunderstorms likely at many places over northeastern states and West Bengal & Sikkim and along west coast.
- Rain/thunderstorms likely at a few places over Indo Gangetic plains and at isolated places over central and rest east India.
- Rain/snow likely at isolated places over western Himalayan region.

### Weather Forecast Map (valid upto 0830 hours of 1<sup>st</sup> June, 2016)



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



### Salient Advisories

- As rain/thundershowers likely at many places over **Kerala** during the period, over **Coastal Karnataka** on 30<sup>th</sup> & 31<sup>st</sup> and over **South Interior Karnataka** on 28<sup>th</sup> & 29<sup>th</sup> May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. As heavy rain is expected at isolated places in Kerala on 27<sup>th</sup> May, provide adequate drainage in standing crop fields and in pepper gardens.
- In **Kerala**, undertake nursery preparation/nursery sowing of rice and in the Problem Area Zone and North Zone, continue land preparation for **direct sowing** of rice.
- In **Coastal Karnataka**, continue land preparation for nursery sowing of rice and land preparation and sowing of *kharif* maize and cotton and in **South Interior Karnataka**, continue land preparation and keep the seeds ready for pre-monsoon sowing of *kharifragi* (Indaf-9), sesame (Navile-1, T-7), cowpea (TVX-944, KBC-1), green gram (PS-16, PDM-84,178) and black gram (Karagao-3, T-9, Rashmi (LBG-625). Strengthen the bunds to facilitate conservation of rainwater due to pre-monsoon showers.
- In **Assam**, continue nursery raising of *Sali* rice and undertake land preparation for sowing of groundnut.
- As rain/thundershowers likely at most/many places over **Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim**, at most places over **Andaman & Nicobar Islands** and at many places over **Arunachal Pradesh** during the period, over **Punjab** and **west Uttar Pradesh** on 29<sup>th</sup> May along with heavy rain very likely at isolated places over Assam & Meghalaya from 28<sup>th</sup> to 30<sup>th</sup>, over Sub-Himalayan West Bengal & Sikkim on 29<sup>th</sup> & 30<sup>th</sup> and over Andaman & Nicobar Islands on 27<sup>th</sup>, 30<sup>th</sup> & 31<sup>st</sup> May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields in Assam & Meghalaya, Andaman & Nicobar Islands and Sub-Himalayan West Bengal & Sikkim. Undertake rain water harvesting for agricultural activities
- As rain/snow likely at most/many places over **Uttarakhand** from 28<sup>th</sup> to 31<sup>st</sup>, at many places over **Himachal Pradesh** and **Jammu & Kashmir** on 29<sup>th</sup> & 30<sup>th</sup> May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
- As thunderstorm accompanied with squall very likely at isolated places over **Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura** from 27<sup>th</sup> & 28<sup>th</sup>, over **Bihar** on 27<sup>th</sup> and from 29<sup>th</sup> to 31<sup>st</sup>, over **Gangetic West Bengal** on 27<sup>th</sup> & 28<sup>th</sup> May and over **Tamil Nadu** on 28<sup>th</sup> May, farmers are advised to provide support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep already harvested produce at safer places.
- As dust/thunderstorm very likely at isolated places over **Punjab, Haryana, Chandigarh & Delhi, west Uttar Pradesh** on 27<sup>th</sup> and thunderstorm accompanied with squall very likely at isolated places over **Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Himachal Pradesh** and **Uttarakhand** on 28<sup>th</sup> & 29<sup>th</sup>, over

**East Rajasthan** on 29<sup>th</sup> & 30<sup>th</sup> May, farmers are advised to provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane. Keep already harvested produce at safer places.

- As heat wave conditions likely to prevail at isolated places over **Coastal Andhra Pradesh** and **Telangana** on 27<sup>th</sup> May, Farmers are advised to adopt the following measures;
  - **In standing crops:** apply light and frequent irrigation to cope up with the excess evaporative demand due to heat wave. Young saplings may be protected by erecting temporary shade. Also undertake mulching with straw/polythene to conserve soil moisture.
  - **For livestock:** cattles/goats may preferably be allowed for grazing during early morning and late evening hours to avoid exposure to extreme hot conditions during hot hours and they must be tied and fed in shaded place or under the tree. Sprinkle cold water 2-3 times a day on the body of the animal to overcome the heat. Apply 4-6 inch thick hay thatch as a roofing material. Undertake spraying of water on floor and roof of animal shelter periodically during peak hot hours which lowers the temperature and consequently reduces the heat load on animals. Proper ventilation should be maintained for free circulation of air in the sheds. Provide plenty of clean drinking water to animals and use anti-stress medicines like Zee-stress.
  - **For poultry:** Cover water tank and lines with gunny bags to provide cool water, use foggers/fans and sprinklers to reduce temperature and to increase air flow, cover roofs of the sheds with coconut tree leaves or grass, white wash roofs and water tanks to reduce heat absorption, ensure proper cross ventilation to avoid ammonia accumulation and provide feed during cooler parts of the day (early morning or late evening). Add electrolytes and vitamin-C in drinking water.

### *Detailed Zonewise Agromet Advisories*

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



**Banana**



**Groundnut**



**Sugarcane**



**Cotton**

- **Realised Rainfall:** Rainfall occurred all districts of Kerala except Cannur, Kasargod and Wynad; Bagalkote, Belagavi, Gadag and Koppal districts of North Interior Karnataka, all districts of South Interior Karnataka except Chamarajnar, Chikkamagaluru, Chitradurga, Hassan, Kodagu, Mandya, Mysuru and Shivamogga; all districts of Coastal Andhra Pradesh; Anantapur and Chittoor district of Rayalaseema; Ariyalur, Chennai, Cuddalore, Dharmapuri, Kancheepuram, Kanyakumari, Karaikal, Krishnagiri, Nagapattinam, Perambalur, Salem, Thanjavur, Tiruvallur, Tiruvannamalai, Tiruvarur, Trichy, Vellore and Villupuram districts of Tamil Nadu. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As heat wave conditions very likely at isolated places over Coastal Andhra Pradesh and Telangana on 27<sup>th</sup> May, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave. Young saplings may be protected by erecting temporary shade. Undertake soil mulching or mulching with straw/polythene to conserve soil moisture.
  - As rain/thundershowers likely at many places over Kerala during the period, over Coastal Karnataka on 30<sup>th</sup> & 31<sup>st</sup> and over South Interior Karnataka on 28<sup>th</sup> & 29<sup>th</sup> May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. As heavy rain is expected at isolated places in Kerala on 27<sup>th</sup> & 28<sup>th</sup> May, provide adequate drainage in standing crop fields and pepper gardens.
  - **Kerala:**
    - In Kerala, continue nursery preparation/nursery sowing of *Viruppu* rice.
    - In the Problem Area Zone, continue planting of coconut seedlings and land preparation for direct sowing of rice.
    - In the Northern Zone, provide support to banana and continue harvesting of rice and land preparation for direct sowing of rice.
    - In the Southern Zone, undertake planting of coconut seedlings and cultivation of ginger, turmeric, banana, mulberry and tuber crops as intercrops along with coconut to increase yield, continue planting of bananas



(Robusta, Poovan, Njalipoovan, Palayankodan) in Thiruvananthapuram district and planting of cucurbits like bittergourd, snakegourd in Pathanamthitta district, coconut, banana and cucurbits like pumpkin, cucumber, bottlegourd in Kollam district.

- In the Central Zone, undertake planting of ginger and turmeric with adequate drainage facility and continue land preparation for sowing of rice.
- In the High Altitude Zone, continue planting of coconut, arecanut, pepper and cardamom.
- In the Problem Area Zone prevailing weather conditions (humid conditions) are congenial for quick wilt disease in pepper. If noticed, as a prophylactic measure, spray 1% Bordeaux mixture against fungal diseases.
- In the Central Zone, mix *Pseudomonas* @ 10g/1kg of seeds and sow after 12- 14 hours to control diseases like brown leaf spot, blast etc. in rice in the early stages of growth.
- In the Southern Zone, prevailing humid conditions are congenial for rhizome weevil in bananas. To control, treat suckers with Chlorpyrifos @ 2.5 ml/ litre of water as a prophylactic measure after current spells of rain.

#### ▪ **Karnataka:**

- In Eastern Dry Zone of Karnataka, continue land preparation for sowing of long duration crops (under monocropping) red gram (TTB-7, BRG-1, 2, 4, 5), castor (DCS-9 (Jyothi), DCH-177 & 32), short duration crops (under double cropping) ragi (Indaf - 9, ML-365), sesame (Navile-1, T-7), groundnut (TMV-2, JL-24, KCG-6), cowpea (TVX-944, KBC-1), green gram (PS-16, PDM-84, 178) and black gram (Karagao-3, T-9, Rashmi (LBG-625)). Keep the inputs ready for sowing of *kharif* crops. Strengthen the bunds which will facilitate conservation of rainwater due to pre-monsoon showers. Continue ploughing across the slope and land leveling (which helps in conserving more rain water in the soil). Continue harvesting of mango without dropping of fruit on the soil to avoid the damage in clear weather.
- In Coastal Zone of Karnataka continue land preparation for nursery sowing of rice.
- In Southern Dry Zone, continue sowing of pulses like green gram, black gram, horse gram, cowpea, field bean etc. and green manure crops.
- In Southern Transition Zone, continue land preparation for *kharif* sowing, planting of ginger/turmeric utilizing the realised and expected rainfall.
- In North Dry Zone, continue land preparation for *kharif* sowing utilizing the realized rainfall; keep the seeds and other inputs ready for *kharif* sowing.
- In North East Dry Zone, undertake mulching in sugarcane by dry leaves and grasses to conserve soil moisture.
- In Hill Zone of Karnataka, continue raising and multiplication of seedlings of black pepper. Continue sowing of green manure crops utilizing the realized rainfall. Clean the drainage channels.
- In North East Transition Zone, Southern Dry Zone, North Transition Zone and North Dry Zone, continue summer deep ploughing across the slope utilizing the realised and expected rainfall to improve infiltration and conservation of more rain water; continue land preparation and keep inputs ready for *kharif* sowing.
- In North Transition Zone, continue harvesting of fully matured fruits of mango.

#### ▪ **Andhra Pradesh:**

- In the Krishna Godavari Zone, continue summer ploughings and land preparation for sowing of pulses (red and green gram) and cotton.
- In the North Coastal Zone, continue summer ploughings for planting rainfed sugarcane, intercultivation in plant and ratoon crops of sugarcane in between rows and land preparation for sowing pre *kharif* crops viz. sesamum, bajra etc. and green manure crops.
- In the Scarce Rainfall Zone, continue deep summer ploughing in areas which have received rainfall.
- In the High Altitude Tribal Zone, postpone sowing of green manure crops like sunhemp or dhaincha or cowpea till the heat wave conditions prevail and continue land preparation for sowing of rice (early *kharif* plantings: Pushkala, Rasi, IR64), maize (medium duration hybrids/varieties (90-100 days): DHM 111, DHM 117, DHM-119, KH 510, Bio 9637, KH 9541, MCH 2, Kohinoor, Prabhal and Bisco 855) and groundnut (Kadiri-7 Bold, Kadiri-8, Bold, kadiri-6 Kadiri-9, Kadiri Harithandra, Kadiri Anantha).
- In the Southern Zone, postpone planting of sugarcane and nursery sowing of rice (MTU 1010, Nellore masuri) till the heat wave conditions prevail and continue land preparation for sowing of *kharif* groundnut (Narayani, Abhaya, Dharani, K-6 and varieties like Grishma, TPT-4, K-6).
- In the North Coastal Zone, prevailing wet conditions are congenial for incidences of root rot/stem rot in vegetables. To control, drain out excess water from the field and drench with COC @ 3 g/litre of water + Metalaxyl @ 3 g/litre of water.
- In the Southern Zone, prevailing weather conditions are congenial for incidences of viral diseases in *kharif* groundnut. To control viral diseases, go for trap cropping with 5-6 rows crops like jowar, bajra, etc.

#### ▪ **Telangana:**

- In the Northern Telangana Zone, postpone sowing of green manure crops like sunhemp, dhaincha, pillipesara, clusterbeans and *Sesbania rostrata* till the heat wave conditions prevail and continue digging of pits for planting new orchards, deep summer ploughings and harvesting of matured vegetables.
- In the Southern Telangana Zone, continue summer ploughing to control weeds, hibernating pests and disease spores that may damage *kharif* crops and dig pits for planting new orchards utilizing the realized and expected rainfall.
- In the Southern Telangana Zone, prevailing weather conditions are congenial for the incidence of fruit fly in mango. To trap the flies in the container, hang the plastic containers with mixture of methyl eugenol @ 2 ml +

Carbofuran 3G @ 3g per litre of water in the orchard.

▪ **Tamil Nadu:**

- As thunderstorm accompanied with squall very likely at isolated places over Tamil Nadu on 28<sup>th</sup> May, farmers are advised to provide support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep already harvested produce at safer places.
- In the Cauvery Delta Zone, undertake land preparation for kuruvai season rice (varieties ADT 36, ADT 43, ADT 45 and ADT 47) with appropriate seed treatment in Nagapattinam, Thiruvarur and Trichy districts, provide adequate drainage facilities to drain off excess rainwater present in rice (Navarai season), black gram, sesame, sugarcane and cotton fields to improve better aeration in the root zone and raise green manure crops like daincha, sunnhemp and kolunji to utilize the summer rainfall.
- In the North Eastern Zone, continue summer ploughing to increase soil fertility and cover the root zone of horticulture crops with coir pith to conserve moisture.
- In the Western Zone, undertake gap filling in recently sown groundnut by utilizing anticipated rainfall and continue pruning in grapes at 2 buds level for Thompson variety and 4 buds level for other varieties. Considering the present dry weather and critical flowering stage, irrigation may be provided to sorghum and cumbu.
- In the South Zone, continue summer ploughing by utilizing the summer showers received during the last week and cultivator/ tiller ploughing to improve the infiltration.
- In Karaikal, continue summer ploughing to control weeds, pest and diseases utilizing the summer showers.
- In the North Western Zone, undertake summer ploughing in barren fields, to control soil borne pathogens, bacteria and insects utilizing the realized rainfall.
- In the High Altitude Hilly Zone, continue pruning in tea plantation in 1/3 of the land and planting of potato (new disease resistant potato varieties Kufri Gridhari and Kufri Swarna).
- In the South Zone, sucking pest incidence is noticed in cotton crop due to prevailing weather conditions (moderate cloud cover and humidity). To control, spray Imidacloprid @ 100 ml/ha.
- In the High Altitude Hilly Zone, due to sudden summer rainfall, if damping off/wilt disease is noticed in vegetable crops, drench the soil around the crops with Copper Oxy Chloride @ 1 g/ml of water. To prevent wilting disease in pepper plantations, apply 25 g Trichoderma viridi and 25 g Pseudomonas fluorescense along with 500 g Neem cake per wine.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In view of the prevailing heat wave conditions over Coastal Andhra Pradesh and Telangana, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. Make arrangement of curtains and proper ventilation in poultry house.
- In the North Eastern Zone of Tamil Nadu, high humidity and temperature will facilitate vector multiplication. To control vectors, clean the animal shed regularly and store manure in the covered area and apply fly repellent to avoid vector borne diseases.
- In the North Western Zone of Tamil Nadu, high temperatures are to continue again leading to heat stress in poultry. Continue summer management of feeding and housing, till the on-set of southwest monsoon and prevent heat stress and improve productivity and health of birds.
- In North Interior Karnataka, leave the buffaloes in ponds during afternoon hours or sprinkle cold water 2-3 times a day on the body of the animal to overcome the heat. Maintain optimum temperature by thick hay thatch as a roofing material in poultry sheds.

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



*Banana*



*Rice*



*Okra*



*Jute*

- **Realised Rainfall:** Rainfall occurred in Changlang, East Siang, Lohit, Lower Dibang Valley, Papumpare, Tirap, Upper Siang and Upper Subansari districts of Arunachal Pradesh; Barpeta, Cachar, Dhubri, Dibrugarh, Golaghat, Hailakandi, Jorhat, Karbi Anglong, Karimganj, Lakhimpur, N.C. Hills, Nagaon, Sibsagar and Tinsukia districts of Assam; East Garo Hills, East Khasi Hills and Ribhoi districts of Meghalaya; Aizwal and Saiha districts of Mizoram; Chandel, Imphal East, Imphal West and Thoubal districts of Manipur; Dimapur, Kohima and Phek districts of Nagaland; all districts of Tripura. Weather remained mainly dry over rest of the region.

- **Advisories:**

- As rain/thundershowers likely at most/many places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and at many places over Arunachal Pradesh during the period, along with heavy rain very likely at isolated places over Assam & Meghalaya from 28<sup>th</sup> to 30<sup>th</sup> farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage to avoid water stagnation in the crop fields in Assam & Meghalaya. Undertake rain water harvesting.
- As thunderstorm accompanied with squall very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 27<sup>th</sup> & 28<sup>th</sup> May, farmers are advised to provide mechanical support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep already harvested produce at safer places.
- **Assam, Meghalaya & Arunachal Pradesh:**
  - In Assam, continue nursery raising of *Sali* rice.
  - In Lower Brahmaputra Valley Zone of Assam, continue nursery sowing of Sali rice. Farmers should select suitable long duration high yielding varieties of Sali rice like Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal etc. for growing in typical lowland paddy area and in medium lowland areas, select medium duration paddy varieties like Satya and Basundhara which may facilitate them to grow toria/mustard after harvesting of Sali paddy. For early sown jute crop thinning should be done after 20-25DOS. Wheel hoeing between rows within 4-5 weeks (30-35 days) after sowing suppresses weeds considerably. Undertake land preparation for sowing of groundnut. Well drained sandy loam soil should be prepared to a fine tilth by 3-4 ploughing. variety like- TG-1A, JL-24, 65-70kg/ha seed requirement, apply Urea-6kg, SSP-33Kg and MOP-7Kg per bigha.
  - In Upper Brahmaputra Valley Zone of Assam, provide small drains at required interval in fields of cucurbitaceous vegetables, maize, pulses to drain out the excess water. Undertake planting of layered seedlings of guava in the orchard after current spells of heavy rain. In Central Brahmaputra Valley Zone of Assam, continue planting of ginger, turmeric after current spells of heavy rain. Undertake propping up in sugarcane crop as thunder squalls are expected. Due to heavy rain during last couple of days, if already sown and emerged seedlings of jute is completely damaged, farmers are advised for re-sowing of Oilseeds jute after current spells of heavy rain.
  - In North Bank Plain Zone of Assam, continue planting of sucker and crown of pine apple after current spells of heavy rain.
  - In Meghalaya, continue land preparation and planting of ginger/turmeric after current spells of heavy rain.
  - In Arunachal Pradesh, continue nursery sowing and transplanting of rice, sowing/transplanting of summer vegetables like cucumber, sponge gourd, bottle gourd and ladies finger, summer pulses, planting of ginger after current spells of heavy rain. Avoid water stagnation in the newly sown vegetable field. Continue planting of saplings of fruits/fodder and timber trees.
  - In Arunachal Pradesh, spray Triazophos 40 EC @ 4 ml/litre against stem borer in rice nursery as well as in main fields. Spray Carbandazim/Mancozab @ 2 g/litre to control fungal diseases in summer vegetables. Also apply foliar spray Carbandazim/Mancozab @ 2g/litre against Cercospora leaf spot in pulses. Undertake plant protection measures after current spells of rain.
  - In Hill Zone of Assam, there is chance of attack of stem borer in transplanted normal *ahu* rice and blast in transplanted early *ahu* rice due to the prevailing weather conditions. Spray Carbofuran 3G @ 30 kg/ha or Phorate 10G @ 10kg/ha to control stem borer in rice and spray Carbendazim @ 1g/litre against blast in transplanted early *ahu* rice. Also spray Malathion 50 EC @ 1-1.5 litre/ ha in 500-700 litre of water against aphids, jassids and flea beetle in summer green gram and black gram. Undertake plant protection measures after current spells of rain.
  - In Lower Brahmaputra Valley Zone of Assam, to protect the jute seedlings from root rot, stem rot and seedling blight, spray Carbendazim @ 1g/lit or Mancozeb @ 3g/litre of water after current spells of rain.
  - In North Bank Plain Zone of Assam, spray Quinalphos 2.5 ml/10 litre of water to control leaf folder, stem borer, case worm in *ahu* rice. Also spray Malathion 50 EC @ 2ml/litre of water to control red pumpkin beetle and fruit fly in cucurbits after current spells of rain.
  - In Meghalaya, high humidity with intermittent rain is favourable for development of blast in *jhum* rice. Spray Mencozeb @ 2g/litre of water or Carbendazim @ 1g/litre of water after current spells of rain .
- **Nagaland, Manipur, Mizoram and Tripura:**
  - In Nagaland, avoid water stagnation in the field of maize. Continue planting of ginger. Rain water harvesting ponds should be dug at low land to collect the rain water.
  - In Manipur, continue sowing of soybean, groundnut, black gram, planting of ginger/turmeric and pit preparation for fruit plants like banana, lime, lemon, orange and kiwi. Continue land preparation for sowing of *kharif* rice.
  - In Mizoram, continue nursery sowing of rice and sowing of khasi mandarin/acid lime, passion fruit, okra, cow pea, maize, transplanting of brinjal and land preparation ginger/ turmeric.
  - In Manipur, spray Lambda cythothrin 5% @ 15 ml/15 litres of water against leaf folder and case worm in early *kharif* rice after current spells of rain.
  - In Tripura, continue harvesting of *rabi* maize, urd, green gram, summer brinjal and tomato in clear weather.
  - In Tripura, there is chance of attack Gundhi bug in boro rice. To manage the attacks apply Imidacloprid @ 2 ml per litre of water after current spells of rain. In case of attack of shoot borer in mango, find the hole and put kerosene in the hole and plug the hole with mud. Weather is also conducive for fruit & shoot borer in summer brinjal and



tomato. To manage the attack, spray Cypermethrin @ 1.5ml or Flubendamid 0.5 ml per litre of water after current spells of rain.

➤ Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

➤ In Northeastern states, farmers are advised to keep animals in sheds during thunder squall period. Do not allow the animals for grazing during heavy rain /thunderstorm period.

➤ In Barak Valley Zone of Assam, during heavy rain, farmers are advised to keep the animals in sheds. Vaccination is mandatory for the cattle prior to monsoon to protect from disease like Anthrax, Foot Mouth Disease. Changing weather could lead to viral diseases in the poultry. So farmers may provide sufficient water with 1% salt and mineral mixture. Farmers are also advised to maintain proper sanitary condition of poultry. Provide balanced feed & fresh water.

#### ❖ **Fishery**

➤ In Assam, as rain is expected, release the new batches of fishes in ponds. Select healthy, diseases free right variety of fishes, before release fingerling should be treated with Potassium per Manganate @ 3-5%. Apply soil in the embankment for control of entry of predatory fishes during floods.

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



*Green gram*



*Sugarcane*



*Groundnut*



*Banana*

● **Realised Rainfall:** Weather remained mainly dry/dry over the region.

● **Advisories:**

▪ **Maharashtra:**

➤ In Marathwada, undertake land preparation for sowing of cotton, pigeon pea, green gram, black gram, groundnut and maize. Undertake ploughing followed by 2 to 3 harrowing and apply FYM before last harrowing. Undertake nursery preparation for *kharif* onion. Continue preparation of nursery for sowing of *kharif* vegetable crops like tomato, chilli, bitter gourd and cluster bean. Undertake cultivation of turmeric, select varieties salem and Krishna. Undertake sowing of fodder crops like African Tall, Ganga-5, Vijay and Manjari.

➤ In Madhya Maharashtra, undertake nursery bed preparation for *kharif* rice. Continue preparatory tillage for sowing of *kharif* jowar, soybean, cotton, red gram, green gram and black gram. Continue nursery sowing of vegetable crops like tomato, chilli and bitter gourd in *kharif* season. Complete planting of turmeric and ginger with irrigation facilities in Sangli and Satara districts.

➤ In Vidarbha, undertake land preparation for nursery sowing of *kharif* rice in Eastern Vidarbha Zone. Continue cultivation of summer vegetables like bitter gourd, tinda, ridge gourd, smooth gourd, bottle gourd, cowpea, clusterbean and coriander. Continue preparatory tillage for sowing of *kharif* jowar, soybean, cotton, red gram, green gram and black gram. Undertake planting of binneal forage crops like Paragrass, Napier and Gajraj. Apply mulches in fruit crops to conserve soil moisture. Juvenile/young plantation should be protected from heat with thatches and mulching of basins. Apply light and frequent irrigations to orchards preferably during evening hours.

➤ In Konkan, undertake nursery sowing of *kharif* rice, nagli and *vari*. Undertake sowing of *kharif* vegetables like okra, cucumber, bitter gourd, snake gourd and ridge gourd. Continue pit preparation for planting mango, cashew, coconut, arecanut and biennial forage crops like Paragrass, Napier and Gajraj.

▪ **Gujarat:**

➤ In North Saurashtra Zone, undertake sowing of groundnut (GG-20, GG-11, GG-7) with irrigation, land preparation for sowing of cotton (early: Bg-II GCH-8, Agritop-333, 777, 444, Jay, Beejadhan-2, Sarju, Atom, Bhakti, Medium Late: Bg-II GCH-6, Agritop-444, Solar-76, Swapna, Mallika). Keep inputs ready for *kharif* crop sowing. In view of prevailing high temperatures, apply light and frequent irrigation to vegetable crops in the morning or evening hours. Undertake mulching with straw/polythene to conserve soil moisture. carry out levelling of plots to increase soil moisture holding capacity. Construct the bunds in advance to reduce soil erosion in field and plan for farm ponds to collect runoff water.

➤ In North Gujarat Zone undertake sowing of hybrid/ B.T. cotton with irrigation. In North Gujarat Zone and North West Zone of Gujarat, plan for plantation of horticultural crops (mango, sapota, lemon, pomegranate, ber, guava). Under high wind speed condition, avoid irrigation in pearl millet (grain development stage), maize and sorghum to avoid lodging of plant. As high temperatures are likely to continue, apply light and frequent irrigation in cluster bean, cowpea, vegetable and fruit crops at regular intervals. Undertake mulching with straw/polythene to conserve soil moisture. Undertake harvesting of green gram.

➤ In South Gujarat Zone, continue land preparation for sowing of cotton under irrigation facility. Prepare seedling of

papaya for *kharif* season.

- In Gujarat, continue deep ploughing of fields to destroy eggs and pupa stages of insects and to destroy weed seeds. Carry out levelling of plots to increase soil moisture holding capacity. Construct the bunds in advance to reduce soil erosion in field and plan for farm ponds to collect runoff water.
- In Middle Gujarat Zone, continue land preparation for sowing of groundnut. Undertake sowing of irrigated hybrid cotton (G. cot. 6, 8, 10) and approved varieties of B.T. cotton with irrigation. Under high temperatures protect banana bunch with plastic sheet. Withhold irrigation in pearl millet to avoid lodging of crops. Complete harvesting and threshing of early varieties of rice.
- In South Gujarat Heavy Rainfall Zone, continue land preparation for *kharif* rice and nursery sowing of ragi with irrigation. Apply irrigation in cluster bean (at 10-12 days interval), sugarcane, cucurbits. Apply light irrigation in mango to reduce fruit drop. Undertake harvesting of green gram, groundnut and rice.
- In Bhal and Coastal Zone, as high temperatures are prevailing apply irrigation to vegetable and floriculture crops. Undertake mulching in mango orchards. Continue harvesting of fruits of papaya, sapota, citrus and pomegranate etc.
- In South Saurashtra Zone, apply irrigation to groundnut (at 6 to 7 days interval) black gram, green gram, sesame and vegetable crops. Keep the vegetable crops weed free and continue harvesting of matured fruits of vegetables.
- There is also chance of infestation of fruit fly in mango in South Gujarat Zone; to control, destroy affected fruits.
- ❖ **Animal Husbandry**
- Considering the prevailing high temperature in Madhya Maharashtra, Marathwada and Vidarbha region, hang gunny bags around the poultry shed and sprinkle it with water. Cover the roof with grass or gunny bags. To reduce the effect of prevailing high temperature in animal shed, cover the roof with grass or dried jowar fodder and keep proper aeration in the shed.
- In North Gujarat, in view of high temperatures, take special care of animals during noon in North Saurashtra Zone, Bhal and Coastal Zone, North Gujarat Zone and North West Zone. Keep animals under shade, cover roof with paddy straw, provide cool drinking water 4-5 times a day.

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



*Rice*



*Okra*



*Maize*



*Green gram*

- **Realised Rainfall:** Rainfall occurred districts in all districts of Andaman & Nicobar Islands; East Midnapore, Kolkata, North 24 Parganas, South 24 Parganas and West Midnapore districts of Gangetic West Bengal; Darjeeling, East Sikkim, Jalpaiguri, North Sikkim, South Dinajpur, South Sikkim and West Sikkim districts of Sub-Himalayan West Bengal & Sikkim; Araria, Darbhanga, East Champaran, Katihar, Kishanganj, Madhepura, Muzaffarpur, Patna, Purnea, Samastipur, Saran, Siwan, Supaul, Vaishali and West Champaran districts of Bihar; Bokaro, Dumka, Garhwa, Gumla and West Singhbhum districts of Jharkhand; Balasore, Bhadrak, Cuttack, Dhenakanal, Gajapati, Ganjam, Jagatsinghpur, Jajpur, Kendrapara, Keonjhar, Khurda, Koraput, Mayurbhanj, Nayagarh and Puri districts of Odisha. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers likely at most/many places over Sub-Himalayan West Bengal & Sikkim, at most places over Andaman & Nicobar Islands during the period, along with heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim on 29<sup>th</sup> & 30<sup>th</sup> and over Andaman & Nicobar Islands on 27<sup>th</sup>, 30<sup>th</sup> & 31<sup>st</sup> May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields. Farmers are advised to undertake rain water harvesting for agricultural activities.
  - As thunderstorm accompanied with squall very likely at isolated places over Bihar on 27<sup>th</sup> and from 29<sup>th</sup> to 31<sup>st</sup>, over Gangetic West Bengal on 27<sup>th</sup> & 28<sup>th</sup> May, farmers are advised to provide support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep already harvested produce at safer places.
  - **Odisha:**
  - In East and South Eastern Coastal Plain Zone, pick the matured pods of pulses immediately to avoid viviparous germination of seeds in the pods itself. Dry the pods. Harvest the matured groundnut to avoid viviparous germination of kernels and rotting may occur if not harvested immediately. Make bundles of the harvested plants and dry them in such a way that the pods should be in the up side and plants down. Undertake sowing of green



manure crops and land preparation for sowing of pigeon pea. In uplands, undertake land preparation planting of ginger and turmeric, sowing of maize, groundnut, sunflower, cotton etc. For green cob purpose, grow high yielding varieties of maize like Navjot, Shakti, Decan-107, Decan-109 under irrigation. Use 6 kg seeds/acre. Apply one third of N and all P & K of the recommended dose of 50:24:24 kg

- In North Eastern Coastal Plain Zone, taking advantage of recent rain, complete sowing of jute.
- In North Eastern Ghat Zone, to manage fruit fly in Cucurbits, prepare poison bait by mixing 20gm gur in 1 liter of water and 2ml Malathion.
- In South Eastern Ghat Zone, there may be chances of infestation of Gundhi bug and Ear cutting caterpillar in summer rice. To control Gundhi bug, spray Ethofenoprox 10% EC @ 1 ml/litre of water or Lambda Cyhalothrin 5% EC @ 0.5 ml/litre of water (200 litre water for one acre) uniformly during morning hours when there is no or minimum wind. To control Ear cutting caterpillar, spray Quinolphos 25% EC @ 2 ml/litre or Chloropyriphos 20% EC @ 2.5 ml/litre of water (200 litre water for one acre).
- In Western Undulating Zone, early shoot borer may attack the sugarcane crop at tillering stage. Spray Triazophos/ Profenophos @ 2ml/litre of water.
- In North Eastern Ghat Zone, increased temperature may favour thrips infestation in summer groundnut. Spray Dimethoate @ 400 ml or Imidachlopid @ 50 ml in 200 litre water per acre.

▪ **West Bengal:**

- In New Alluvial Zone, undertake intercultural operation weeding and thinning in jute on a non rainy day and apply top dressing in timely sown rice crop.
- In Coastal Saline Zone, continue sowing of green manuring crop like cluster bean, daincha etc. after harvesting of boro paddy in order to fertilize the field and conserve moisture in soil .Prepare strong fencing for protect the betel vine crop from strong wind. For better leaf development apply mustard cake and Tasko-5 after current spell of rain.
- In Hill Zone, undertake land preparation for new plantation of large cardamom. Proper drainage system should be maintained in the fields to prevent water stagnation during rain.
- In Laterite and Red Soil zone, undertake harvesting of sesame and groundnut on bright sunny days. Keep the bundles erect on the threshing floor for 5-7 days for drying.
- In the present weather situation, attack of fruit-rot due to fungus may be high in pointed gourd.. Remove the infected fruits from the land. To control Spray Blitox (4 gm per lt) or Blue-copper oxide.
- In Coastal Saline Zone, due to hot and humid weather there may be attack of fruit rot in brinjal. If infestation found high then Spray a mixture of Metalaxyl and Mancozeb @ 2g per litre of water on non-rainy day.
- In Laterite and Red soil zone, in this weather condition fruit and shoot borer attack may be dominant in brinjal and ladies finger and fruit rot in chilli. To control fruit and shoot borer, Spray Neem Seed Kernal Extract solution @ 50ml/litre of water. To control fruit rot, spray Carbendazim (Bavistin) @ 1g/litre of water at clear weather condition. Undertake plant protection measures on non-rainy day.
- In Terai Zone, weather is congenial for attack of gundhi bug in rice and aphid, hoppers and white fly in chilli. For gundhi bug spray Fipronil 5 EC @ 1ml/litre of water and For Aphid, hoppers, white fly apply Imidachloropid @ 1ml/5litre of water after current spells of rain.
- In Old Alluvial Zone, in the prevailing weather condition, fruit rot in chilli may be occur. To control, spray Carbendazim @ 1g/litre of water or Mencozeb @ 2.5 g/litre water on morning or evening hour at 10-15 days interval.To control leaf curl & flower drop spray Neem oil @ 3ml/litre & 5 days later Buprofezin @ 1ml/litre along with sticker after current spells of rain.

▪ **Andaman and Nicobar Islands:**

- In North, Middle and South Andaman, undertake sowing of green manure crop seeds @ 20 kg/ha in fields where rice is to be transplanted after current spells of heavy rain.
- In North, Middle and South Andaman and Nicobar, undertake nursery preparation in raised area for sowing of rice and treat the seeds with Bio pesticides like Trichodarma/pseudomonas @ 200 g/5 kg seed.

▪ **Bihar:**

- In North East Alluvial Zone, continue nursery preparation of *kharif* rice of long duration variety (Aaghani paddy). Start planting ing of ginger and turmeric as sole crop and also intercrop with Mango, Litchi, Banana and Guava orchards. Undertake harvesting of mature maize. Undertake sowing of dhaincha, mung (green gram), senai crop for green manuring purpose.
- In North West Alluvial Plain Zone, undertake nursery preparation of *kharif* paddy and planting of ginger, turmeric, elephant foot yam and green manuring crops like dhaincha, moong (green gram), senai and fodder crops such as sorghum, maize and bajra. Undertake Intercultural operation in summer vegetable such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd etc .
- In south Bihar Alluvial Zone, in the prevailing weather condition shoot and fruit borer may attack in brinjal and tomato crops, If pest population is high, spraying of Spinosad 48 EC @ 1 ml /4 litres of water is advised after current spells of rain. In North East Alluvial Zone, due to frequent rainfall, Collar rot may be appear in Cucurbitaceous crop. To control them expose the surrounding soil to sun-light for 1-2 days followed by drenching with Copper Oxychloride 50% WP @ 3 g/litre of water after current spells of rain.

▪ **Jharkhand:**

- In Western Plateau Zone, continue sowing of vegetables like sponge gourd, bottle gourd, pumpkin, water melon, musk melon etc. Continue sowing of green gram and undertake broadcasting of urea in standing vegetable crops.



To conserve the moisture, undertake intercultural operations in vegetables.

- In Central and North Eastern Plateau Zone, farmers are advised for summer ploughing. Continue sowing of maize, okra and planting of elephant foot yam, ginger and turmeric after receipt of sufficient rain and mulch it with leaves and straw to conserve moisture and weed control.
- In South Eastern Plateau Zone, summer rice crop is at dough to maturity stage. Remove water from the fields 10-15 days before harvesting. At dough stage, if Gundhi Bug infestation is more, dusting of Quinalphos 1.5% @ 10 kg per acre during morning time is recommended. High day and night temperature also favours production of more number of eggs in case of Leaf folders and also infestation is being seen. Hence, spraying of Acephate 75 SP @ 2g or Trizophos or Prophenphos @ 1 ml per litre of water should be done alternately.
- In South Eastern Plateau Zone, summer moong is at flowering to pod setting stage, hence for proper pod development, apply light irrigation to maintain optimum moisture. If attack of thrips is noticed, spray Acetamiprid SP 0.5 g or Trizophos or Prophenphos @ 1 ml per liter of water during evening/dusk time.
- In South Eastern Plateau Zone, spraying of Malathion 50 percent @ 2 ml along with Carbendazim and Sulfex @ 2-3 gm per litre of water is suggested to control the insects attack and anthracnose disease in mango. To increase the size as well as for controlling against falling of fruits, it is advisable to spray, Planofix or Acimone or Trasel or Multiplex @ 5-10 ml per litre of water. In litchi to protect from mites and bug attack on leaves, spray Dicofol @ 2 ml per liter of water for mites and Monocrotophos @ 1ml per litre of water for bug. In Jack fruit, for control of Anthracnose, spray Carbendazim @ 0.5 g first and afterwards Imidachlopid @ 0.5-1 ml per litre of water.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Animal Husbandry**

- In Coastal Saline Zone of West Bengal, vaccinate against Black quarter at 4 month aged cattle and for grazing cattle, feed them Albomer or Albozen tablet @ 1tablet/150kg body wt at 4 month interval for preventing worm infection.
- In South Bihar Alluvial Zone, provide vaccination against Galghontu disease to animals, which will protect them in rainy season from this disease.

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



**Chilli**



**Green gram**



**Okra**



**Sugarcane**

- **Realised Rainfall:** Weather remained mainly dry/dry over the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - In Malwa Plateau Zone, apply irrigation in moong, urad, vegetables, mango, orange and pomegranate orchards. Continue picking up of matured okra and cucurbit crops. Continue nursery preparation for *kharif* vegetables. Continue deep ploughing of fields and keep inputs ready for sowing of *kharif* crops.
    - In Nimar Valley Zone, undertake land preparation for sowing of cotton and apply drip irrigation in horticulture crops.
    - In Central Narmada Valley Zone, continue nursery preparation for vegetables like brinjal, chilli, tomato cauliflower etc.
    - In Vindya Plateau Zone, keep inputs ready for sowing of *kharif* crops like soybean, red gram and continue nursery preparation of rice. Continue harvesting of matured moong and urad.
    - In Bundelkhand Zone, apply irrigation in vegetables and orchard crops. Continue seed bed preparation for sowing of *kharif* onion.
    - In Jhabua Hill Zone, apply irrigation in moong, tomato, chilli, brinjal, okra, onion crops. Continue field preparation for sowing of turmeric and ginger. Continue harvesting of matured moong.
    - In Bundelkhand Zone, due to prevailing hot weather, there are chances of attack of fruit borer in brinjal and tomato, spray Malathion 50 E.C. @ 1ml/litre of water.
    - Suitable varieties for sowing are given in Annexure III.
  - **Chhattisgarh:**
    - In Chhattisgarh, continue deep ploughing of fields and keep inputs ready for sowing of *kharif* crops.
    - In North Hill Zone, in view of the prevailing high temperature, apply irrigation in moong, maize, sugarcane and vegetables. Continue digging of pits for planting new orchards. Undertake harvesting of matured rice, groundnut and mango and litchi.
    - In Bastar Plateau Zone, continue nursery preparation of *kharif* vegetables and harvesting of matured rice, moong

and maize.

- In Chhattisgarh Plain Zone, apply irrigation in summer rice, vegetables and orchards. Undertake digging of pits for planting new orchards.
- In Bastar Plateau Zone, due to rise in temperature, there is chances of wilting in tomato, chilli and brinjal. Apply Trichoderma @ 300-400g/ha and Pseudomonas @ 150-200g/ha with well decomposed farm yard manure near the root of plant in soil.
- ❖ **Animal Husbandry**
- In Madhya Pradesh, in view of the prevailing high temperature, special attention should be given to milch animals, provide adequate water and green fodder to animals and keep them in shade during noon hours. Cover poultry house with mat and keep it wet to maintain normal temperature.

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



*Green gram*



*Sugarcane*



*Maize*



*Okra*

- **Realised Rainfall:** Rainfall occurred in Anantnag, Baramula, Kulgam, Kupwara, Pulwama, Reasi, Srinagar districts of Jammu and Kashmir; Chamba, Hamirpur, Mandi districts of Himachal Pradesh; Chamoli, Haridwar, Nainital, Pithorgarh, Rudraprayag and Udham Singh nagar districts of Uttarakhand; Taran Taran district of Punjab, in Mewat, Rewari districts of Haryana; Ambedkar nagar, Azamgarh, Bhairaich, Ballia, Ghazipur, Gorakhpur, Kanpur city, Kheri, Kushinagar, Maharajganj, Mau, Pratapgarh districts of East Uttar Pradesh; Bareilly, Moradabad, Muzaffarnagar, Saharanpur, Shahajahanpur districts of West Uttar Pradesh, Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As dust/thunderstorm very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh on 27<sup>th</sup> and thunderstorm accompanied with squall very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Himachal Pradesh and Uttarakhand on 28<sup>th</sup> & 29<sup>th</sup> and over East Rajasthan on 29<sup>th</sup> and 30<sup>th</sup> May, farmers are advised to provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane. Keep already harvested produce at safer places.
  - As rain/snow likely at most/many places over Uttarakhand from 28<sup>th</sup> to 31<sup>st</sup>, at many places over Himachal Pradesh and Jammu & Kashmir on 29<sup>th</sup> & 30<sup>th</sup> May and rain/thundershowers likely at many places over Punjab and West Uttar Pradesh on 29<sup>th</sup> May, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
  - **Jammu & Kashmir:**
    - In Sub Tropical Zone, continue nursery raising of early transplanted paddy.
    - In Intermediate Zone, continue transplanting of tomato, chilli, capsicum and cucurbits. Continue sowing of okra in lower to mid hill regions. Prepare field for sowing of paddy nursery for timely transplanting of seedlings. Undertake land preparation for sowing of maize.
    - In Valley Temperate Zone continue preparation of the field for sowing of paddy nursery. Continue transplanting of cole, solanaceous and cucurbits crops in the main field. Continue harvesting of Berseem crop. Undertake field preparation / sowing of maize.
    - In Cold Arid Zone of Jammu and Kashmir, undertake sowing of barley at proper spacing and at adequate moisture conditions. Continue transplantation of vegetable crops like onion, cabbage, cauliflower, tomato, capsicum and chilli. Undertake direct sowing of radish, carrot, beet root, coriander and fenugreek in the field.
    - In Intermediate Zone, there are chances of attack of mealy bug on fruit plants. To control spray Chloropyrifos 20EC or Dichlorbos (Nuvan 30 EC) @ 2ml/litre of water after current spells of rain and repeat at fifteen days interval.
    - In Sub Tropical Zone weather is congenial for outbreak of leaf curl on tomato crop. To control it remove already infected plants and spray Imidacloprid @ 0.5ml/litre of water to avoid spread of secondary infection after current spells of rain.
  - **Uttarakhand:**
    - In Bhabar and Tarai Zone, continue harvesting of pea immediately in clear weather.
    - In Hill Zone, undertake nursery raising of paddy after proper seed treatment. Avoid water stagnation in onion and garlic field due to rain. Prepare the land for sowing of soybean and urad after proper seed treatment.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, continue nursery sowing of rice and treat the seed before sowing with Bavistin @ 2.5 g per kg of seed and sowing of maize. Continue sowing of cluster bean, daincha, senai, lobia for green manuring. Complete sowing of sunflower and fodder crops such as maize, cowpea, chari and bajra in irrigated areas. In high hilly regions continue sowing of peas, turnip, carrot, palak. Continue harvesting of matured onion and garlic. In mid hill areas continue transplanting of tomato, brinjal, chilli and capsicum. Continue sowing of cucurbits such as cucumber, bitter gourd, bottle gourd and summer squash, ageti okra, French bean and radish. Complete sowing of zaid moong and mash in irrigated areas.
- In Mid Hills Sub-Humid Zone, complete sowing of bhindi, cucurbits, French bean, moong and mash and nursery raising and transplanting of tomato, chilli, capsicum and brinjal. Continue sowing of fodder crops like maize, cowpea and soybean.
- In High Hills Temperate Dry Zone, complete the pruning operations in apple orchard. Continue sowing of vegetable seeds in nursery beds. Continue sowing of peas and potato.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, weather is conducive for attack of alternaria leaf spot in apple, for control spray Hexaconazole (contaf) in 200 litres of water after current spells of rain.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, there may be chance of attack of aphid in pomegranate, for control, spray Emidacloprid @ 60 ml per 200 litres of water after current spells of rain.
- In Mid Hills Sub-Humid Zone, weather is conducive for attack of mealy bug in mango, for control spray Buprofezin 25 % SC @ 1 to 2 ml. per litre of water after current spells of rain.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, there may be chance of attack of anar butter fly in pomegranate, for control, spray Cypermethrin 10 EC @ 1 ml per litre of water at 15 days interval. If litchi fruit borer is noticed, for control spray Cypermethrin 10 EC @ 1 ml per litre of water and repeat at 15 days interval after current spells of rain.

▪ **Rajasthan:**

- In Southern Humid Plain Zone, continue sowing of mung, groundnut and fodder like SSG-59-3, MP chari, Rajasthan chari, Pratap maize chari-6A.
- In Sub Humid Southern Plain and Aravali Hill Zone, apply irrigation in vegetables. Continue sowing of cucurbits, also papaya in nursery.
- In Semi-Arid Eastern Plain Zone, continue land preparation for sowing of irrigated groundnut and cotton. Continue digging dry rabi onion & store them in cool & dry place.
- In Arid Western Plain Zone, continue sowing of American cotton and jeera, transplanting of chilli and sowing of green fodder viz. pearl millet, sorghum and cowpea. Apply irrigation in cucurbits, fruit plants and fodder crops as per requirement.
- In Flood Prone Eastern Plain Zone, mustard residue/straw left over the field provide hibernation site to painted bug during hot summer. To mix straw/residue in the soil using deep plough, it will destroy various stages of pest besides enhancing soil health.
- In Flood Prone Eastern Plain Zone, due to rise in temperature, there may be chances of attack of leaf curl & mosaic disease in chilli, for control spray Dimethoate 30EC @ 1 ml per litre of water.
- In Flood Prone Eastern Plain Zone, due to rise in temperature, there may be chances of attack of thrips, jassids and whitefly in zaidmoong, for control spray Dimethoate 30 EC @ 1 litre in 800 litres of water per hectare.
- In Semi-Arid Eastern Plain Zone, due to rise in temperature, there may be chances of attack of leaf curl & mosaic virus in chilli, for control spray Dimethoate 30EC @ 1.0 ml per litre water.
- In Semi-Arid Eastern Plain Zone, due to rise in temperature, there may be chances of attack of blight in tomato, for control spray Mencozeb @ 2 gm or copper Oxochloride @ 3 g per litre water.
- In Semi-Arid Eastern Plain Zone, due to rise in temperature, there may be chances of attack of yellow mosaic virus in okra, for control spray Malathion 50 EC @ 1 ml. per litre of water.
- In Arid Western Plain Zone, due to rise in temperature, there may be chances of attack of red mite in bhindi, for control spray Methyl Demeton 25 EC @ 1 ml per litre of water.
- In Sub Humid Southern Plain and Aravali Hill Zone, due to rise in temperature, there may be chances of attack of aphid and jassids in mung, urad and groundnut, for control spray Imidacloprid @ 5 ml per 15 litres of water.

▪ **Punjab, Haryana and Delhi:**

- In Western Plain Zone of Punjab, complete sowing of cotton, continue sowing okra, spring maize and planting of sugarcane. Continue transplanting of chilli and cucurbits on the ridges. Undertake nursery sowing of rice. Irrigate the standing vegetables crops and harvest the matured vegetable crops.
- In Undulating Plain Zone of Punjab, undertake nursery preparation for rice.
- In Central Plain Zone of Punjab, undertake sowing of paddy.
- In Western and Undulating Plain of Punjab, continue planting of turmeric.
- In Central, Western and Undulating Plain Zone of Punjab, continue planting of peach, plum, pear, pomegranate and ber plants.
- In Western Zone of Punjab, undertake nursery sowing of rice, transplanting of chilli, tomato, bell pepper. Undertake sowing of cucurbits, round gourd, sponge gourd, and other summer vegetables viz. okra, and cluster bean. Complete the sowing of cotton. Undertake harvesting of onion and garlic.
- In Western Zone of Haryana, continue sowing of green gram and black gram. Complete the sowing of leafy



vegetable, bottle gourd, cucumber, ridge gourd summer radish and direct sowing with certified seed and apply the irrigation as per the requirement of vegetables crops. Complete the sowing of cotton. Continue transplanting of young seedlings of brinjal, chilli and direct sowing of cucurbits. Irrigation should be done after transplantation. Undertake sowing of arhar and complete the sowing of fodder crops such as bajra, lobia, sudan and napiar grass. As per requirement of crops apply light irrigation in vegetable, fruits and horticultural crops.

- In Eastern zone of Haryana, undertake sowing of fodder crops such as guwar, maize, bajra, cluster bean.
- In Western Semi-Arid Zone of Delhi, undertake field preparation for sowing of pigeon pea and undertake sowing of cotton, continue sowing of green gram, black gram. Undertake sowing of okra, French bean, cluster bean, baby corn and fodder crops such as sorghum, bajra, cluster bean and maize. Undertake harvesting of mature vegetables at morning and evening hours in clear weather.
- In Western Zone of Punjab, due to prevailing weather condition, there may be chances of attack of red pumpkin beetle in cucurbits, for control spray Carbaryl @ 75 to 150 g per acre in 50 to 100 litres of water and repeat after 10 days intervals. Also incidence of fruit and shoot borer of brinjal may be controlled by spraying 100 ml Sumicidin 20 EC or 200 ml Ripcord 10 EC or 800 ml of Ekalux 25 EC or 500 ml Triazophos 40 EC in 100-125 litres of water per acre on a non rainy day.
- In Undulating Plain Zone of Punjab, due to prevailing weather condition, there may be chances of attack of fruit borer in tomato, for control, spray Fame 480 SL @ 30 ml or Fenvalerate 20 EC @ 100 ml or Deltamethrin 2.8 EC @ 160 ml or Cypermethrin 25 EC @ 80 ml. in 80 to 100 litres of water per acre on a non rainy day.

#### ▪ **Uttar Pradesh:**

- In Central Plain Zone, Continue nursery sowing of paddy in irrigated area and sowing of jowar, bajra, maize, urad, mung, sesame. Continue planting of sugarcane. Continue sowing of summer fodder crops like cowpea, maize, lobia and sowing of urad, mung, lobia, bhindi as inter crop in sugarcane, land preparation and sowing of cowpea, maize, garlic, turmeric, ginger. Continue sowing of sunhemp, lobia and dhaincha for green manuring. Continue nursery sowing of brinjal and *kharif* onion and transplanting of guava. Continue planting of banana.
- In Central Plain Zone, apply irrigation in vegetables as per requirement and summer sown maize, urd, mung and lobia crop at the interval of 12-15 days. Undertake hoeing operation in sunflower crop. Before sowing of paddy seed, apply 4 g Tricoderma or 3 g Thiram.
- In Eastern Plain Zone, Continue sowing of rice and sowing of maize in irrigated areas. Apply irrigation in sugarcane, urad, mung and all vegetables as per requirement. Continue sowing of fodder crop dhaincha.
- In Western Plain Zone, continue sowing baby corn and summer fodder crops jowar, bajra, lobia, maize. Continue sowing of sunhemp and dhaincha, sanai, jwar, lobia, mung for green manuring. Continue transplanting of tomato, chilli and sowing of bhindi, cucurbits, planting of autumn sugarcane and sowing of sunflower, urad, mung, maize.
- In Bundelkhand Zone, apply irrigation in moong, bhindi, torai, cucurbits, cabbage, cauliflower, tomato, brinjal and chilli as per requirement.
- In North Eastern plain Zone, due to prevailing weather condition, there may be chances of attack of blight and aphid in tomato, for control, spray mixture of Mencozeb 0.2% @ 400 g or Carbendazim 0.2% @ 400 g and 0.2% Monocrotophos @ 200 ml in 200 litres of water per acre on a non rainy day.
- In Western Plain Zone, due to prevailing weather condition, there may be chances of attack of mite in okra, for control, spray Ethion @ 1.5 to 2 ml per litre of water on a non rainy day.
- Suitable varieties for sowing are given in Annexure III.

#### ❖ **Horticulture:**

- In Cold Arid Zone of Jammu and Kashmir, undertake planting of fruit plants in the orchards.
- In Valley Temperate Zone of Jammu & Kashmir due to rise in temperature farmers are advised to protect young fruit plants from heat by providing thatches/cover but ensure free circulation of air.
- In North Eastern Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of anthracnose in banana, for control spray 0.3 % Coperoxycloride.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, undertake grafting in apple and pear.
- In Mild Hills Sub-Humid Zone of Himachal Pradesh, weather is conducive for leaf spots on young leaves in soft seeded varieties (Sindhuri and Mridula) of in pomegranate, spray Bavistin @ 100 g + Streptocycline @ 20 g in 200 litres of water after current spells of rain.
- In Transitional Plain Zone of Inland Drainage and in Semi-Arid Eastern Plain Zone of Rajasthan, due to rise in temperature, there may be chances of flower and fruit drops in citrus fruits; for control, spray Planofix @ 1 ml per 4.5 litres of water.

#### ❖ **Animal Husbandry**

- As heat wave conditions very likely at isolated places over West Rajasthan on 27<sup>th</sup> May, cattles/goats may preferably be allowed for grazing during early morning and late evening hours to avoid exposure to extreme hot conditions and during hot hours, they must be tied and fed in shaded place or under the tree. Sprinkle cold water 2-3 times a day on the body of the animal to overcome the heat. Apply 4-6 inch thick hay thatch as a roofing material. Undertake spraying of water on floor and roof of animal shelter periodically during peak hot hours which lowers the temperature and consequently reduces the heat load on animals. Proper ventilation should be maintained for free circulation of air in the sheds. Provide plenty of clean drinking water to animals and use anti-stress medicines like Zee-stress. In Poultry cover water tank and lines with gunny bags to provide cool water, use foggers/fans and sprinklers to reduce temperature and to increase air flow, cover roofs of the sheds with coconut tree leaves or grass,

white wash roofs and water tanks to reduce heat absorption, ensure proper cross ventilation to avoid ammonia accumulation and provide feed during cooler parts of the day (early morning or late evening). Add electrolytes and vitamin-C in drinking water.

- In sub tropical Zone of Jammu Kashmir, farmers are advised to add calcium supplement in the feed of dairy animals and heifers especially fed rice straw these days to prevent calcium deficiency and intestinal blockage. Sheeps and goats need to be vaccinated against Sheep and Goat pox. Black Quarter vaccination must be carried among heifers above 4 month age.
- In Valley Temperate Zone of Jammu and Kashmir, farmers are advised to vaccinate sheeps and goats against Enterotoxaemia (ETV vaccine 2ml/sub cut) and FMD (FMD vaccine 1ml/Intra muscular).

❖ **Floriculture**

- In Valley Temperate Zone of Jammu & Kashmir, continue planting of liliium, gladiolus and dahlia.

❖ **Apiculture:**

- In Sub Tropical Zone of Jammu and Kashmir, to protect the bee colonies from high temperature shift it to shady areas or migrate to cooler places or cover with wet gunny bags. To control mite, dust Sulphur on top bars @ 1g/frame/oxalic acid acid treatment @ 3.5%/litre water

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

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

Sub-Divisions	11.05.16		18.05.16		25.05.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	0.0	-100	**	**
Changlang	8.8	-83	216.2	150	27.5	-61
Dibang Valley	**	**	0.0	-100	0.0	-100
East Kameng	15.0	-73	10.8	-82	12.1	-70
East Siang	0.0	-100	87.9	27	99.5	36
Kurung Kumey	**	**	0.0	-100	**	**
Lohit	1.3	-98	181.2	188	79.4	17
Lower Dibang Valley	0.0	-100	141.1	176	57.9	-13
Lower Subansari	**	**	0.0	-100	**	**
Papumpare	33.6	-73	94.7	-5	55.1	20
Tawang	15.0	-76	69.0	-6	12.5	-83
Tirap	11.2	-82	70.7	7	52.0	-25
Upper Siang	92.2	125	90.7	-26	193.8	120
Upper Subansari	59.6	148	54.8	149	31.6	-30
West Kameng	3.0	-95	27.6	-62	2.1	-97
West Siang	**	**	0.0	-100	1.7	-96
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	4.5	-94	96.5	11	2.3	-97
Barpeta	38.2	-47	149.0	72	25.3	-69
Bongaigaon	45.0	-57	101.3	20	2.2	-98
Cachar	6.4	-93	214.3	56	121.4	63
Chirang	57.4	-45	131.5	-100	16.1	-83
Darrang	**	**	0.0	-100	0.0	-100
Dhemaji	0.0	-100	0.0	-100	**	**
Dhubri	63.8	-19	122.4	39	86.4	-3
Dibrugarh	4.5	-93	107.8	75	84.1	50
Goalpara	65.2	-3	141.3	51	11.2	-86

Golaghat	8.7	-85	113.7	90	53.2	31
Hailakandi	9.0	-90	279.0	198	197.9	145
Jorhat	8.8	-85	95.0	38	56.4	-2
Kamrup(Rural)	28.1	-48	156.7	130	0.6	-99
Kamrup(Metro)	18.6	-66	62.9	-8	10.9	-80
Karbi Anglong	6.6	-73	33.5	15	34.8	-3
Karimganj	6.6	-96	251.2	112	125.7	-5
Kokrajhar	54.3	-45	174.2	105	6.9	-93
Lakhimpur	22.9	-65	88.9	24	32.9	-59
Morigaon	22.6	-33	51.0	41	10.2	-72
N.C.Hills	0.0	-100	196.6	170	247.0	317
Nagaon	2.5	-94	59.5	86	32.3	5
Nalbari	35.3	-61	104.2	43	2.6	-96
Sonitpur	10.8	-82	107.2	84	11.4	-79
Sibsagar	15.8	-72	80.8	24	141.3	237
Tinsukia	11.3	-83	111.8	79	57.3	-2
Udalgiri	26.8	-65	110.0	65	17.7	-70
<b>Meghalaya</b>						
East Garo Hills	160.4	83	128.0	40	144.0	165
East Khasi Hills	48.6	-69	406.0	143	96.6	-33
Jaintia Hills	2.0	-98	0.5	-99	0.0	-100
Ribhoi	12.9	-80	52.1	-20	57.7	42
South Garo Hills	24.0	-69	14.5	-83	16.0	-80
West Garo Hills	72.6	-6	81.8	-4	16.9	-78
West Khasi Hills	9.0	-85	0.5	-99	0.0	-100
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	1.2	-98	53.5	-27	153.9	92
Champhai	**	**	0.0	-100	**	**
Kolasib	**	**	0.0	-100	0.0	-100
Lawngtlai	**	**	0.0	-100	0.0	-100
Lunglei	**	**	0.0	-100	**	**
Mamit	**	**	0.0	-100	**	**
Saiha	13.0	-81	34.5	-63	192.0	104
Serchhip	0.0	-100	1.4	-98	2.6	-97
<b>Manipur</b>						
Bishnupur	**	**	0.0	-100	0.0	-100
Chandel	2.0	-96	38.0	64	151.0	340
Churachandpur	**	**	0.0	-100	**	**
Imphal east	1.3	-98	57.1	42	147.9	233
Imphal west	0.0	-100	150.2	515	174.4	818
Senapati	**	**	0.0	-100.0	**	**
Tamenglong	**	**	0.0	-100	**	**
Thoubal	0.0	-100	53.0	136	55.5	59
Ukhrul	0.0	-100	0.0	-100	1.0	-95
<b>Nagaland</b>						
Dimapur	4.5	-86	42.0	-8	44.2	75
Kephire	**	**	0.0	-100	**	**
Kohima	0.9	-87	21.4	-40	78.0	112



Longleng	**	**	0.0	-100	0.0	-100
Mokokchung	**	**	0.0	-100	**	**
Mon	**	**	0.0	-100	**	**
Paren	**	**	0.0	-100	**	**
Phek	15.0	-52	26.5	-26	58.0	58
Tuensang	**	**	0.0	-100	**	**
Wokha	4.0	-93	2.0	-97	3.0	-96
Zunheboto	**	**	0.0	-100	**	**
<b>Tripura</b>						
Dhalai	55.6	-48	69.8	-32	159.8	101
NorthTripura	44.0	-62	136.0	48	133.2	56
SouthTripura	8.5	-90	35.7	-55	170.9	143
West Tripura	20.8	-76	61.9	-27	177.4	156
<b>Himachal Pradesh</b>						
Bilaspur	62.3	642	0.2	-98	17.6	28
Chamba	33.6	195	20.7	1	22.0	127
Hamirpur	60.6	604	1.3	-89	20.6	63
Kangra	54.2	421	2.0	-83	18.9	115
Kinnaur	1.7	-89	2.5	-86	5.1	-62
Kullu	29.5	83	1.4	-92	11.6	-39
Lahaul and Spiti	13.3	-36	16.0	-43	4.9	-69
Mandi	107.1	649	0.0	-99	33.3	100
Shimla	46.0	171	0.5	-97	17.0	16
Sirmaur	18.2	149	0.0	-100	13.1	57
Solan	81.2	560	0.0	-100	18.5	48
Una	74.3	1276	0.0	-100	16.5	189
<b>Punjab</b>						
Amritsar	0.0	-100	0.0	-100	7.6	145
Barnala	0.0	-100	0.0	-100	5.0	127
Bhatinda	0.0	-100	0.0	-100	1.0	-63
Faridkot	0.0	-100	1.0	-83	0.0	-100
Fatehgarh Saheb	0.3	-90	0.0	-100	9.7	184
Ferozpur	0.7	-81	0.0	-100	0.0	-100
Gurdaspur	12.3	119	0.0	-100	10.6	186
Hoshiarpur	14.9	175	0.0	-100	7.2	43
Jalandhar	0.0	-100	0.0	-100	5.0	11
Kapurthala	0.0	-100	0.0	-100	16.8	786
Ludhiana	7.0	38	1.4	-64	3.4	-18
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	7.8	0	3.6	50
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	27.5	305	0.0	-100	7.1	20
Patiala	6.5	75	5.8	54	16.0	309
Ropar	10.5	72	3.0	-61	10.0	37
Sangrur	2.6	-50	1.9	-56	16.0	232
Mohali	7.8	11	0.0	-100	12.0	131
TarnTaran	0.0	-100	0.0	-100	20.0	770
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						

Ambala	12.2	176	0.6	-92	17.3	261
Bhiwani	0.0	-100	0.0	-100	3.4	111
Chandigarh	22.2	394	0.9	-92	14.5	63
Faridabad	14.0	419	0.0	-100	10.0	335
Fatehabad	0.0	-100	0.0	-100	0.3	-86
Gurgaon	3.6	64	0.4	-90	0.0	-100
Hissar	0.0	-100	0.4	-92	9.2	301
Jhajar	0.0	-100	0.0	-100	8.0	473
Jind	1.7	-52	0.7	-85	12.5	331
Katihah	0.0	-100	0.0	-100	3.3	156
Karnal	13.4	253	2.2	-31	14.1	354
Kurukshetra	8.3	230	0.0	-100	16.8	782
Mahendragarh	8.1	153	0.0	-100	11.1	126
Mewat	2.0	67	0.2	-92	25.0	558
Palwal	0.0	-100	0.0	-100	7.5	295
Panchkkula	13.3	80	0.8	-87	4.3	-41
Panipat	5.4	86	0.2	-92	9.8	476
Rewari	3.8	217	0.0	-100	41.6	3100
Rohtak	0.0	-100	0.0	-100	6.6	154
Sirsa	0.0	-100	0.0	-100	1.2	-54
Sonepat	11.2	219	0.0	-100	9.0	210
Yamunanagar	9.8	21	0.0	-100	19.5	191
<b>Delhi</b>						
Central Delhi	0.0	-100	0.0	-100	8.0	60
East Delhi	0.0	-100	0.0	-100	3.0	-40
New Delhi	3.8	-11	0.0	-100	6.2	25
North Delhi	3.0	-29	0.6	-90	6.5	30
North East Delhi	4.0	-5	0.0	-100	3.0	-40
North West Delhi	7.0	67	0.0	-100	2.5	-50
South Delhi	1.4	-67	0.5	-92	9.1	82
South West Delhi	0.5	-88	0.4	-93	12.7	154
West Delhi	0.0	-100	0.0	-100	0.0	-100
<b>Jammu &amp; Kashmir</b>						
Anantnag	12.3	-47	23.2	-17	23.2	-4
Badgam	10.7	-36	5.8	-76	10.8	-40
Bandipore	**	**	**	**	**	**
Baramula	19.9	-53	29.0	28	41.6	71
Doda	15.6	-4	21.8	-4	16.2	-25
Ganderbal	19.4	18	17.2	-15	19.4	30
Jammu	6.0	18	0.0	-100	3.4	-32
Kargil	**	**	**	**	**	**
Kathua	3.9	200	1.0	-84	5.8	142
Kistwar	**	**	**	**	**	**
Kulgam	9.2	-60	10.6	-62	23.6	-2
Kupwara	16.9	-28	29.2	8	26.6	12
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	8.0	-56	8.2	-68	20.6	10
Rajouri	1.2	-73	0.0	-100	0.0	-100

Ramban	32.4	100	50.6	124	16.6	-24
Reasi	14.0	-14	1.8	-84	30.4	266
Samba	1.8	-65	0.0	-100	2.6	-48
Shopian	**	**	**	**	**	**
Srinagar	10.3	-37	12.7	-37	21.4	43
Udhampur	17.8	9	5.4	-52	2.4	-71
<b>East Madhya Pradesh</b>						
Anuppur	0.5	-93	0.0	-100	0.0	-100
Balaghat	1.5	9	0.0	-100	0.0	-100
Chhatarpur	3.6	345	0.0	-100	5.5	265
Chindwara	24.7	1956	3.8	533	0.0	-100
Damoh	19.5	3150	0.0	-100	0.0	-100
Dindori	7.0	600	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.6	-25
Katni	6.0	1900	0.0	-100	0.0	-100
Mandla	13.2	1550	0.0	-100	0.0	-100
Narsingpur	0.6	500	0.0	-100	0.0	-100
Panna	3.2	540	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	3.5	285
Sagar	5.4	984	0.0	-100	0.1	-94
Satna	4.5	793	1.3	-38	13.8	2653
Seoni	1.3	-2	0.0	-100	0.0	-100
Shahdol	8.0	789	0.0	-100	0.0	-100
Sidhi	0.0	-100	1.0	-58	9.4	840
Singrauli	5.0	355	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	8.3	538	0.0	-100	6.0	275
<b>West Madhya Pradesh</b>						
Agar	2.1	933	0.0	-100	0.0	-100
Alirajpur	19.8	19700	0.0	-100	0.0	-100
Asoknagar	7.3	2317	0.0	-100	0.0	-100
Badwani	2.1	313	0.0	-100	0.0	-100
Betul	4.7	1070	0.0	-100	0.0	-100
Bhind	5.9	1080	0.0	-100	0.0	-100
Bhopal	9.0	1186	0.0	-100	0.0	-100
Burhanpur	1.4	-51	0.0	-100	0.0	-100
Datia	13.0	665	0.0	-100	1.9	-7
Dewas	3.3	1011	0.0	-100	0.0	-100
Dhar	0.5	371	0.0	-100	0.0	-100
Guna	2.8	300	0.0	-100	0.0	-100
Gwalior	22.4	964	0.3	-79	9.8	713
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	5.4	970	0.0	-100	0.0	-100
Indore	8.7	624	0.0	-100	0.0	-100
Jhabua	18.0	1100	0.0	-100	0.0	-100
Khandwa	9.0	1025	0.0	-100	0.0	-100
Khargone	2.8	1292	0.0	-100	0.0	-100
Mandsaur	1.3	39	0.0	-100	0.0	-100



Morena	1.1	10	0.0	-100	2.0	-5
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	8.9	2880	0.0	-100	0.0	-100
Rajgarh	9.7	2330	0.0	-100	0.0	-100
Ratlam	12.4	1671	0.0	-100	0.0	-100
Sehore	4.6	1050	0.0	-100	0.0	-100
Shajapur	11.0	1733	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	1.0	-23	0.0	-100	0.3	-87
Ujjain	25.2	2700	0.0	-100	0.0	-100
Vidisha	2.2	214	0.0	-100	0.0	-100
<b>Chhattisgarh</b>						
Bastar	6.2	-20	15.0	30	0.0	-100
Bijapur	18.6	613	0.0	-100	0.0	-100
Bilaspur	9.4	177	29.0	505	9.6	200
Dantewara	2.4	-45	0.0	-100	1.7	-61
Dhamtari	19.8	662	0.0	-100	0.4	-87
Durg	8.8	361	1.8	-25	6.7	316
Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.7	-92	0.5	-91
Kanker	**	**	**	**	0.0	-100
Korba	6.3	126	4.2	23	0.0	-100
Koriya	**	**	**	**	**	**
Kawardha	0.0	-100	0.0	-100	0.0	-100
Mahasumund	12.8	1494	0.0	-100	0.0	-100
Narayanpur	66.2	1003	0.0	-100	0.0	-100
Raigarh	**	**	3.5	-13	0.0	-100
Raipur	6.3	152	2.5	-51	0.3	-89
Rajnandgaon	3.8	58	0.3	-93	0.0	-100
Surguja	0.0	-100	2.7	-24	2.9	22
<b>East Uttar Pradesh</b>						
Allahabad	0.0	-100	0.5	-71	2.8	78
Ambedkar Nagar	13.5	487	0.0	-100	35.0	797
Azamgarh	2.1	11	0.0	-100	29.5	852
Bahraich	1.5	-73	2.0	-81	29.5	467
Ballia	24.8	726	0.0	-100	39.1	1121
Balrampur	0.0	-100	0.0	-100	11.6	71
Banda	8.4	364	0.0	-100	11.5	149
Barabanki	0.6	-75	0.0	-100	5.2	26
Basti	0.0	-100	0.0	-100	14.2	264
Chandauli	1.0	-23	0.0	-100	2.0	18
Deoria	5.0	39	0.0	-100	13.0	145
Faizabad	13.6	613	0.0	-100	2.2	-41
Farrukhabad	2.1	-13	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	4.9	208
Gazipur	7.3	246	0.0	-100	21.1	1139
Gonda	1.0	-60	0.0	-100	3.9	15
Gorakhpur	8.3	158	5.9	-38	31.0	546
Hardoi	0.8	-73	0.1	-98	1.1	-63

Jaunpur	0.0	-100	0.0	-100	9.4	328
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	8.3	654	0.0	-100	20.0	1896
Kanpur Dehat	5.6	1300	0.0	-100	0.4	-75
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	19.6	334	0.3	-97	46.9	668
Kushi nagar	16.0	171	6.5	-36	26.7	260
Lucknow	2.7	148	0.0	-100	8.2	172
Maharajganj	22.5	226	0.5	-93	29.5	198
Mau	3.5	52	0.0	-100	32.5	948
Mirzapur	6.8	322	0.0	-100	1.0	-66
Pratapgarh	6.0	445	0.0	-100	31.2	1257
RaiBareilly	0.0	-100	0.0	-100	8.0	519
Sahuji Maharajnagar	0.0	-100	0.0	-100	3.0	50
Sant Kabirnagar	0.0	-100	0.0	-100	18.0	227
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	**	**	0.0	-100	**	**
Sidharthnagar	8.0	150	0.0	-100	18.0	205
Sitapur	4.1	10	0.0	-100	10.3	256
Sonbhadra	0.8	-74	1.9	-44	1.5	-9
Sultanpur	6.9	433	0.0	-100	15.9	287
Unnao	6.0	300	0.0	-100	8.8	447
Varanasi	3.2	146	0.0	-100	10.0	525
<b>West Uttar Pradesh</b>						
Agra	0.3	-88	0.6	-67	5.7	305
Aligarh	5.1	88	0.0	-100	11.9	324
Auraiya	2.0	54	0.0	-100	5.0	127
Badaun	12.0	243	0.0	-100	1.4	-46
Baghpat	6.4	88	0.0	-100	4.4	10
Bareilly	45.6	1528	0.0	-100	24.4	526
Bijnor	13.0	364	0.0	-100	17.5	257
Bulandsahar	13.0	282	0.0	-100	12.0	264
Etah	0.7	-80	0.0	-100	2.7	90
Etawah	0.0	-100	0.0	-100	5.8	311
Firozabad	6.1	203	0.0	-100	6.9	145
GBNagar	1.0	0	0.0	-100	0.0	-100
Ghaziabad	0.9	-76	0.5	-87	11.4	337
Hamirpur	14.3	2283	1.3	67	1.3	-33
Jalaun	5.9	493	0.0	-100	2.3	30
Jhansi	3.4	68	0.0	-100	0.5	-72
Jotiba Phule Nagar	0.0	-100	0.0	-100	15.0	500
Kanshiramnagar	4.0	90	0.0	-100	4.0	90
Lalitpur	1.0	25	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	6.5	195
Mahoba	3.0	25	0.0	-100	0.0	-100
Mainpuri	2.2	100	0.0	-100	9.6	405
Mathura	0.0	-100	0.0	-100	1.0	-58
Meerut	4.1	2	0.0	-100	14.6	355

Moradabad	0.4	-86	0.6	-88	21.4	589
Muzaffarnagar	2.0	-5	0.0	-100	27.3	551
Pilibhit	17.6	433	0.0	-100	4.4	33
Rampur	12.0	234	0.0	-100	16.1	221
Saharanpur	3.3	-36	0.0	-100	34.3	358
Shahjahanpur	7.5	242	0.0	-100	23.7	717
<b>Uttarakhand</b>						
Almora	24.0	203	5.3	-58	0.0	-100
Bageshwar	48.5	514	60.0	380	5.4	-44
Chamoli	18.5	20	30.0	42	25.9	70
Champawat	15.0	42	6.5	-62	11.0	1
Dehradun	17.8	97	0.0	-100	7.9	-36
Garhwal Pauri	5.3	-32	0.7	-92	10.7	33
Garhwal Tehri	21.2	102	0.0	-100	1.9	-87
Haridwar	23.3	276	0.0	-100	25.0	541
Nainital	52.8	388	7.9	-41	38.4	262
Pithorgarh	72.6	308	45.3	65	30.2	42
Rudraprayag	12.8	-40	33.4	50	54.8	175
Udham Sing Nagar	25.4	567	0.6	-92	25.2	218
Uttarkashi	7.4	-52	5.5	-82	11.1	-59
<b>Bihar</b>						
Araria	7.9	-59	51.3	94	82.9	244
Arwal	0.0	-100	1.9	4	3.2	28
Aurangabad	0.0	-100	5.0	32	0.0	-100
Banka	20.9	175	6.1	-42	8.7	16
Begusarai	14.1	48	0.0	-100	7.9	-35
Bhabua	0.0	-100	0.7	-87	2.9	-69
Bhagalpur	25.5	111	4.7	-67	9.5	-45
Bhojpur	5.4	93	2.1	-74	6.3	-9
Buxar	**	**	0.0	-100	0.0	-100
Darbhanga	**	**	45.1	264	30.5	148
East Champaran	**	**	2.0	-81	42.7	244
Gaya	0.0	-100	5.0	-4	0.4	-90
Gopalganj	**	**	4.2	-42	0.0	-100
Jahanabad	**	**	0.0	-100	0.0	-100
Jamui	**	**	6.5	-18	2.5	-73
Kathihar	2.1	-90	4.0	-77	75.4	317
Khagadia	3.1	-69	3.1	-71	7.7	-36
Kishanganj	**	**	19.0	-25	33.7	-16
Lakhisarai	**	**	1.7	-85	0.0	-100
Madhepura	27.7	63	18.8	-13	25.8	55
Madhubani	**	**	36.9	104	8.5	-58
Monghyar	**	**	0.0	-100	0.0	-100
Muzaffarpur	18.8	90	4.4	-69	36.0	159
Nalanda	3.1	-32	8.2	37	14.1	111
Nawada	4.1	-34	0.0	-100	0.0	-100
Patna	14.2	256	5.3	-26	22.8	300
Purnea	28.0	24	92.3	268	116.9	362
Rohtas	0.0	-100	9.2	61	4.6	92



Saharsha	**	**	25.5	11	0.0	-100
Samstipur	25.5	235	3.7	-53	42.6	273
Saran	10.1	46	1.0	-86	23.9	113
Sheikpura	**	**	17.6	179	0.0	-100
Sheohar	3.4	-73	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	12.6	-22	0.0	-100
Siwan	0.0	-100	0.0	-100	24.8	163
Supaul	38.5	139	69.6	221	47.7	147
Vaishali	44.2	1063	0.9	-86	22.9	270
West Champaran	9.9	43	12.0	-6	60.3	310
<b>Jharkhand</b>						
Bokaro	21.2	172	3.8	-51	22.1	163
Chatra	**	**	8.5	130	0.0	-100
Deoghar	7.2	7	27.1	201	2.6	-71
Dhanbad	17.6	78	21.1	60	0.0	-100
Dumka	30.2	119	20.3	21	34.0	150
East Singbhum	35.4	160	19.9	31	18.9	50
Garhwa	0.0	-100	10.0	1076	40.0	6567
Giridih	23.2	186	27.7	168	16.6	91
Godda	15.0	95	0.0	-100	11.1	-7
Gumla	2.3	-77	33.0	166	21.6	181
Hazaribagh	7.4	19	11.2	37	1.2	-89
Jamtara	26.4	184	43.8	222	14.4	2
Khunti	20.5	280	67.0	341	0.0	-100
Koderrna	2.0	-53	10.1	119	0.0	-100
Latehar	**	**	11.8	141	0.0	-100
Lohardagga	3.9	-29	15.4	108	4.4	-53
Pakur	8.2	-46	3.5	-84	6.8	-53
Palamau	0.0	-100	7.5	98	0.0	-100
Ramgarh	1.6	-81	4.8	-62	9.4	-27
Ranchi	8.2	19	6.8	-44	18.8	46
Sahebganj	**	**	17.8	63	0.0	-100
Saraikela	10.9	-7	44.1	262	16.3	57
Simdega	0.0	-100	6.0	-52	17.7	293
West Singbhum	23.3	77	49.0	253	24.9	117
<b>East Rajasthan</b>						
Ajmer	0.0	-100	0.4	-71	0.0	-100
Alwar	13.3	291	0.1	-99	9.3	145
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	4.4	775	0.0	-100	1.3	14
Bharatpur	5.4	135	0.0	-100	11.2	251
Bhilwara	3.5	250	0.0	-100	0.0	-100
Bundi	4.0	400	1.3	48	0.0	-100
Chittorgarh	3.4	180	0.4	-74	0.0	-100
Dausa	0.0	-100	0.0	-100	11.0	244
Dholpur	2.2	67	1.0	-44	11.3	567
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	6.1	165	1.2	-68	3.4	-14
Jhalawar	11.0	1000	0.0	-100	0.0	-100

Jhunjhunu	5.7	35	1.5	-72	3.8	-40
Karauli	0.0	-100	0.0	-100	6.5	211
Kota	6.1	1419	0.0	-100	0.9	-20
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.1	-94
Sikar	15.7	282	0.4	-92	5.0	4
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	3.0	42	0.0	-99	0.0	-100
Udaipur	0.0	-100	2.0	31	0.0	-100
<b>West Rajasthan</b>						
Barmer	0.1	-95	0.0	-100	0.0	-100
Bikaner	0.0	-99	0.0	-100	0.6	-86
Churu	16.0	357	0.1	-97	0.7	-85
Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	4.4	631	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.2	-85	0.0	-100
Nagaur	0.0	-100	5.1	50	1.1	-71
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-98	0.0	-100	0.0	-100
<b>Gujarat Region</b>						
Ahmedabad	0.1	-97	0.0	-100	0.0	-100
Anand	2.6	119	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	12.5	1983	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	0.0	-100
Narmada	0.0	-100	0.4	-60	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.2	-74	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100
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	4.9	1528	0.0	-100	0.0	-100
Bhavnagar	0.2	-73	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	1.7	237	0.0	-100	0.0	-100

Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
<b>Maharashtra</b>						
<b>Konkan &amp; Goa</b>						
Mumbai City	0.0	-100	0.0	-100	2.4	-62
Mumbai Suburban	0.0	-100	0.0	-100	0.0	-100
North Goa	0.0	-100	0.8	-93	1.7	-95
Raigad	0.0	-100	0.0	-100	0.2	-95
Ratnagiri	0.0	-100	0.1	-97	0.0	-100
Sindhudurg	0.0	-100	1.0	-81	0.8	-96
South Goa	0.0	-100	6.2	-37	0.9	-97
Thane	0.0	-100	0.0	-100	0.0	-100
<b>Madhya Maharashtra</b>						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	2.4	300	0.0	-100	0.0	-100
Jalgaon	1.8	254	0.0	-99	0.0	-100
Kolhapur	0.0	-100	2.3	-82	2.5	-86
Nandurbar	0.3	-63	0.1	-95	0.0	-100
Nasik	9.3	615	5.3	281	0.0	-100
Pune	7.6	302	6.7	31	0.1	-99
Sangli	0.0	-100	2.7	-73	8.4	-45
Satara	1.4	-63	2.4	-64	1.0	-91
Solapur	0.6	-71	3.2	-45	1.2	-85
<b>Marathwada</b>						
Aurangabad	4.0	341	0.7	-50	0.0	-100
Beed	2.0	67	2.4	-33	0.5	-93
Hingoli	1.8	22	0.0	-100	0.0	-100
Jalna	0.9	-2	1.6	2	0.0	-100
Latur	8.2	529	0.8	-79	0.0	-100
Nanded	9.9	481	0.2	-94	0.0	-100
Osmanabad	3.5	84	0.0	-100	0.0	-100
Parbhani	1.4	1	0.0	-100	0.0	-100
<b>Vidarbha</b>						
Akola	6.0	902	0.1	-89	0.0	-99
Amraoti	14.2	1483	0.2	-75	0.0	-100
Bhandara	14.1	607	5.3	13	1.1	-29
Buldhana	4.8	855	1.3	31	0.0	-100
Chandrapur	21.9	1051	0.2	-96	0.0	-100
Gadchiroli	5.1	75	0.0	-100	0.0	-100
Gondia	9.4	525	0.0	-100	6.7	294
Nagpur	7.9	275	0.1	-92	0.0	-100
Wardha	10.2	437	0.0	-100	0.0	-100
Washim	9.7	593	1.0	-9	0.4	-76
Yeotmal	10.0	378	0.4	-87	0.0	-100
<b>Odisha</b>						
Angul	4.0	-64	2.4	-85	9.6	-15
Balasore	25.4	-1	0.4	-99	138.0	511



Bargarh	6.5	72	6.6	35	1.6	-53
Bhadrak	57.2	124	0.5	-98	101.5	452
Bolangir	4.1	-40	5.7	-56	0.0	-100
Boudh	0.0	-100	0.0	-100	2.8	-76
Cuttack	16.2	6	0.6	-97	64.9	423
Deogarh	0.0	-100	12.6	52	4.8	-27
Dhenkanal	11.8	-24	0.3	-98	40.1	218
Gajapati	29.9	-40	34.1	-8	52.6	163
Ganjam	10.1	-64	14.9	-36	77.4	453
Jagatsingpur	2.3	-89	0.0	-99	197.0	948
Jajpur	27.8	40	0.0	-100	70.3	340
Jharsuguda	0.0	-99	6.8	-34	3.4	-40
Kalahandi	13.0	51	2.6	-81	2.8	-56
Kandhamal	2.3	-86	8.6	-59	2.8	-79
Kendrapara	8.7	-44	0.0	-100	172.0	962
Keonjhar	26.8	11	29.8	7	54.7	216
Khurda	1.1	-93	0.0	-100	53.5	277
Koraput	35.4	28	37.9	97	56.2	241
Malkangiri	23.8	143	6.8	-61	8.0	-33
Mayurbhanj	17.4	-14	16.0	-52	44.5	76
Nawapara	2.9	-35	0.0	-100	0.8	-82
Nawarangpur	24.9	45	7.8	-49	8.0	-79
Nayagarh	6.0	-7	31.7	265	48.4	281
Puri	0.0	-99	1.1	-96	117.2	1484
Rayagada	16.4	-51	29.9	18	12.5	-10
Sambalpur	1.6	-72	4.7	-43	8.2	26
Sonepur	0.8	-84	0.0	-100	1.0	-86
Sundargarh	3.3	-49	3.3	-64	9.5	9
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	19.7	-69	19.8	-76	29.6	-71
North & Middle Andaman	0.0	-100	1.4	-98	89.2	-10
South Andaman	0.0	-100	6.4	-92	95.8	-5
<b>GWB</b>						
Bankura	5.4	-62	46.3	256	16.7	37
Birbhum	24.4	73	28.5	41	0.4	-97
Burdwan	31.2	173	51.1	169	19.0	-2
East Midnapore	3.0	-84	5.9	-69	109.5	345
Hooghly	15.0	-24	35.3	53	11.4	-59
Howrah	2.1	-90	11.0	-60	18.8	-45
Kolkata	4.7	-76	13.4	-42	111.7	296
Murshidabad	27.0	58	5.0	-70	0.0	-100
Nadia	65.9	274	65.5	270	4.8	-82
24 Pargana (N)	46.4	111	33.9	95	44.9	58
Purulia	14.6	85	13.8	-20	15.8	27
24 Pargana (S)	4.1	-81	9.2	-77	74.8	214
West Midnapore	40.6	129	13.0	-44	36.0	61
<b>SHWB &amp; Sikkim</b>						






Cooch Behar	57.1	-5	116.1	70	11.4	-87
Darjeeling	28.5	-40	36.9	-29	44.0	-32
East Sikkim	28.5	-53	109.2	55	69.7	26
Jalpaiguri	56.1	-7	78.7	21	25.6	-66
Malda	21.9	7	28.2	46	6.3	-75
North Dinajpur	**	**	**	**	**	**
North Sikkim	25.8	-60	200.3	165	96.8	15
South Dinajpur	2.3	-93	16.7	-50	22.8	-42
South Sikkim	22.0	-64	34.6	-51	69.0	25
West Sikkim	20.5	-68	53.5	-29	70.0	-17
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshina Kannada	7.0	-64	74.2	139	13.8	-75
Udupi	0.0	-100	78.6	148	10.1	-85
Uttara Kannada	0.0	-100	49.9	156	11.8	-68
<b>N I Karnataka</b>						
Bagalkote	2.8	-63	17.4	37	29.8	93
Belagavi	0.0	-100	29.1	72	24.5	26
Bidar	43.7	1021	6.2	-28	0.0	-100
Dharwad	0.0	-100	38.6	123	18.2	-20
Gadag	3.7	-62	29.3	60	27.3	43
Haveri	6.1	-55	60.2	214	5.9	-71
Kalaburgi	33.2	656	7.4	-19	7.3	-25
Koppal	17.8	170	8.6	-39	28.4	83
Raichur	8.6	75	3.4	-70	15.1	20
Vijayapura	2.0	-56	15.1	51	11.0	-29
Yadgir	14.1	329	3.7	-65	5.3	-46
<b>S I Karnataka</b>						
Ballari	32.2	288	5.1	-60	37.7	134
Bangalore Rural	55.3	300	6.1	-75	53.0	140
Bangalore Urban	36.8	123	0.9	-97	81.3	220
Chamarajanagar	51.5	108	20.0	-43	2.2	-93
Chikaballapur	28.4	208	2.3	-89	76.8	341
Chikkamagaluru	7.8	-44	54.0	94	3.5	-88
Chitradurga	20.9	129	8.7	-51	6.5	-61
Davangere	0.0	-100	41.3	106	21.3	14
Hassan	22.9	26	44.2	55	0.4	-98
Kodagu	58.1	120	56.8	61	5.9	-86
Kolar	58.7	482	2.0	-91	73.9	279
Mandya	36.5	137	7.8	-75	1.2	-96
Mysuru	46.6	105	22.1	-38	0.0	-100
Ramanagara	27.5	43	4.5	-85	45.1	45
Shivamogga	0.0	-100	49.3	139	3.6	-82
Tumakuru	14.2	18	3.2	-88	32.2	69
<b>Kerala</b>						
Alappuzha	28.2	-41	109.4	62	70.7	-12
Kannur	22.7	-20	38.6	-26	19.4	-73
Ernakulam	37.5	18	83.7	18	53.2	-41
Idukki	93.8	212	92.2	64	45.6	-34

Kasaragod	0.1	-99	44.4	-2	8.6	-88
Kollam	53.7	22	201.2	261	75.0	23
Kottayam	33.0	-21	99.2	59	45.4	-37
Kozhikode	15.9	-45	64.2	4	36.8	-50
Malappuram	52.2	35	46.6	-13	26.0	-58
Palakkad	64.5	163	43.5	20	32.7	-28
Pathanamthitta	52.7	-5	244.3	266	42.5	-36
Thiruvananthapuram	41.9	14	168.0	256	196.3	236
Thrissur	58.1	44	55.1	-20	53.2	-39
Wyand	50.3	117	30.6	-25	1.2	-98
<b>Tamil Nadu</b>						
Ariyalur	0.0	-100	43.2	128	46.2	223
Chennai	0.0	-100	152.5	1299	45.6	231
Coimbatore	25.1	46	45.4	93	1.4	-92
Cuddalore	0.0	-100	75.0	443	20.5	120
Dharmapuri	15.3	0	15.5	-47	48.4	104
Dindigul	39.0	110	40.0	84	2.3	-88
Erode	10.4	-30	18.0	-30	0.7	-97
Kanchipuram	0.0	-100	142.2	1280	29.5	178
Kanyakumari	21.3	-22	82.4	169	153.1	370
Karikal	0.0	-100	126.9	1144	46.2	949
Karur	60.7	333	55.6	204	1.0	-91
Krishnagiri	30.4	76	14.8	-48	64.6	161
Madurai	4.0	-78	40.1	125	0.8	-95
Nagapattinam	0.0	-100	124.6	1110	41.8	335
Namakkal	23.5	39	39.2	44	9.5	-55
Nilgiris	30.6	51	32.2	-3	0.0	-100
Perambalur	66.8	480	62.3	218	26.0	66
Puducherry	0.0	-100	38.8	270	19.2	225
Pudukottai	4.2	-58	67.3	438	4.8	-59
Ramanathapuram	4.3	-63	74.9	534	0.0	-100
Salem	18.9	15	32.2	8	31.1	46
Sivaganga	13.7	-10	76.3	406	7.6	-35
Thanjavur	1.3	-91	70.0	474	53.8	327
Theni	31.8	129	33.0	145	0.6	-96
Tirunelveli	22.2	57	55.1	371	2.6	-62
Tirupur	25.7	90	76.3	214	0.0	-100
Tiruvallur	0.1	-99	108.3	875	49.6	262
Tiruvannamalai	5.4	-57	43.0	105	25.0	50
Tiruvarur	5.2	-65	106.6	988	73.9	521
Toothukudi	1.4	-87	21.8	148	1.5	-57
Trichy	26.9	101	64.0	300	28.3	113
Vellore	9.0	-34	25.1	40	35.5	75
Villupuram	1.6	-84	49.4	196	26.1	127
Virudhunagar	15.9	-12	41.8	158	3.3	-74
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	7.8	-71	8.0	-48	122.9	591

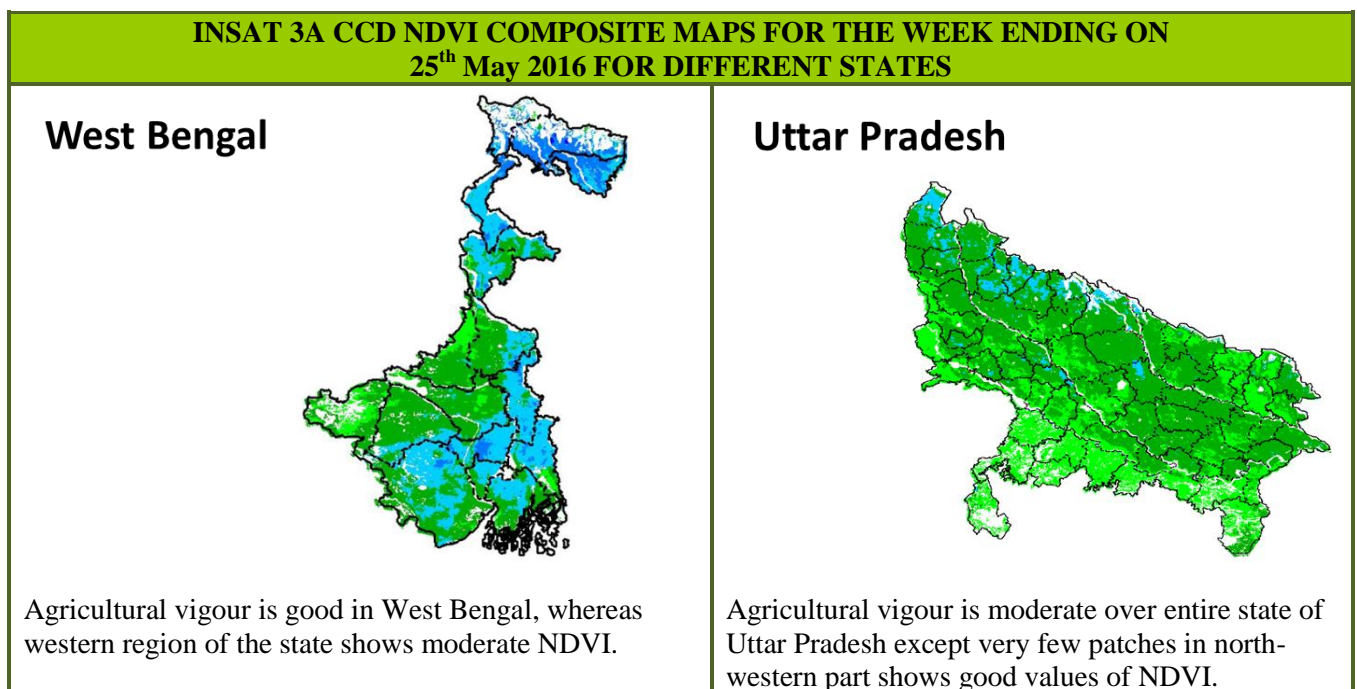


Guntur	32.7	67	0.2	-98	62.3	321
Krishna	20.4	122	4.0	-69	78.9	460
Nellore	3.6	-70	69.6	377	45.4	226
Prakasam	9.3	-11	4.7	-65	27.8	84
Sirkakulam	7.3	-61	17.5	8	155.1	1024
Visakhapatnam	12.7	-59	17.2	-26	116.1	560
Vizianagram	11.2	-60	22.3	14	95.7	371
West Godavari	12.0	-32	2.2	-86	75.7	525
<b>Rayalaseema</b>						
Anantapur	13.9	79	4.4	-68	34.6	143
Chittoor	25.7	120	30.7	69	44.9	133
Cuddapah	10.2	40	7.9	-31	13.9	-1
Kurnool	18.9	136	2.6	-81	6.4	-54
<b>Telangana</b>						
Adilabad	22.7	631	0.4	-93	1.0	-75
Hyderabad	96.7	2150	0.1	-99	14.8	68
Karimnagar	50.0	707	0.7	-89	1.5	-70
Khammam	24.7	126	3.5	-73	2.6	-83
Mehabubnagar	33.9	653	3.6	-68	10.4	-1
Medak	36.5	748	2.4	-72	0.9	-85
Nalgonda	73.1	1683	0.0	-100	0.9	-90
Nizamabad	32.3	534	0.1	-99	1.1	-76
Rangareddy	62.5	1258	3.2	-72	7.3	10
Warangal	27.8	479	1.7	-82	0.5	-92

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

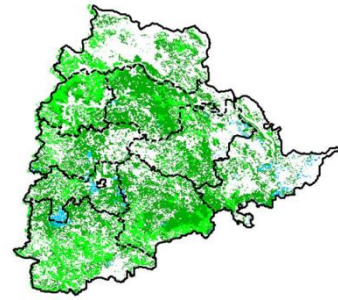


## Uttarakhand



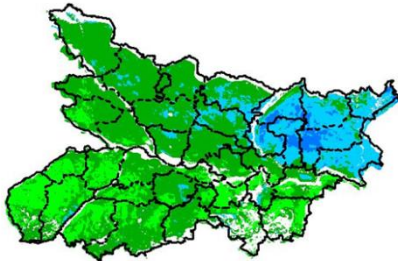
Agriculture vigour is moderate over entire state of Uttarakhand except few patches in west shows good Values of NDVI.

## Telangana



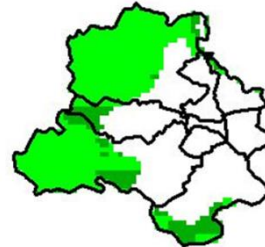
Agriculture vigour is moderate over entire state of Telangana.

## Bihar



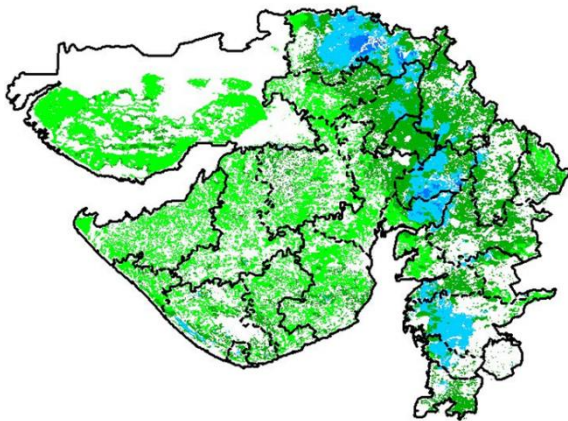
Agriculture vigour is moderate over major parts of Bihar whereas eastern part shows patches of good NDVI values.

## Delhi



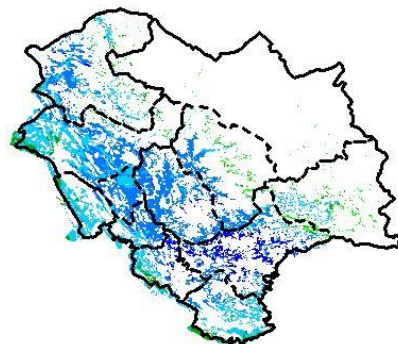
Agriculture vigour is moderate all over Delhi.

## Gujarat



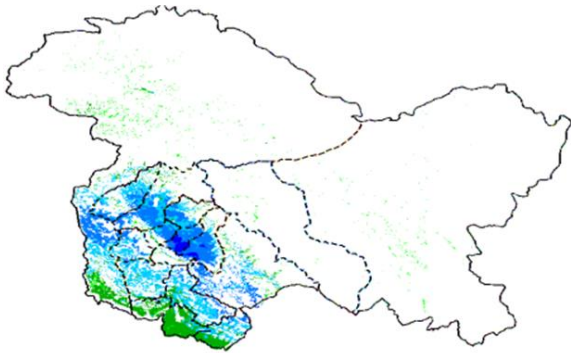
Agriculture vigour is moderate in Kutch and Saurashtra whereas, good agricultural vigour is observed over patches in Gujarat region.

## Himachal Pradesh



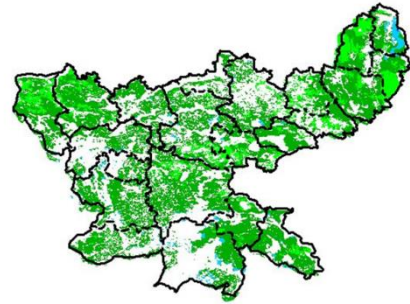
Agriculture vigour is good over entire state of Himachal Pradesh, except few patches over north and east shows moderate values of NDVI.

### Jammu & Kashmir



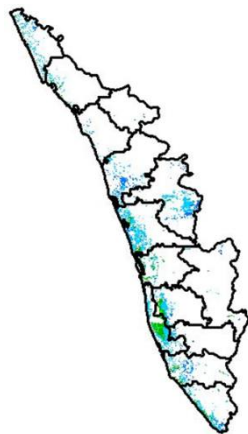
Agriculture vigour is good over central and northern part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.

### Jharkhand



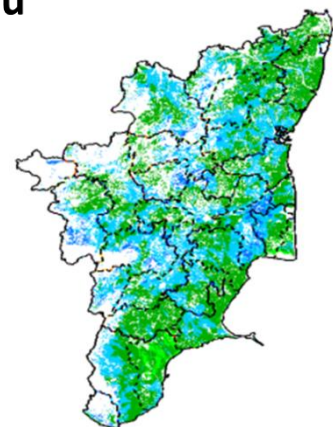
Agriculture vigour is moderate over entire state of Jharkhand.

### Kerala



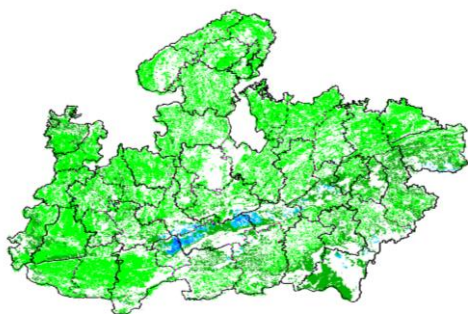
Agriculture vigour is moderate over entire state of Kerala except few patches over north shows good values of NDVI.

### Tamil Nadu



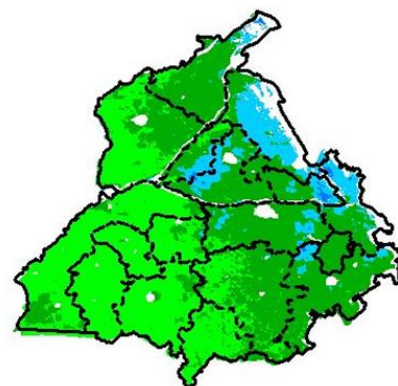
Agricultural vigour is moderate over entire state of Tamil Nadu.

### Madhya Pradesh



Agriculture vigour shows moderate values of NDVI over entire state of Madhya Pradesh except few patches in central shows good values of NDVI.

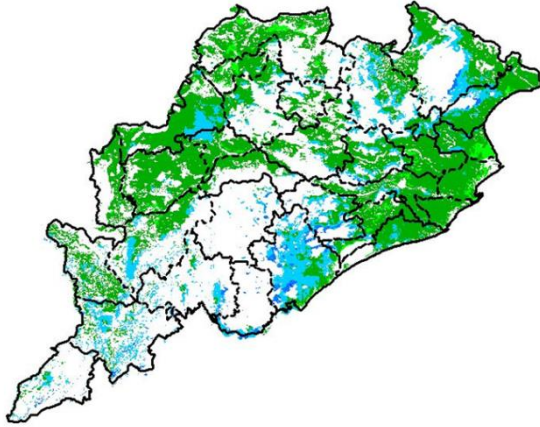
### Punjab



Agricultural vigour is good over northern parts of Punjab whereas, the remaining region shows moderate NDVI.

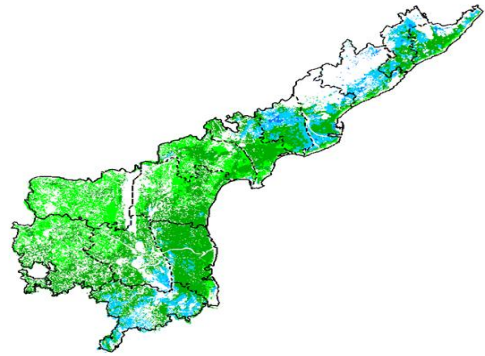


### Rajasthan



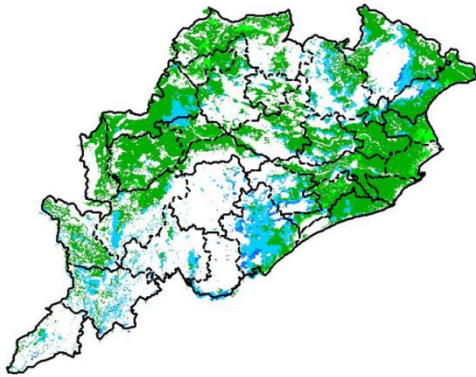
Agriculture vigour is moderate over the entire state of Rajasthan.

### Andhra Pradesh



Agriculture vigour is good over coastal part of Andhra Pradesh whereas other region shows moderate values.

### Odisha



Agricultural vigour is good in patches of coastal and western parts of Odisha where rest of region shows moderate NDVI.

### Haryana



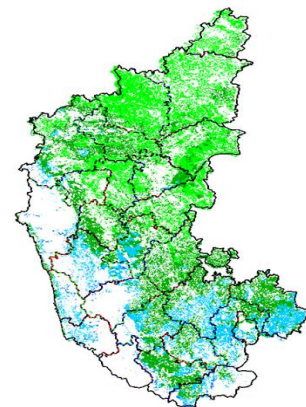
Agriculture vigour is moderate over entire state of Haryana.

### Chhattisgarh



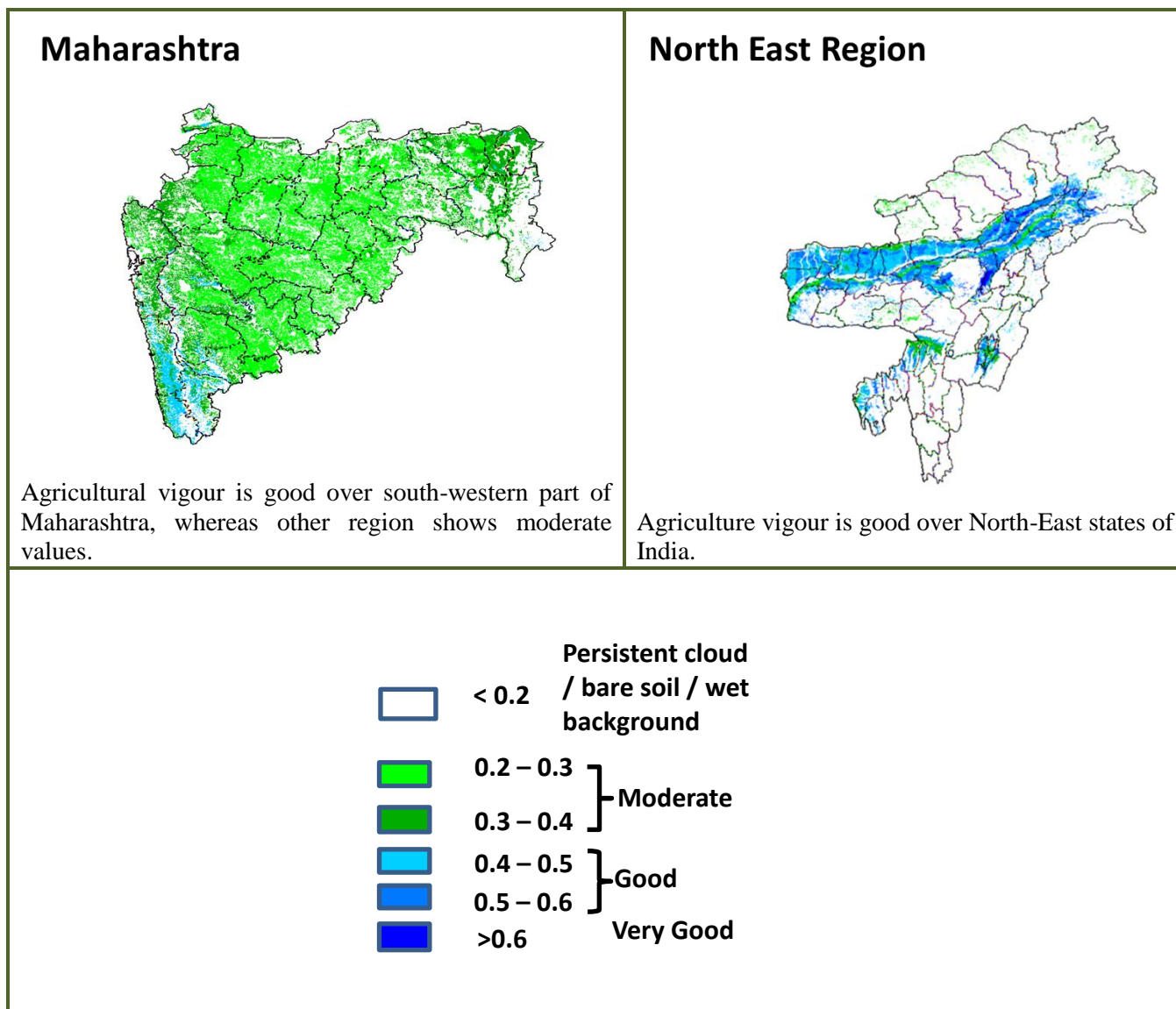
Agriculture vigour is moderate in the state of Chhattisgarh with few patches of good NDVI in southern region.

### Karnataka



Agriculture vigour is good over patches in South-western part of Karnataka state. Rest of the state shows moderate values of NDVI.





### Annexure III

- Assam**
- Early *ahu* rice:** semi dwarf *ahu* rice varieties like Luit, Kopilee, Cauvery, Culture -1, Rasi, Banglami, Puthichapali, Nilajee, Hasakumra.
- Early *ahu* rice (for low lying area):** IR-50, Pusa 2-21, Rasi, Culture -1, Luit, Kopilee (Semi-dwarf varieties); Rongadoria, Dubaichenga, Nilajee (Tall varieties).
- Transplanted normal *ahu* rice:** Gobind, IR-36, IR-50.
- Bao rice:** Maguri, Kekua Bao, Negheri Bao, Tara Bao.
- Kharif maize:** Hybrid variety like Ganga 5, Hi starch and Composite variety like NLD, Dhawal, Naviot, Diara.
- Capsularis jute:** JRC 321 and UPC 94.
- Green gram:**Pratap, T-44, Kopergaon, AAU-39, K-851 and ML-55.
- Black gram:**T-9, Pant-U-19, UG-157.
- Sugarcane:** Kolong, Luhit, Dhansiri, Co 1148, CO-Jor- 1, CO-Jor- 2.
- Okra:**Pusa Sawani, Arka Anamika, Parbhdani Kranti.
- Ridge gourd:** Pusa Nashdar or other local varieties like AAU-1, AAU-2, AAU-3 etc.
- Sponge gourd:** Pusa Chikni or other local varieties.
- Tapioca:** H-43, H-97, H-165, S-865, H-2304.
- Maize:** Ganga 5, Navjot.
- Banana:** Dwarf Cavendish (Dwarf Cultivar), Cheni Champa, Malbhog (Medium Tall cultivars).
- Okra:**Parvani Kranti, Arka Anamica.
- Ginger:** Nadia, Karkai, Maran, Jorhat, chaina etc.
- Turmeric:** Shillong type, CL-24, PTS-38, PCT-13, VK-145.

**Meghalaya**

- Brinjal :**Local Umroi, Muta Kesh, Narrow.
- Bottle gourd:** Pusa Summer, Prolific Long, Prolific Round, Pusa Meghdoot, Pusa Hybrid 2.

### Manipur

**Pre-kharif rice:** RC Maniphou 4, 5 and 12.

### Tripura

**Jhumrice :** Garo Malati, Binnietc.

### Odisha

**Sugarcane:** Nilamadhaha, Sabitri, Co 7508, Co 7704, Co 62175, Co 740, Co 7219, CoJ 8201, Co 975, Co 7706, Co 8402, Co 62175.

**Groundnut:** Smruti, AK 12-24 TAG

### Jharkhand

**Lentil:** P.L.-406, P.L.-639, K.L.S -218, K-75

**Barley:** Jyoti, Ratna, D.L.-36, B.R.-32

**Linseed:** Sweta, Shubhra, T-397

**Onion:** N-53, Pusa red, Arka nicketan, Arka kalia

### Jammu & Kashmir

**Cabbage:** Golden Acre, Pride of India and Pusa Mukta.

**Cauliflower:** Giant Snow Ball, Pant Gobh 2 & 3 and Pusa Synthetic.

### Uttarakhand

**Sugarcane:** Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148, COS-96268 etc.

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

**Brinjal:** (brinjal-4, ARU-1 etc ) and potato (Kufri Jyoti, Kufri Ashok & Kufri Anand etc.

**Tomato:** Tomato-3, Pant T-3, Him Sona, Him Shikhar etc variety in nursery).

### Himachal Pradesh

**Cauliflower:** snowball and Giant snowball.

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

**Turnip:** PTWG-1

**Carrot:** Pusakesar

**Fenugreek :** I.C. 74, kasoori.

**Peas :** Mater ageta-6 (early variety).

**Cabbage:** Pride of India, golden achor and hybrid

### East Uttar Pradesh

**Sugarcane:** coj-64, cos-96268, cos-98231, cos-767, cos-84, cos-32, copant-84212, Ko.Sha.-88230, 95255, Ko.Sha.-95436, 01235.

**Tomato:** pusa early, pusa ruby, HS 101, Pant Ta-2, Azad Ta-2, Narendra Tamatar-1,2,4,5,6

**Cauliflower:** pusaDipali.

**Okra:** PusaSawani, VarsaUphar, Azad kranti.

**Brinjal:** Pant Samrat, Pant Rituraj, Pusa hybrid-6.

**Cabbage:** Japani, PusaDieepali, PusaKartiki

**cowpea:** Lobia-263 & Pusa phaguni

**Chilli:** Pant C-1, Jwala and Sadabahar etc.

**Grapes:** parlet, beauty seedless, pusa seedless.

**Maize:** nawjyoti, kanchan, gaurav, surya, navin, shweta, Azad uttam, prakash, dikalb-7074, payridikalp-8144, dakkan-115, mmh-135, pro-4212, ganga-11, pusa, makka-2, J.H.-3459,

**Urad:** TA-9, narendra urad-1, Azad urad-1, Uttara, azad urad-2, shekhar-2, pant. u. 19, pant u. 30, pant u. 35, P.D.U.-1

**Mung:** k-851 and JM-721, Narendra mung-1, Malviya jagruti, Janpriya, Meha, H.U.M.-16, Malviya Jyoti, T.M.V.-37, Samrat, P.D.M.-139, H.U.M.-12, pusa vaishakhi, T.A.-44, Pant mung 12, pusa vishal, pusa-9531, P.D.M.-11, S.M.L.668

**Onion:** Agrifound light red, Nashik selection-1

**Radish:** pusa chetaki, pusa himani, pusa saris, pusa reshmi, japanis white radish.

### West Uttar Pradesh

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

**Sugarcane:** ko.sha 88230, ko.sha 8436, ko 0238, ko.sha 07250 or U.P. 0512.

**Barseem:** V.L.1, V.L.10, maskavi, jai, K-8027, K-9565, Mandakini.

**Onion:** pusa red, pusa white.

**Sugarcane:** The mid and late maturing varieties of sugarcane: CO Pant 211, Co Sa 687 and Co Sa 8436.

The varieties recommended in areas with poor water drainage: B.O.54 and B.O.91.

**Baby corn:** M.H.-4

### Punjab

**Sugarcane:** CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89, CO118, COJ85, COJ64.

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

**Onion:** Punjab Naroya, Punjab White and PRO 6.

**Radish:** Punjab Pasand and Japanese white.

**Turnip:** L-1.

**Carrot:** Punjab Black Beauty, Punjab Carrot Red and PC-34.

**Tomato:** TH-1, Punjab Ratta, Punjab NR 7, Punjab Chuhara, Punjab Upma, Castle Rock.

### Delhi

**Oat :** J.H.O-822, O.L.-9, Pusa oat-5.

**Barseem:** Vardan, Buland Barseem-1, Masakavi, J.B-3;

**Radish:** Japani White, Hill queen, French Radish;

**Spinach:** PusaBharti.

**Amaranths:** PusalalChaulai, PusaKiran.

**Ladyfinger:** Pusa A-4.

**Radish:** Japani White, Hill queen, French Radish.

**Spinach:** All Green, PusaBharti;

**Fenugreek:** PusaKasuri;

**Coriander:** PantHaritama, Hybrids.

**Turnip:** Pusa Swati, Local Red variety.

### West Rajasthan

**Isabgol:** RI 89 & GI-2.

**Fenugreek:** RMt 1 & RMt 305.

**Barley:** RD 2052, RD 2035 (suitable for saline and alkali soils) and RD 2715 (dual purpose), RD2058, 2503, 103, NDB1173.

**cumin:** GC 4, RZ -19, RZ 223, RZ19, 209, 223 and GC4b.

**Cowpea:** RC-19, RC-101, RCP-27.

**Oat:** OS 6, OS 9.

**Berseem:** BL 10, BL 22.

**Cauliflower:** Pusa snow ball K-1, Hisar-1, Dania and Selection-7.

**Radish:** PusaRashmi.

**Carrot:** PusaKeshar.

**Zaid moong:** K-851, PDM-11, SML-668 Pusa Baisakhi, RMG-62, RMG-268 etc.

**Tinda:** Bikaneri green, dilpasand

**Cucurbit:** Lakhnau ageti and Arkasital,

**Muskmelon:** Durgapura madhu, Punjab sunehri, Punjab hybrid and pusa madhuras

**Watermelon:** sugar baby, Durgapura mitha, Durgapura lal and khira

**Sugarcane:** CO-6617, 7717; COS- 95255, 767

Desi cotton: RG-8, 18, HD-123, hyb Raj- DH 9

### East Rajasthan

**Muskmelon:** Durgapura madhu, Punjab sunehri, Punjab hybrid, arkajeet, hara madhu, pusa madhuras.

**Water melon:** Sugar baby, Durgapura meetha, durgapura kesar, arka jyoti(hybrid), madhu (hybrid).

**Tinda:** Beekaneri green, Dil pasand, arka tinda.

**Kakri:** Lucknow ageti and arka sheetal.

**Zaid Pearl millet (fodder):** raj bajra chari, rajko Zaint, L-72, L-74.

**Zaid sorghum (fodder):** Raj chari-3, Raj chari-1, Raj chari-2 for single cutting and SSG59-3, M.P. chari for many cutting.

**Okra:** Pusa Savani, Arka anamika, Arka Abhya, Aajad kranti, Prabhni kranti, Pusa-A-4, Pusa Makhmali.

**Cowpea:** Short durC-152, RS-9, FS-68, RC-19 and RC-101, C-152, RS-9.

**Onion:** Punjab safed goal, Udaipur 102, nasik red.

**Lucerne :** Anand-2, LLC-3, RL-88 & Type-9.

**Berseem:** Muskavivardan and PusaJiant.

**Summer groundnut:** T.A.G.24, T.G.37A, G.G.2, D.H.86.

### Tamil Nadu

**Cotton:** Surabhi and SVPR-2

### Madhya Pradesh

**Soybean:** JS 335, JS 93-05, JS 95-60, JS 72-52, JS 90-41, JS 20-29.

**Red gram:** Jawahar -4, Ahsa (ICPL-87119), JKM-7, 189.

**Rice:** short duration (JR, 305, JR 201, Poornima, JD 201, JRH-5, JRH-8, Danteshwari).

medium duration (IR 64, IR 54, IR 36, Madhuri, Kranti, Mahamaya, Pusa Basmati).

**Sugarcane:** KO Jawahar-86141, 86572, 86032.