



# *National Agromet Advisory Service Bulletin*



*Friday 13<sup>th</sup> May 2016*  
*(For the period 13<sup>th</sup> to 17<sup>th</sup> May 2016)*



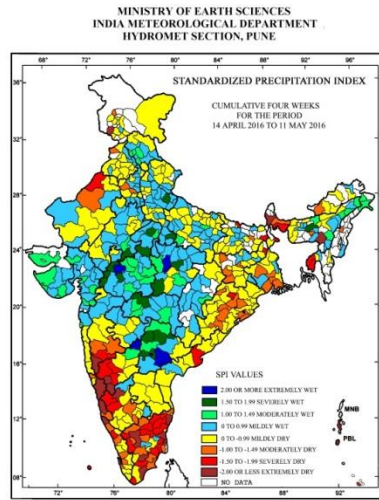
*Issued by*  
*National Agrometeorological Advisory Service Centre,*  
*Agricultural Meteorology Division,*  
*India Meteorological Department, Shivajinagar, Pune.*

**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

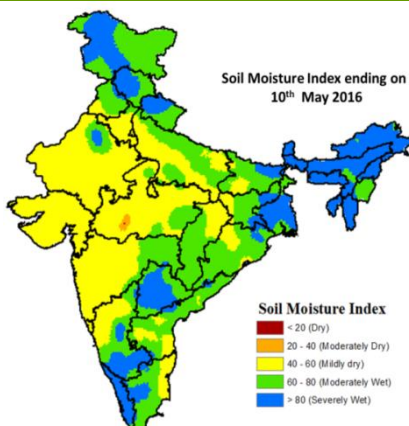
- Conditions are becoming favourable for onset of southwest monsoon over Nicobar Islands, south Andaman sea and parts of south Bay of Bengal during next 3-4 days.

## Standardised Precipitation Index Four Weekly for the Period 14<sup>th</sup> April to 11<sup>th</sup> May 2016



- Extremely/severely wet conditions experienced in most districts of Telangana; Kamrup districts of Assam; Bareilly, Hamirpur districts of Uttar Pradesh; Jhalawar district of Rajasthan; Gwalior, Indore, Jhabua, Ratlam, Ujjain, Ashoknagar, Alirajpur, Chhindwara, Damoh, Katni districts of Madhya Pradesh; Amraoti district of Maharashtra; Bidar district of Karnataka.
- Extremely/Severely dry conditions experienced in most districts of Andaman & Nicobar Islands; many districts of Tripura; Tamil Nadu; few districts of Karnataka; Jaintia Hills district of Meghalaya; Cooch Behar, Darjeeling, South Dinajpur districts of West Bengal; Deogarh district of Odisha; Pakur district of Jharkhand; Katihar, Sitamarhi districts of Bihar; Rajouri district of Jammu & Kashmir; Sri Ganganagar district of Rajasthan; Kolhapur, Sangli district of Maharashtra; East Godavari district of Andhra Pradesh; Kozhikode, Kasargod districts of Kerala; Lakshadweep district of Lakshadweep.
- Moderately dry conditions experienced in few districts of West Bengal; Odisha; Delhi; Tamil Nadu; West Kameng district of Arunachal Pradesh; Ri-Bhoi districts of Meghalaya; Kohima district of Nagaland; Gumla, Palamu, Simdega, Ramgarh districts of Jharkhand; Khagaria district of Bihar; Hisar, Rohtak districts of Haryana; Amritsar district of Punjab; Kupwara district of Jammu & Kashmir; Bikaner district of Rajasthan; North Goa district of Konkan & Goa; Satara, Sholapur districts of Maharashtra; Dakshin Kannada, Chamaraanagar, Tumkur, Ramanagara districts of Karnataka; Alappuzha, Ernakulam, Kottayam, Malappuram districts of Kerala.
- Rest of the country experienced moderately wet/ mildly dry/mildly wet conditions.

## Soil Moisture Index ending on 10<sup>th</sup> May 2016

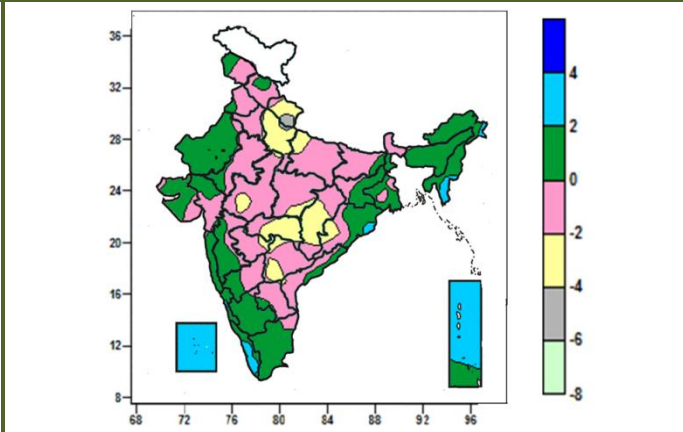
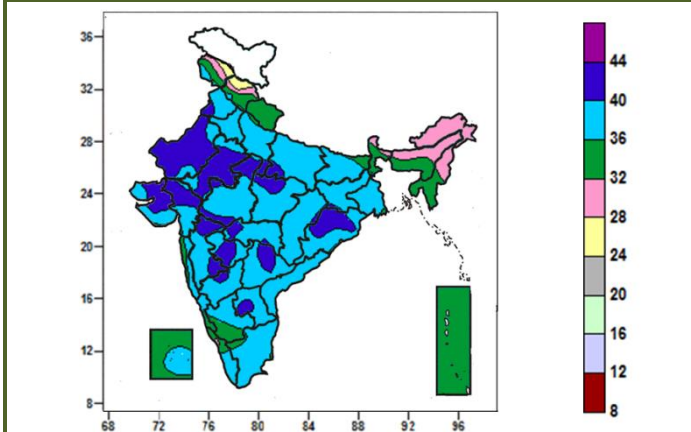


- Soil Moisture Index indicates extremely wet condition over South Karnataka, Telangana, North-East Region, West Bengal, few districts of Uttarakhand, Himachal Pradesh and Jammu & Kashmir. Moderate wet condition is observed in Tamil Nadu, Andhra Pradesh, Chhattisgarh, Vidarbha, Odisha, Jharkhand and few districts of Uttar Pradesh. The remaining regions of India show mild dry conditions.

**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 11.05.2016**

**Actual Mean Maximum Temperature (°C) in India for the week ending 11.05.2016**

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 11.05.2016**

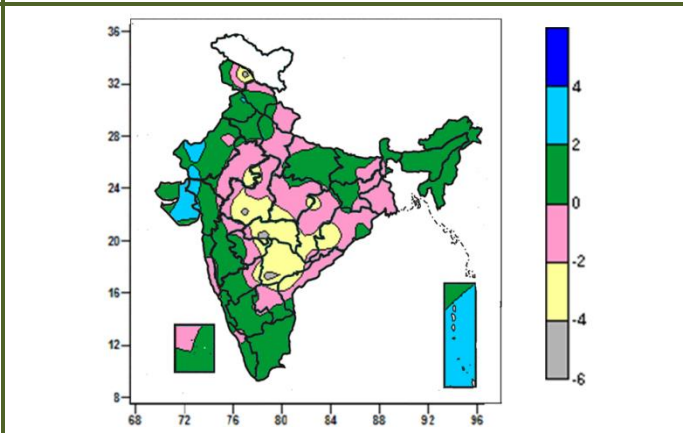
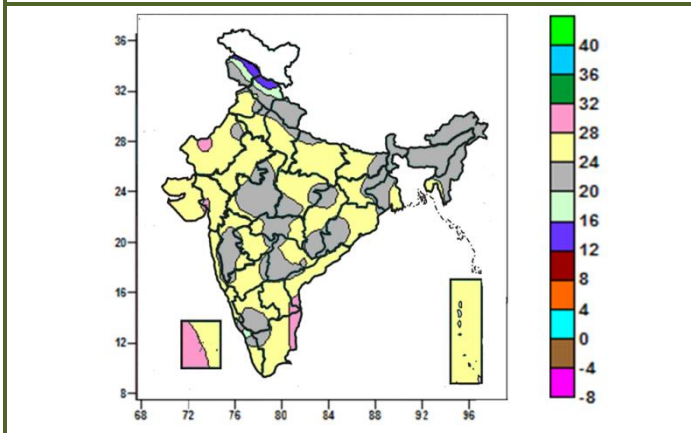


- Mean maximum temperature was between 40 to 44°C over many parts of Rajasthan, Gujarat, Marathwada, some parts of Punjab, Uttar Pradesh, Madhya Pradesh, Madhya Maharashtra, Vidarbha, Odisha, Telangana, Rayalaseema, North Interior Karnataka and isolated pockets of Jharkhand and Chhattisgarh.
- Mean maximum temperature was between 36 to 40°C over rest of the country except Uttarakhand, Sub-Himalayan West Bengal & Sikkim, North East India, Andaman and Nicobar Islands, many parts of Jammu & Kashmir, Himachal Pradesh, Lakshadweep, some parts of Bihar, South Interior Karnataka, Coastal Karnataka, Kerala and isolated pockets of Konkan, Tamil Nadu, Uttar Pradesh, Gangetic West Bengal, where it was between 24 to 36°C.

- Mean maximum temperature was above normal by 2 to 4°C over Lakshadweep, many parts of Andaman & Nicobar Islands, Mizoram, some parts of Kerala and isolated pockets of Arunachal Pradesh, Manipur, Odisha.
- It was normal to near normal over rest of the country except many parts of Uttarakhand, West Uttar Pradesh, Vidarbha, Chhattisgarh, some parts of East Uttar Pradesh, Madhya Pradesh, Odisha, Telangana, isolated pockets of Haryana and Delhi, Marathwada, Coastal Andhra Pradesh, where it was below normal by 2 to 4°C and isolated pockets of Uttarakhand and West Uttar Pradesh where it was below normal by 4 to 6°C.

**Actual Mean Minimum Temperature (°C) in India for the week ending 11.05.2016**

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 11.05.2016**



- Mean minimum temperature was between 12 to 16°C over some parts of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh and isolated pockets of Kerala.

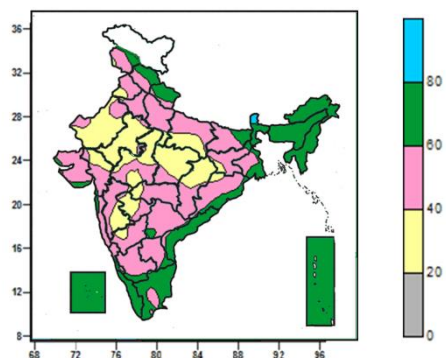
- Mean minimum temperature was above normal by 2 to 4°C over many parts of Saurashtra and Kutch, Andaman and Nicobar Island, some parts of West Rajasthan and Gujarat Region and isolated pockets of Punjab.
- Mean minimum temperature was normal to near

- Mean minimum temperature was between 20 to 28<sup>0</sup>C over rest of the country except some parts of Lakshadweep, Tamil Nadu, isolated pockets of West Rajasthan, Gujarat, Coastal Andhra Pradesh and Rayalaseema where it was between 28 to 32<sup>0</sup>C.

normal over rest of the country except many parts of West Madhya Pradesh, Vidarbha, Telangana, some parts of Jammu & Kashmir, East Madhya Pradesh, Chhattisgarh, Odisha, Coastal Andhra Pradesh, isolated pockets of East Rajasthan, Marathwada, North Interior Karnataka and Rayalaseema where it was below normal by 2 to 6<sup>0</sup>C.

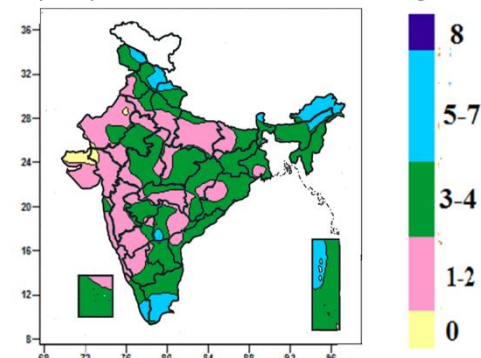
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 11.05.2016**

**Relative Humidity (%) over India for the week ending 11.05.2016**



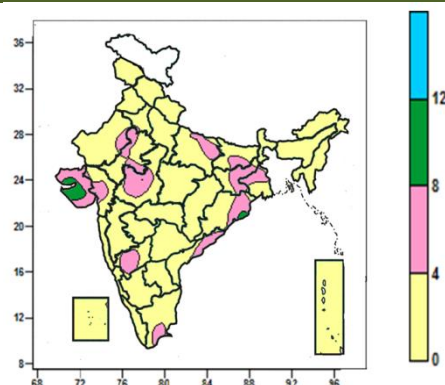
- Mean Relative humidity was above 80% over Sikkim.
- Mean Relative humidity was between 60 to 80% over North East India, Sub-Himalayan West Bengal, Lakshadweep, Kerala, Andaman & Nicobar Islands, many parts of Himachal Pradesh, Uttarakhand, Coastal Andhra Pradesh, Tamil Nadu, some parts of Jammu & Kashmir, Gangetic West Bengal, Bihar, Odisha, Coastal & South Interior Karnataka, Rayalaseema and isolated pockets of Jharkhand, Gujarat, Konkan and Telangana,
- Mean Relative humidity was between 20 to 60% over rest of the country.

**Cloud amount (okta) over India for the week ending 11.05.2016**



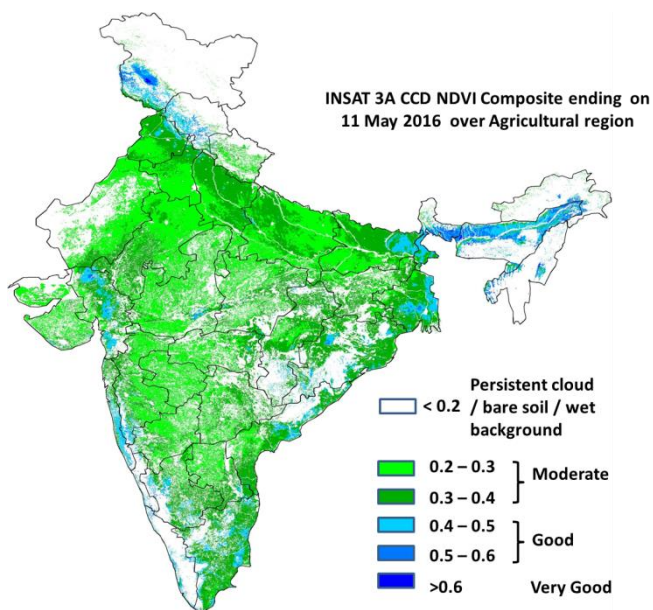
- Sky remained generally cloudy (5-7 okta) over many parts of Himachal Pradesh, Sikkim, Arunachal Pradesh, some parts of Jammu & Kashmir, Uttarakhand, Assam, Kerala, Tamil Nadu, Andaman and Nicobar Islands, isolated pockets of Telangana and Rayalaseema.
- Sky remained partly cloudy/mainly clear (3-4 okta/1 to 2) over rest of the country except some parts of Gujarat and isolated pockets of West Rajasthan, where it was clear sky (0 okta).

**Wind speed (knots) over India for the week ending 11.05.2016**



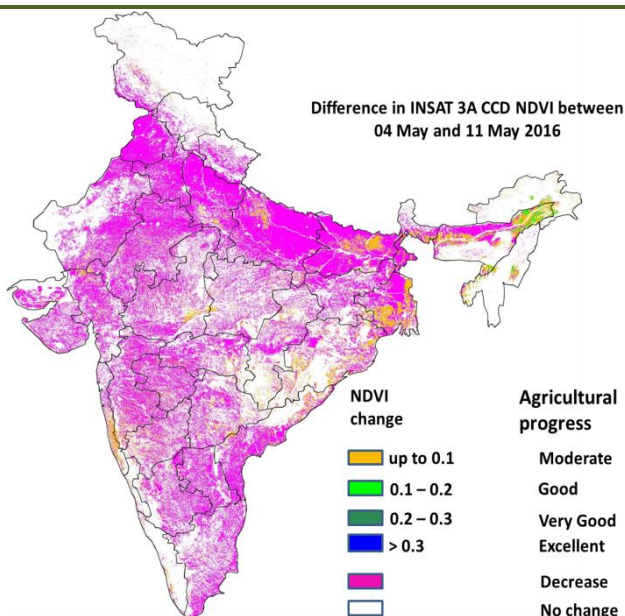
- Mean wind speed was 8 to 12 knots over some parts of Saurashtra & Kutch and isolated pockets of Odisha.
- Mean wind speed was 4 to 8 knots over many parts of Saurashtra & Kutch, Jharkhand, some parts of East Uttar Pradesh, Bihar, Gangetic West Bengal, Rajasthan, West Madhya Pradesh, Odisha, Gujrat Region, Coastal Andhra Pradesh, North Interior Karnataka and Tamil Nadu.
- Mean wind speed was less than 4 knots over rest of the country.

**INSAT 3A CCD NDVI COMPOSITE ENDING ON 11<sup>th</sup> MAY 2016 OVER AGRICULTURAL REGION OF INDIA**



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

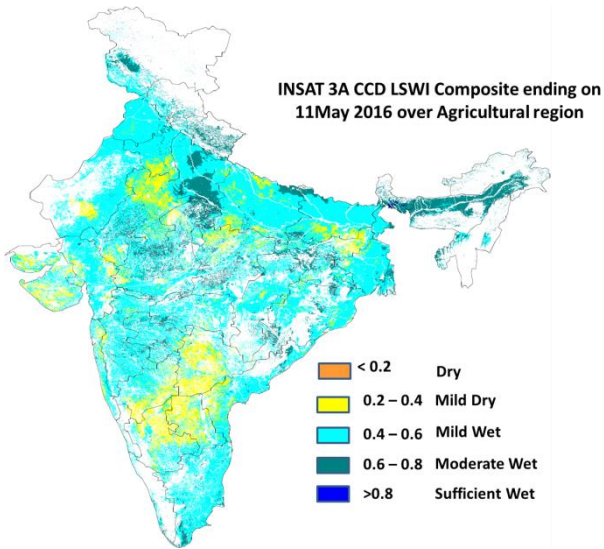
**Difference in INSAT 3A CCD NDVI between 4<sup>th</sup> and 11<sup>th</sup> May 2016**



- Decrease in NDVI is observed all the regions of the country. Few patches in Bihar, Uttar Pradesh, Assam, West Bengal, Odisha and Coastal Maharashtra show moderate progress in NDVI.

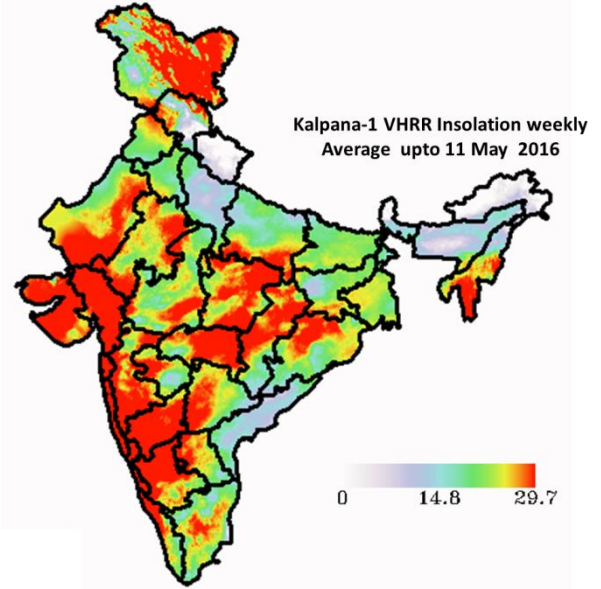
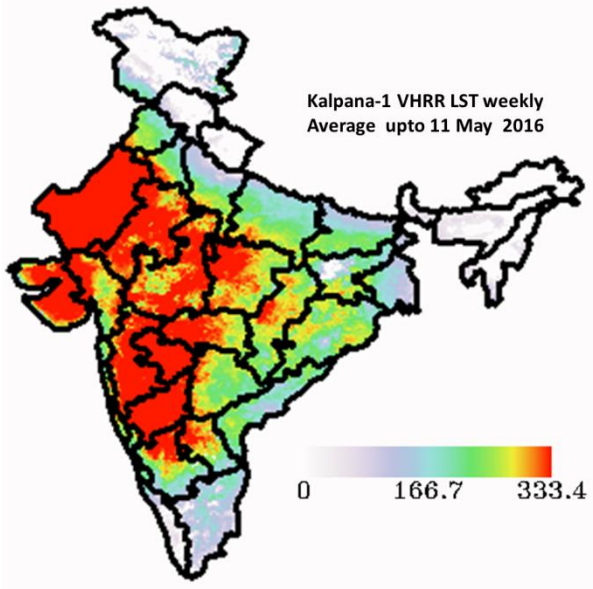
- INSAT 3A CCD NDVI composite maps for the week ending on 11<sup>th</sup> May 2016 for different States are given in Annexure II.

**INSAT 3A CCD LSWI COMPOSITE ENDING ON 11<sup>th</sup> MAY OVER AGRICULTURAL REGION OF INDIA**



- Mild Dry condition are observed in Karnataka, Telangana, Andhra Pradesh, patches in eastern Rajasthan, Northern Madhya Pradesh, southern part of Haryana, patches in Bihar and Saurashtra region. Moderate wet conditions are observed in east Uttar Pradesh, patches in Rajasthan, Madhya Pradesh and North East region. The remaining regions of India show mild wet conditions.

**OTHER SAT MET PRODUCTS**



## Weather Forecast for next 5 days valid upto 0830 hours of 18<sup>th</sup> May 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Gradual rise in day temperatures over northwest, west and central India during next 3-4 days.

### 5 Day Rainfall Forecast (MID DAY) 13<sup>th</sup> May 2016

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

#### % Station Reporting Rainfall

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

### Weather Warning during next 5 days

- **13 May (Day 1):** Heat wave conditions likely to prevail at isolated places over Haryana, Chandigarh & Delhi, Rajasthan, Madhya Pradesh, Vidarbha and Telangana. Heavy rain likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura. Thunderstorm accompanied with squall likely at isolated places over Bihar, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh and East Uttar Pradesh. Duststorm/thunderstorm accompanied with squall likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh and Rajasthan.
- **14 May (Day 2):** Heat wave conditions likely to prevail at isolated places over Haryana, Chandigarh & Delhi, Rajasthan, Madhya Pradesh, Vidarbha, Gujarat and Telangana. Heavy to very heavy rain likely at isolated places over Assam & Meghalaya and heavy rain likely at isolated places over Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura. Thunderstorm accompanied with squall likely at isolated places over East Uttar Pradesh. Duststorm/thunderstorm accompanied with squall likely at isolated places

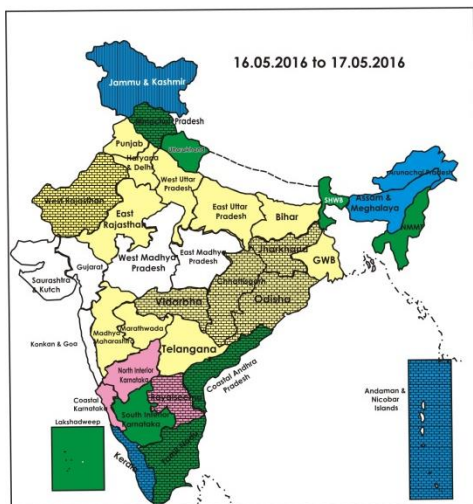
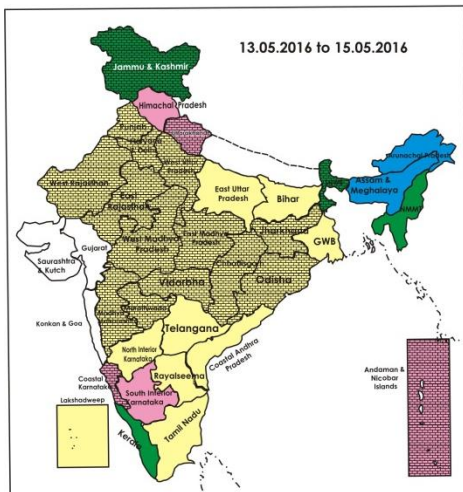
over Haryana, Chandigarh & Delhi and West Uttar Pradesh.

- **15 May (Day 3):** Heat wave conditions likely to prevail at a few places over Rajasthan and heat wave conditions likely to prevail at isolated places over Punjab, Haryana, Chandigarh & Delhi, Madhya Pradesh, Vidarbha, Gujarat and Telangana. Heavy to very heavy rain likely at isolated places over Assam & Meghalaya and heavy rain likely at isolated places over Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura and Kerala. Thunderstorm accompanied with squall likely at isolated places over East Uttar Pradesh.
- **16 May (Day 4):** Heat wave conditions likely to prevail at a few places over Rajasthan and Bihar and at isolated places over Madhya Pradesh, Vidarbha and Gujarat. Heavy to very heavy rain likely at isolated places over Kerala and heavy rain likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Coastal Tamilnadu, south Interior Karnataka, Kerala and Andaman & Nicobar Islands. Thunderstorm accompanied with squall/ hail likely at isolated places over Jammu Division of Jammu & Kashmir, Himachal Pradesh and Uttarakhand and thunderstorm accompanied with squall likely at isolated places over East Uttar Pradesh.
- **17 May (Day 5):** Heavy to very heavy rain likely at isolated places over Kerala & Tamilnadu and heavy rain likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, south Interior Karnataka and Andaman & Nicobar Islands. Thunderstorm accompanied with squall likely at isolated places over Bihar, East Uttar Pradesh and Gangetic West Bengal.

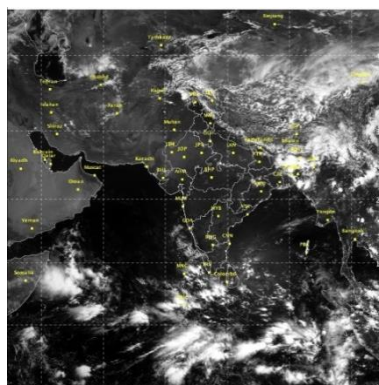
### Weather Outlook for subsequent 2 days from 18<sup>th</sup> to 20<sup>th</sup> May 2016

- Rain/thunderstorms likely at many places over northeastern states and at a few places over east and south peninsular India.
- Rain/snow likely at isolated places over Western Himalayan region.

### Weather Forecast Map (Valid upto 0830 hours of 18<sup>th</sup> May, 2016)







### Salient Advisories

- As rain/thundershowers likely at most/many places over **Kerala** during the period, at many places over **South Interior Karnataka** on 16<sup>th</sup> and 17<sup>th</sup> and over **Tamil Nadu** on 17<sup>th</sup> May along with heavy/heavy to very heavy rain at isolated places over Kerala from 15<sup>th</sup> to 17<sup>th</sup> May, over Tamil Nadu on 17<sup>th</sup> May and heavy rain over Coastal Tamil Nadu on 16<sup>th</sup> and over South Interior Karnataka on 16<sup>th</sup> and 17<sup>th</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. Undertake rain water harvesting for carrying out future agricultural activities.
- In **Kerala**, undertake nursery preparation/nursery sowing of rice and in the Problem Area Zone, continue land preparation for direct sowing of rice after current spells of heavy rain.
- In **Coastal Karnataka**, undertake land preparation for nursery sowing of rice and in **South Interior Karnataka**, continue land preparation and keep the seeds ready for pre-monsoon sowing of *kharif* ragi (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 sowing of *Olitorius* jute after current spells of heavy rain.
- As rain/thundershowers likely at most places over **Arunachal Pradesh** and **Assam & Meghalaya** during the period, over **Andaman & Nicobar Islands** on 17<sup>th</sup> May and rain/thundershowers likely at many places over **Nagaland, Manipur, Mizoram & Tripura** during the period, over Andaman & Nicobar Islands on 16<sup>th</sup> and over **Sub-Himalayan West Bengal & Sikkim** on 13<sup>th</sup> and from 15<sup>th</sup> to 17<sup>th</sup> May along with heavy rain likely at isolated places over Nagaland, Manipur, Mizoram & Tripura from 13<sup>th</sup> to 15<sup>th</sup> and over Assam & Meghalaya during the period; over Arunachal Pradesh from 14<sup>th</sup> to 17<sup>th</sup>, over Sub-Himalayan West Bengal & Sikkim and Andman & Nicobar Islands on 16<sup>th</sup> and 17<sup>th</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 rain/snow would occur at most/many places over **Jammu & Kashmir** on 13<sup>th</sup>, 15<sup>th</sup> to 17<sup>th</sup> and many places over **Himachal Pradesh** on 16<sup>th</sup> and over **Uttarakhand** on 16<sup>th</sup> & 17<sup>th</sup> May, postpone, irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Farmers are advised to undertake rain water harvesting for agricultural activities.
- As thunderstorm accompanied with squall/hail likely at isolated places over Jammu Division of **Jammu & Kashmir, Himachal Pradesh** and **Uttarakhand** on 16<sup>th</sup> May, farmers are advised to provide hail net/hail caps in orchard crops, propping in sugarcane, arrange mechanical support to young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
- As thunderstorm accompanied with squall likely at isolated places over **Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh** on 13<sup>th</sup> and over **East Uttar Pradesh** from 13<sup>th</sup> to 17<sup>th</sup> and over **Bihar and Gangetic West Bengal** on 13<sup>th</sup> and 17<sup>th</sup> May, farmers are advised to provide

mechanical support to 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 accompanied with squall likely at isolated places over **Punjab** and **Rajasthan** on 13<sup>th</sup>, and over **Haryana, Chandigarh & Delhi** and **West Uttar Pradesh** on 13<sup>th</sup> & 14<sup>th</sup> May, farmers are advised to provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.
- As heat wave conditions likely to prevail at a few/isolated places over **Rajasthan** from 13<sup>th</sup> to 16<sup>th</sup>, over **Madhya Pradesh** from 13<sup>th</sup> to 16<sup>th</sup> and at a few places over **Bihar** on 16<sup>th</sup>, at isolated places over **Haryana, Chandigarh & Delhi, Vidarbha** on 13<sup>th</sup> & 14<sup>th</sup>, over **Telangana** from 13<sup>th</sup> to 15<sup>th</sup>, over Punjab on 15<sup>th</sup> and over **Gujarat** from 14<sup>th</sup> to 16<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. 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 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.
  - **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 in all districts of Telangana; Guntur and Krishna district of Coastal Andhra Pradesh, Chittoor district of Rayalaseema; Coimbatore, Dindigul, Karur, Kanyakumari, Krishnagiri, Nammakal, Nilgiris, Perambalur, Theni, Thirunelveli, Tiruppur and Trichy districts of Tamil Nadu; Bidar and Kalaburgi districts of North Interior Karnataka, all districts of South Interior Karnataka except Chikkamagaluru, Davangere, Sivamogga and Tumakuru; all districts of Kerala except Kasargod and Kozhikode. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers likely at most/many places over Kerala during the period, at many places over South Interior Karnataka on 16<sup>th</sup> and 17<sup>th</sup> and over Tamil Nadu on 17<sup>th</sup> May along with heavy/heavy to very heavy rain at isolated places over Kerala from 15<sup>th</sup> to 17<sup>th</sup> May, over Tamil Nadu on 17<sup>th</sup> May and heavy rain over Coastal Tamil Nadu on 16<sup>th</sup> and over South Interior Karnataka on 16<sup>th</sup> and 17<sup>th</sup> May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. arrange for adequate drainage to avoid water stagnation in the crop fields. Undertake rain water harvesting for carrying out future agricultural activities.
  - **Kerala:**
    - In Kerala, undertake nursery preparation/nursery sowing of rice utilizing the realized and expected rainfall.

- In the Problem Area Zone, continue land preparation for direct sowing of rice utilizing the realized and expected rainfall.
- In the Central Zone, continue harvesting of rice (Jyothi variety) after current spells of rain.
- In the Southern Zone, undertake planting of pepper in Pathanamthitta district, coconut, bananas and vegetables (bhindi, brinjal, bitter gourd and snake gourd) in Kollam district and continue harvesting of rice after current spells of rain.
- In the Southern Zone, prevailing hot and humid conditions are congenial for incidence of *Epilachna* beetle in brinjal. To control, apply Bleaching Powder @ 10 g/ litre of water. If the attack is severe, apply 2% Neem oil-garlic- soap emulsion after current spells of rain.
- In the Problem Area Zone, prevailing hot weather condition is congenial for incidences of sucking pest like mites and thrips in vegetables. To control, spray Oberon @ 0.6g/litre of water. Monitor for white fly attack in vegetables. Yellow sticky trap must be installed in fields to control the attack after current spells of rain.
- In the Central Zone, due to changing weather conditions, there is a chance of sigatoka disease in banana. Spray *Pseudomonas* @ 10- 20 g/litre of water. In case of severe attack apply SAAF @ 2 g in 1 litre of water after current spells of rain.
- **Karnataka:**
  - In Southern Dry Zone, North East Transition Zone, North Transition Zone, North East Dry Zone and North Dry Zone, continue summer deep ploughing utilizing the realised and expected rainfall and keep the inputs ready for pre-monsoon sowing.
  - In Southern Transition Zone, continue land preparation for planting of ginger/turmeric utilizing the realised and expected rainfall. Raised bed with adequate drainage is necessary for sowing of ginger.
  - In Eastern Dry Zone of Karnataka, continue land preparation for sowing of *kharif* crops and keep the seeds ready for pre-monsoon sowing of *kharif* ragi (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 which will facilitate conservation of rainwater due to pre-monsoon showers. Ploughing across the slope and land leveling (which helps in conserving more rain water in the soil) is recommended. Mulching and weeding is recommended in mango orchard to conserve soil moisture.
  - In North Dry Zone, since isolated rainfall is expected, harvesting of onion taking all the precautions so that the produce is not damaged due to rains. Keep the fodder in safe places so that it is not damaged due to rains.
  - Due to increase in day and night temperature sugarcane plants are suffering from soil moisture; provide irrigation to sugarcane in North East Transition Zone. Undertake mulching in sugarcane with dry leaves and grass to conserve soil moisture.
  - Apply irrigation in sugarcane either in alternate rows or by drip irrigation method in North Transition Zone and North East Transition Zone. Provide irrigation to vegetables and other crops.
  - To manage sucking pests in watermelon, bhindi and tomato in North Dry Zone, take up spraying of Dimethoate @ 1.7 ml or Melathion @ 2 ml dissolved in one litre of water.
- **Andhra Pradesh:**
  - As thunderstorm accompanied with squall likely isolated places over Coastal Andhra Pradesh on 13<sup>th</sup> May, farmers are advised to arrange mechanical support to banana, young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
  - 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 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, undertake deep summer ploughing in areas which have received rainfall.
  - In the High Altitude Tribal Zone, continue summer ploughings by using summer showers and 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, continue deep summer ploughings utilizing the summer showers.
  - In the Southern Zone, prevailing weather conditions are congenial for incidence of phyllody in late sown sesamum crop. To control, spray Imidachloprid @ 0.3ml/litre of water.
- **Telangana:**
  - As heat wave conditions likely to prevail at isolated places over Telangana from 13<sup>th</sup> to 15<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. Also undertake mulching with straw/polythene to conserve soil moisture.
  - In the Northern Telangana Zone, continue summer ploughings in the areas which have received sufficient rainfall and harvesting of all vegetables.
  - In the Southern Telangana Zone, undertake 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, incidence of mites is noticed in chillies. To control, spray Spiromesifen @ 1.25

- ml or Fenpyroximate @ 2ml/litre of water or Wetable Sulphur @ 3 g or Dicofol @ 5 ml/litre of water.
- In the Northern Telangana Zone, leaf blight incidence is noticed in bhendi. To control, spray with COC(copper oxychloride) @ 3 g/litre of water.
- **Tamil Nadu:**
- In the Cauvery Delta Zone, continue field preparation for cultivation of rice (Navarai season) and provide irrigation to sesame and sugarcane.
- In the Western Zone, continue summer ploughing in fallow land and hand weeding in irrigated cumbu and sorghum fields utilizing the realized and expected rainfall.Undertake summer ploughings in the South Zone utilizing the expected rainfall.
- In the High Altitude Hilly Zone, undertake planting of potato ( new disease resistant potato varieties Kufri Gridhari and Kufri Swarna)
- In the High Rainfall Zone, strengthen the coconut basins and undertake planting of nutmeg trees for better rain water harvesting.
- In the North Western Zone, undertake green gram cultivation (Co-8, VBN-2) .
- In the Cauvery Delta Zone, occurrence of aphid, thrips, mite, hoppers and white flies are noticed in rice fallow cotton and irrigated blackgram, due to the prevailing hot weather. To control, spray Azadirachtin @ 0.03% (3 ml/litre of water) along with sticking agent in the morning or evening using hand sprayer on a non rainy day.
- In the South Zone, fruit fly incidence is noticed in mango due to high cloud cover and light rainfall. To control, plough the interrow space to expose pupae. Prepare bait with methyl eugenol 1% solution mixed with malathion @ 2.0 ml/litre of water. Take 10 ml of this mixture per trap and keep them in 25 different places in one hectare between 6 am to 8 am. Collect and destroy the fallen fruits. Spray Neem oil @ 3.0 ml as need based on a non rainy day.
- Suitable varieties for sowing are given in Annexure III.
- ❖ **Animal Husbandry**
- In the Western Zone of Tamil Nadu, provide 80-100 litres drinking water to the livestock in four splits.
- In Southern Dry Zone of Karnataka, vaccinate cow, buffalo and bullock before onset of monsoon against for foot and mouth disease (FMD vaccination), BC vaccination against Black Quarter and also vaccinate against Haemorrhagic Septcaemia. Vaccinate (ET vaccine) sheep and goats against Enterotoxemia before onset of monsoon.
- 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**



**Cabbage**

- **Realised Rainfall:** Rainfall occurred in Papumpara, Upper Siang and Upper Subansari districts of Arunachal Pradesh; Barpeta, Bongaigaon, Chirang, Dhubri, Goalpara, Kamrup(Rural), Kokrajhar, Lakhimpur, Morigaon, Nalbari and Udalgiri districts of Assam; East Garo Hills, East Khasi Hills, South Garo Hills and West Garo Hills districts of Meghalaya and Dhalai, North Tripura and West Tripura districts of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/thundershowers likely at most places over Arunachal Pradesh and Assam & Meghalaya during the period and rain/thundershowers likely at many places over Nagaland, Manipur, Mizoram & Tripura during the period along with heavy rain likely at isolated places over Nagaland, Manipur, Mizoram & Tripura on 13<sup>th</sup> to 16<sup>th</sup> and Assam & Meghalaya during the period; over Arunachal Pradesh from 14<sup>th</sup> to 17<sup>th</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. Undertake rain water harvesting.
  - **Assam, Meghalaya & Arunachal Pradesh:**
    - In Assam, continue nursery raising of *Sali* rice and sowing of *Olitorius* jute after current spells of heavy rain.
    - In Lower Bramhapurtra Valley Zone of Assam, continue nursery bed preparation and sowing of Sali rice of varieties Ranjit and Bahadur in LBV Zone and sowing of Olitorious jute and mesta after current spells of heavy rain.

- In Upper Brahmaputra Valley Zone of Assam, undertake planting of banana, guava and fodder crops and in Barak Valley Zone of Assam, undertake planting of lemon after current spells of heavy rain.
- In Central Brahmaputra Valley Zone of Assam, continue sowing of *baorice*, summer vegetables, *Olorotius* jute and planting of ginger, turmeric, papaya and spring sugarcane after current spells of heavy rain.
- In Meghalaya, complete sowing of *jhum* rice and sowing of bottle guard and ash guard, transplanting of brinjal and tomato after current spells of heavy rain. Continue land preparation and planting of ginger/turmeric.
- In Arunachal Pradesh, continue nursery sowing rice, sowing/transplanting of summer vegetables like cucumber, sponge gourd, bottle gourd and ladies finger after current spells of heavy rain. .. Avoid water stagnation in the newly sown vegetable field.
- In Arunachal Pradesh, spray Triazophos 40 EC @ 4 ml/litre against stem borer in rice nursery as well as in main fields. Spray Azadirachtin 0.15 EC @ 6ml/litre against flea beetles and Carbandazim/Mancozab @ 2 g/litre to control fungal diseases in summer vegetables. Undertake plant protection measures after current spells of rain.
- In Hill Zone of Assam, there is chance of attack of stem borer in sugarcane and aphids, jassids and Flea beetle in summer green gram and black gram due to the prevailing weather conditions. Spray Phosphamidon @ 400-500 ml/ha in 800 litre of water for control of stem borer and 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, in the prevailing weather, there is chance of attack of case worm in normal ahu rice. To control case worm attack, to control case worm apply Quinolphos 25EC @0.025% and Monocrotophose 40 EC @ 0.04% after current spells of rain.
- In Meghalaya, high relative humidity with intermittent rain is favourable for development of blast in *jhum* rice, spray Mencozed @ 2g/litre or Carbendezime @ 1g/litre against blast after current spells of rain.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Nagaland, continue transplanting of chilli and planting of ginger. Undertake pit preparation for plantation of fruit crops. To improve infiltration and water retention in soils, undertake diverse crop rotations with legumes like peas, beans, soybean, lentil, peanut, cowpea, pigeon pea etc.
- In Manipur, continue sowing of soybean, groundnut, black gram and pit preparation for fruit plants like banana, lime, lemon, orange, kiwi. Continue land preparation for sowing of *kharif* rice.
- In Mizoram, continue transplanting of brinjal and chilli in the main fields and sowing of French bean, cow pea and maize.
- In Tripura, there is chance of attack Gandhi 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.
- Suitable varieties for sowing are given in Annexure III.
- ❖ **Animal Husbandry**
- In Northeastern states, carry out immunizations against FMD, HS and BQ in cattle & buffaloes and swine-fever in pigs.
- In Nagaland, deworm piglets regularly. To prevent diseases in poultry, provide clean drinking water; avoid overcrowding, regular cleaning and disinfection of feeders, water, poultry house and disposal of dead birds by burning or burial.
- ❖ **Fishery**
- In Assam, 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.
- In Barak Valley Zone of Assam, changing weather could lead to viral diseases to the poultry. So farmers may provide sufficient water with 1% salt and mineral mixture. Farmers are also advice to clean the sanitary condition of poultry. Provide balanced feed and fresh water.

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



**Green gram**



**Sugarcane**



**Groundnut**



**Banana**

- **Realised Rainfall:** Rainfall occurred in Chandrapur district of Vidarbha. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As heat wave conditions likely to prevail at isolated places over Vidarbha on 13<sup>th</sup> & 14<sup>th</sup> and over Gujarat from

14<sup>th</sup> to 16<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. Also undertake mulching with straw/polythene to conserve soil moisture.

▪ **Maharashtra:**

- In Marathwada, continue preparatory tillage in fallow lands for *kharif* crops. Continue planting of turmeric and ginger with irrigation facilities in Aurangabad, Beed, Hingoli, Jalna, Latur, Nanded, Osmanabad and Parbhani districts.
- In Madhya Maharashtra, continue preparatory tillage operations such as ploughing, harrowing, land leveling and bunding in fallow lands for *kharif* crops. Prepare nursery for cultivation of vegetable crops like tomato, chilli and bitter gourd in *kharif* season. Continue planting of turmeric and ginger with irrigation facilities in Sangli and Satara districts.
- In Vidarbha, maintain water level of 8-10 cm in summer rice field in East Vidarbha. Continue preparation of raised nursery bed in fallow lands for *kharif* vegetables. Continue planting of turmeric and ginger with irrigation facilities.
- In Konkan, continue preparatory tillage in fallow lands for *kharif* crops like rice and finger millet. Harvest the matured mango fruits before 10 in the morning and after 4 in the evening.
- Due to cloudy weather and pre-seasonal rainfall in Marathwada region, there may be incidences of leaf blight (Karpa) in tomato; spray Mancozeb @ 25 g or Copper oxychloride @ 30 g mixed with 10 litres of water.
- Due to cloudy and humid weather conditions in Madhya Maharashtra region, there may be incidence of powdery mildew in vegetable and cucurbitaceous crops; spray 80% water soluble sulphur @ 20 g per 10 litres of water, for cucumber instead of water soluble sulphur spray Denocap @ 10 ml or Tridemorph @ 10 g per 10 litres of water. Also for control of sap sucking pest in vegetables; spray Imidachloprid @ 4 ml or Thiomethoxam @ 4 g per 10 litres of water.

▪ **Gujarat:**

- In North West Zone of Gujarat, carry out deep ploughing in harvested fields. Undertake levelling of plots to increase water holding capacity. Construct the bund in advance to reduce soil erosion in field and plan for khet Talavadi (Farm ponds) to collect runoff water. Continue harvesting of matured fruits of citrus, papaya, sapota and pomegranate etc. Under high temperature condition, apply irrigation in pearl millet (ear head stage), groundnut (pod development), green gram (pod formation), vegetable crops, floriculture crops at regular intervals.
- 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, green gram, groundnut, cucurbits. Continue mulching in mango and cucurbits. Apply light irrigation in mango to reduce fruit drop.
- In South Gujarat Zone, continue deep ploughing of fields. Prepare seedling of papaya for *kharif* season. Continue land preparation for sowing of irrigated cotton. Provide irrigation to fruit crops for 1/2 to 3/2 hours by drip irrigation; if drip irrigation is not available provide 12 to 15 litres of water for every graft. Apply irrigation to vegetable crops at an interval of 3 to 4 days. To control soil moisture evaporation from sugarcane field spread dry leaves of sugarcane in between two rows of sugarcane.
- In North Gujarat Zone, continue deep ploughing in harvested field. Continue harvesting of matured fruits of citrus, papaya, sapota and pomegranate etc. Under high temperature and moderately dry condition, provide irrigate to groundnut crop (pod development stage), pearl millet (ear head stage), green gram, floriculture and vegetable crops at regular intervals.
- In Bhal and Coastal Zone, continue deep ploughing in the fields, continue plucking of matured vegetables viz. bhindi, tomato, cucumbers, water melon and muskmelon.
- In Middle Gujarat Zone, continue deep ploughing in harvested fields for destruction soil pest and fungal spores. For getting good market price in early season, select green pod type variety for sowing of pigeon pea. Continue harvesting of matured pods of green gram. Keep 5 inch water depth in the rice field. Provide irrigation to mango (fruit development stage) orchard.
- In North Saurashtra Zone, in view of prevailing high temperatures, apply light irrigation to green gram, black gram, groundnut (pod development), mango orchards and vegetable crops at regular intervals.
- In South Saurashtra Zone, apply irrigation to groundnut (at 6 to 7 days interval) black gram, green gram and vegetable crops (flowering/fruiting stage). Keep the vegetable crops weed free and undertake harvesting of matured fruits of vegetables.
- Due to prevailing high temperatures, mite infestation is observed in lemon orchard in North Saurashtra Zone; to control, spray Propargite 57 % EC 1 ml/litre of water. Infestation of stem fly is observed in summer green gram and black gram; for control, spray DDVP @ 5ml or Fenvalerate @ 1 ml / litre of water.

❖ **Animal Husbandry**

- In Gujarat, keep animals under shade or in sheds during noon hours, avoid grazing of animals during hot time, provide plenty of cool water mixed with minerals for drinking and shower the animals with cold water two to three times in a day.

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



**Rice**



**Okra**



**Maize**



**Green gram**

- **Realised Rainfall:** Rainfall occurred in all districts of Sub-Himalayan West Bengal & Sikkim except South Dinajpur; Birbhum, Burdwan, Murshidabad, Nadia, North 24 Parganas and West Mednapore districts of Gangetic West Bengal; Banka, Bhagalpur, Madhepura, Purnea, Samastipur, Supaul and Vaishali districts of Bihar; Bokaro, Dumka, East Singhbhum, Giridih, Jamtara, Khunti and West Singhbhum districts of Jharkhand; Balasore, Bhadrak, Gajapati, Jajpur, Keonjhar, Kolaraput, Malakangiri and Nawarangpur districts of Odisha. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As thunderstorm accompanied with squall likely at isolated places over Bihar and Gangetic West Bengal on 13<sup>th</sup> and 17<sup>th</sup> May, farmers are advised to provide mechanical support to 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 rain/thundershowers likely at most/many places over Andaman & Nicobar Islands on 16<sup>th</sup> & 17<sup>th</sup> May and at many places over Sub-Himalayan West Bengal & Sikkim on 13<sup>th</sup> and from 15<sup>th</sup> to 17<sup>th</sup> May along with heavy rain likely at isolated places over Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands on 16<sup>th</sup> and 17<sup>th</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.
  - **West Bengal:**
    - In Hill Zone, complete transplanting of round chilli. Undertake mulching and earthing up in ginger and maize. Proper drainage system should be maintained in the fields to prevent water stagnation during rain.
    - In New Alluvial Zone, continue harvesting of rice crop and precaution must be taken for drying as there is a chance of isolated rainfall. Carry out intercultural operation in jute and apply first dose of top-dressing @ 9 Kg per Bigha for Capsularis @ 6 Kg per Bigha for Olitorious.
    - In Coastal Saline Zone, undertake 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.
    - In Laterite and Red soil zone, undertake harvesting of rice and matured groundnut crop. Keep the rice bundles (harvested crop) in dry places.
    - In Coastal Saline Zone, due to rise in temperature there may be attack of shoot and fruit borer in brinjal and okra. If infestation found high then spray Spinosad 48 EC @ 1ml/litre of water.
    - In Terai and Old Alluvial Zone, weather is congenial for attack of stem borer, leaf folder, gundhi bug in rice. For leaf folder apply Lambda-Cyhalothrin 5% EC @ 10 ml/tank (15 litre) of water. For gundhi bug spray Fipronil 5 EC @ 1ml/litre of water after current spells of rain.
    - In Old Alluvial Zone, in the prevailing weather condition, Gundhi bug in rice and fruit rot in chilli may be occur. To control, Gandhi bug, use poison bait trap (Snail crushed 100gram +10ml of Dichlorvos) @ 10-12/ bigha just above the panicle level. To control, fruit rot in chili, spray Carbendazim (Bavistin) @ 1g/litre of water after current spells of rain.
  - **Andaman and Nicobar Islands:**
    - In Nicobar, undertake earthing up in vegetables after current spells of rain.
  - **Odisha:**
    - In East and South Eastern Coastal Plain Zone, apply irrigation in groundnut crops at flowering stage. Cover the young vegetable nurseries with polythene or with straw. Resort to drip and sprinkler irrigation practices wherever possible.
    - In South Eastern Ghat Zone, as mainly dry weather would prevail, undertake harvesting of matured groundnut.
    - In East and South Eastern Coastal Plain Zone and North Eastern Ghat Zone, increased temperature may favour the egg laying of stem borer in rice. To attract the butterflies, place 4 Pheromon Traps/acre, collect the adults and destroy them by burning them under soil or by burying. Also YMV infestation has been found in summer pulses. Spray Rogor @ 20 ml/10 litre water to control the white fly.
    - In Western Undulating Zone, early shoot borer attacks the sugarcane crop at tillering stage. Spray Triazophos/ Profenophos @ 2ml/litre of water.
    - In North Eastern Coastal Plain Zone, the higher differential between day and night temperature will aggravate whitefly problem in summer green gram. To control whitefly, spray Thiomethoxam @ 80g/acre.

- In North Eastern Ghat Zone, increased temperature may favour thrips infestation in summer groundnut. Spray Dimethoate @ 400 ml or Imidachloprid @ 50 ml in 200 litre water per acre.
- In North Eastern Ghat Zone, early stem borer infestation has been found. If it crosses the ETL level (5% dead heart). Go for hoeing, weeding and apply 4 kg phorate or 12 kg Carbofuran or 10 kg Cartap followed by earthing up.
- 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. Due to rise in temperature, there is chances of wilt in tomato and brinjal, for control, spray Streptocyclin @ 1g in 10 liters of water.
- 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 Lamda 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).

▪ **Bihar:**

- As heat wave conditions likely to prevail at a few places over Bihar on 16<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. Also undertake mulching with straw/polythene to conserve soil moisture.
- In South Bihar, apply light irrigation in all vegetable crops to maintain optimum moisture level at flowering/fruit setting stage.
- In North East Alluvial Zone, continue land preparation for sowing of jute. Maintain minimum water (2-3 inch) in the fields of *boro* rice. Intercultural operation is advised in summer vegetable crops such as lady's finger, pumpkin, cucumber, sponge gourd etc.
- In North West Alluvial Plain Zone, complete the sowing of elephant foot yam crop at the earliest. Intercultural operation should be done in summer vegetable crops such as lady's finger, pumpkin, cucumber, sponge gourd etc.
- In North West Alluvial Plain Zone, in prevailing weather condition red pumpkin beetle may be found in cucurbitaceous crops. If population of red pumpkin beetle exceeds economic threshold level, spray Dichlorvos 76 EC @ 1 ml/litre of water on a non rainy day.
- In North East Alluvial Zone, prevailing temperature and humidity is congenial for incidence of yellow stem borer and whit fly in Garma maize and Moong. For control stem borer, apply Fipronil 0.3% GR @ 20-25 Kg/ha or Chlorantraniliprole 0.4% GR @ 10Kg/hectare. For control white fly spray Imidacloprid 17.8 SL or Thiomethoxam 25WDG @ 1ml/3 litre of water in evening on a non rainy day.

▪ **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 broadcasting of urea in standing vegetable crops. To conserve the moisture, undertake intercultural operations in vegetables.
- In Western Plateau Zone, as mainly dry weather is prevailing, irrigate the fruit bearing trees at regular interval. Spray Planofix @ 5 ml per 10 litre of water to check dropping of tiny fruits. Spray Sulfex @ 2 g per litre of water against Powdery mildew disease.
- In Western Plateau Zone, apply irrigation in fields of different vegetable crops and fruit trees at a regular interval. Farmers wishing to cultivate ginger and turmeric may arrange the improved seeds for timely sowing.
- In Western Plateau Zone, maintain the water level in summer rice field. In some pockets crops are attacked by leaf roller or stem borer. To control these insects, spray the insecticide like Monocrotophos or Trizophos @ 2.5 ml. per litre of water during evening.
- In South Eastern Plateau Zone, Gandhi Bug infestation is more likely to be pronounced in rice at milking stage. Hence, dusting of Quinalphos 1.5 per cent dust @ 10 kg per acre during evening time is recommended. High day and night temperature also favours production of more number of eggs in case of Leaf folders or Hispa and their infestation are also being seen. Spray Monocrotophos @ 1 ml per liter of water for control. Maintain water level upto 3-4 cms.
- In South Eastern Plateau Zone, in mango fruit spraying of Malathion 50 percent @ 2 ml along with carbendazim and sulfex @ 2-3 gram per liter of water is suggested to control the insects attack and anthracnose disease. 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 liter of water. In litchi to protect from mites and bug attack on leaves spray Dicofol 2 ml for mites and Monocrotophos 1ml for bug in per liter of water. In Jack fruit, spray 0.5 g Carbendazim first and afterward Imidachloprid 0.5-1 ml (Jack fruit- Anthracnose).
- In Western Plateau Zone, the day temperature remains 40 degree celcius or above for last many days and this situation will continue for next few days. Hence, irrigate the field of different vegetables and fruit trees at a regular interval.
- In Central and North Eastern Plateau Zone, farmers are advised for summer ploughing. Undertake sowing of maize, okra , elephant foot yam ,ginger and turmeric after receipt of sufficient rain and mulch it with leaves and straw to conserve moisture and weed control.
- Suitable varieties for sowing are given in Annexure III.

❖ **Animal Husbandry**

- In Coastal Saline Zone of West Bengal, due to increasing temperature, cover the poultry cage with wet jute bag.



- vaccinate with F-strain drop in nostril for ranikhet disease.
- In South, North and Middle Andaman, provide cool drinking water along with vitamin C to the poultry birds to prevent heat stress.
- In Hill Zone, cattle should be vaccinated against Haemorrhagic Septicaemia (HS) and Black Quarter (BQ) before onset of monsoon.

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



**Cauliflower**



**Green gram**



**Okra**



**Sugarcane**

- **Realised Rainfall:** Rainfall occurred in Chhindwara district of East Madhya Pradesh; Gwalior and Ujjain districts of West Madhya Pradesh; Narayanpur district of Chhattisgarh. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Madhya Pradesh:**
    - As heat wave conditions likely to prevail at a few/isolated places over Madhya Pradesh from 13<sup>th</sup> to 16<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. Also undertake mulching with straw/polythene to conserve soil moisture.
    - In Satpura Plateau Zone, continue picking up of matured okra. Undertake summer ploughing and keep inputs ready for sowing of cotton.
    - 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 Kymore Plateau and Satpura Hill Zone, as dry weather is prevailing, apply irrigation in orchards, cucurbit crops, vegetables, moong and urad. Also undertake mulching to conserve soil moisture.
    - Continue deep ploughing of fields in Grid Zone, Vindya Plateau Zone and Nimar Valley Zone.
    - In Bundelkhand Zone, apply irrigation in orchard crops. Continue seed bed preparation for sowing of *kharif* onion. Continue digging of pits for planting of new orchards.
    - In Jhabua Hill Zone, apply irrigation in moong, tomato, chilli, brinjal, okra, onion crops. Continue harvesting of vegetables. Continue mulching in orchards to conserve soil moisture. Continue field preparation for sowing of turmeric and ginger.
    - In Satpura Plateau Zone, due to prevailing hot weather, there may be chances of attack of sucking pest in moong, spray Thiomethoxam @ 0.35 g/litre of water.
    - In Vindya Plateau Zone, due to hot weather there are chances of attack of sucking pests in vegetables, spray Etofenprox 10 EC @ 2 ml/litre of water.
    - In Bundelkhand Zone, due to prevailing weather, there are chances of attack of jassids in okra; spray Methyl demeton @ 1.5 ml per litre of water.
  - **Chhattisgarh:**
    - In Chhattisgarh, continue deep ploughing of fields and keep inputs ready for sowing of *kharif* crops.
    - In North Hill Zone, as temperature is rising, apply irrigation in summer rice, moong, sugarcane, orchards and vegetables. Continue digging up of matured onion and garlic. Undertake intercultural operations in vegetables.
    - In Chhattisgarh Plain Zone, apply irrigation in summer rice, vegetables and orchards. Continue digging of pits for planting of new orchards.
    - In Bastar Plateau Zone, there may be attack of mango hopper in mango. Spray Dimethoate @ 1.5ml/litre of water.
    - In Chhattisgarh Plain Zone, due to prevailing weather there may be chances of attack of aphids in summer rice, apply Imidacloprid @ 150 ml dissolved in 500 litre of water.
  - ❖ **Animal Husbandry**
    - In Madhya Pradesh and Chhattisgarh, due to prevailing high temperature special attention should be given to milch animals, provide adequate water and green fodder to animals and keep them in shade. 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*



*Cauliflower*



*Okra*

- **Realised Rainfall:** Rainfall occurred in Ramban district of Jammu and Kashmir; all districts of Himachal Pradesh except Kinnaur, Lahaul and Spiti, Sirmaur; Almora, Bageshwar, Garhwal Tehri, Haridwar, Nainital, Pithorgarh, Udham Singh Nagar districts of Uttarakhand; Nawashehar district of Punjab; Chandigarh district of Haryana; Ballia, Maharajganj districts of East Uttar Pradesh and Bareilly district of West Uttar Pradesh. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As rain/snow would occur at most/many places over Jammu & Kashmir on 13<sup>th</sup>, 15<sup>th</sup> to 17<sup>th</sup> and at many places over Himachal Pradesh on 16<sup>th</sup> and over Uttarakhand on 16<sup>th</sup> and 17<sup>th</sup> May, postpone, irrigation, inter-cultural operation and application of plant protection measures and fertilizers to the standing crops.
  - As dust/thunderstorm accompanied with squall likely at isolated places over Punjab and Rajasthan on 13<sup>th</sup> and over Haryana, Chandigarh & Delhi and West Uttar Pradesh on 13<sup>th</sup> & 14<sup>th</sup> May, farmers are advised to provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.
  - As thunderstorm accompanied with squall/hail likely at isolated places over Jammu division of Jammu & Kashmir, Himachal Pradesh and Uttarakhand on 16<sup>th</sup> May, farmers are advised to provide hail net/hail caps in orchard crops, propping in sugarcane, arrange mechanical support to young fruit plants and staking of vegetables to prevent the crops from lodging due to strong winds.
  - As heat wave conditions likely to prevail at a few/isolated places over Rajasthan from 13<sup>th</sup> to 16<sup>th</sup>, at isolated places over Haryana, Chandigarh & Delhi from 13<sup>th</sup> to 15<sup>th</sup> and over Punjab on 15<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. Also undertake mulching with straw/polythene to conserve soil moisture.
  - **Jammu & Kashmir:**
    - In Sub Tropical Zone, harvest the ripe tomato during clear weather to avoid fruit rotting.
    - In Intermediate Zone, farmers are advised to complete sowing of maize in higher reaches. Continue transplanting of tomato, chilli, capsicum and cucurbits. Continue sowing of okra in lower to mid hill regions.
    - In Valley Temperate Zone continue transplanting of cole, solanaceous and cucurbits crops in the main field. Chillies may be transplanted on raised beds or ridges and cucurbits in the main field. Undertake sowing of maize crop.
    - In Cold Arid Zone of Jammu and Kashmir, undertake sowing of barley at proper spacing and at adequate moisture conditions. Undertake harvesting of turnip in the lower belts of the district. In the lower & middle belts replant the Carrot roots in the fields for seed production. Start transplantation of vegetable crops like onion, cabbage, cauliflower, etc with proper spacing. Cucurbits and Solanaceous vegetables should be grown under protected structures.
    - In Intermediate Zone, there are chances of attack of mealy bug on fruit plants. To control spray Chloropyriphos 20EC or Dichlorbos( Nuvan 30 EC) @ 2ml/litre of water after current spells of rain and repeat at fifteen days interval.
  - **Uttarakhand:**
    - In Bhabar and Tarai Zone, continue harvesting of potato, tomato and sugarcane crops on bright sunny days.
    - In Hill Zone, continue nursery sowing of tomato crop, sowing of French bean and okra after current spells of heavy rain. Do not sow the vegetable crops in the field where it were already sown during last year to avoid re-occurrence of pest/diseases. Conserve the rainwater and use it for irrigation of vegetable crops.
    - In Sub Humid and Sub Tropic Zone, continue harvesting of mid sown wheat crops on bright sunny days.
  - **Himachal Pradesh:**
    - In Sub-Montane and Low Hills Sub-Tropical Zone, 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 undertake sowing of peas, turnip, carrot, palak. Undertake 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. Undertake sowing of peas where snow have melted.
- In Mid Hills Sub-Humid Zone, weather is conducive for attack of purple blotch in onion, for control spray Redomil MZ @ 25 g per 10 litres of water after current spells of rain.
- In Mid Hills Sub-Humid Zone, weather is conducive for attack of red pumpkin beetle in cucurbitaceous crops, for control spray Diclorvos 76 EC (DDVP) @ 1 ml per litre of water on a non rainy day.
- In Mid Hills Sub-Humid Zone, weather is conducive for arial attack of woolly apple aphids. For control, apply Dursban @ 400 ml or Marshal @ 200 ml in 200 litres of after current spells of rain.

▪ **Rajasthan:**

- In Southern Humid Plain Zone, complete 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. Complete harvesting of matured normal sown wheat and barley crop. Continue sowing of cucurbits also papaya in nursery.
- In Semi-Arid Eastern Plain Zone, continue land preparation for sowing of cotton. Continue picking of summer watermelon and muskmelon.
- In Arid Western Plain Zone, undertake sowing of American cotton and jeera. Continue transplanting of chilli. Continue sowing of green fodder viz. pearl millet, sorghum and cowpea.
- In Irrigated North Western Plain Zone, continue harvesting of matured wheat and gram. Continue sowing of cotton AND sowing of zaid moong (SML 668).
- In Transitional Plain Zone of Inland Drainage, due to rise in temperature, there may be chances of attack of Hadda beetle & Red pumpkin beetle in cucurbits, for control undertake dusting of Malathion 5% or Methyl Parathion 2 % @ 25 Kg per hectare.
- 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 fruit fly in cucurbits, for control spray Malathion 50 EC @ 1 ml per litre of water during morning or evening hours at 15 days interval. Prepare trap by mixing Malathion 50 EC @ 10 ml in 1 litre sugar solution. Keep several traps at random places in field.
- In Irrigated North Western Plain Zone, due to rise in temperature, there may be chances of attack of thrips and leaf miner in kinnow fruits, for control spray Monocrotophos 36 SL @ 1 ml. per litre of water.
- In Irrigated North Western Plain Zone, due to dry weather conditions, there may be chances of attack of termites in sugarcane, for control, apply Emidacloprid 17.8 SL @ 125 ml or Chlorpyrifos 20 EC @ 1.25 litres with irrigation.
- In Arid Western Plain Zone, due to rise in temperature, there may be chances of attack of leaf curl virusin chilli, for control spray Methyl Demeton 25 EC @ 1litre per hectare.

▪ **Punjab, Haryana and Delhi:**

- In Western Plain Zone of Punjab, continue sowing of cotton, okra, spring maize and planting of sugarcane. Continue transplanting of chilli and cucurbits on the ridges.
- In Undulating Plain Zone of Punjab, undertake intercultural operations in vegetable crops from time to time to conserve soil moisture. Irrigate the nursery of mango and litchi and other fruit crops twice in a week according to the prevailing weather conditions. Undertake nursery preparation for rice.
- In Western and Undulating Plain of Punjab, continue planting of turmeric.
- In Central and Undulating Plain Zone of Punjab, continue planting of sugarcane and sowing summer pulses.
- 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. Irrigate the standing vegetables crops.
- 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. Undertake the sowing of cotton. Continue transplanting of young seedlings of brinjal, chilli and direct sowing of cucurbits. Irrigation should be done after transplantation. Apply light irrigation to matured onion and garlic crops. Undertake sowing of fodder crops such as bajra, lobia, sudan and napiar grass.
- 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 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 and maize.
- 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 gm 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.

- 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.

#### ▪ **Uttar Pradesh:**

- As thunderstorm accompanied with squall likely at isolated places over East Uttar Pradesh during the period, farmers are advised to provide mechanical support to 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 Central Plain Zone, continue harvesting of matured wheat, barley, gram, pea and oat. 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 and dhaincha for green manuring. Continue nursery sowing of brinjal and *kharifonion* and transplanting of guava. Continue planting of banana.
- In Eastern Plain Zone, continue sowing of fodder crop dhaincha, continue sowing of lobia, maize, urad, mung and transplanting of onion. Apply irrigation in mung, urad, sugarcane, maize and vegetables as per requirement.
- In Western Plain Zone, continue harvesting of matured wheat and sowing baby corn and summer fodder crops jowar, bajra, lobia, maize. Undertake 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 mung, bhindi, torai, cucurbits, cabbage, cauliflower, tomato, brinjal and chilli as per requirement.
- In Central Plain Zone, due to rise in temperature, there may be chances of attack of grass hopper, hairy-tobacco caterpillar, hairy caterpillar in sunflower, for control spray Phospimadan @ 250 ml or Endosulphan 35 E.C @ 1.25 litres in 600 litres of water.
- In Central Plain Zone, due to rise in temperature, there may be chances of attack of thrips or white fly in urad/mung, for control, spray Methyl-O-Demeton 25 EC or Dimethoate 30 EC @ 1 litre in 600 to 800 litres of water per hectare.
- In North Eastern plain Zone, due to prevailing weather condition, there may be chances of attack of blight and aphids in bottle guard, for control, spray mixture of Mencozeb 0.2% @ 400 g or Carbendazim 0.2% @ 400 gm and 0.2% Monocrotophos @ 200 ml in 200 litres of water per acre.

- 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 Mild Hills Sub-Humid Zone of Himachal Pradesh, undertake grafting in apple and pear.
- In Arid Western Plain Zone of Rajasthan, undertake pruning operation in Ber.
- In Western Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of fruit drop in mango; for control spray N.A.A. @ 15 mg per litre of water.
- In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of maggot in mango, for control, spray 17.8 % Emidacloprid S.L. @ 1 ml in 3 litres of water or 25 % Quinalphos EC @ 2 ml per litre of water.
- 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 Mid 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 gm. + Streptocycline @ 20 g in 200 litres 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.
- 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**

- In Sub-Montane and Low Hills Sub-Tropical Zone of Himachal Pradesh, for milch animals, follow schedule of 1 kg feed+50 g mineral mixtures per 2 litres of milk. Get the animals vaccinated against Foot and Mouth disease.
- 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, undertake planting of liliun, gladiolus and dahlia.

❖ **Apiculture:**

➤ In Sub Tropical Zone of Jammu and Kashmir, migrate bee colonies near to floral resources. Prepare new colonies of honey bee. It is the right time to start bee keeping especially for beginners as pollen and nectar are in plenty and bee activity is at its peak.

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

**Annexure I**

**Week by week Rainfall Distribution**

Sub-Divisions	27.04.16		04.05.16		11.05.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	237.1	-28	122.3	-6	8.8	-83
Dibang Valley	8.0	-69	1.0	-99	**	**
East Kameng	16.1	-41	26.7	-27	15.0	-73
East Siang	155.0	41	43.3	-40	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	217.2	69	117.3	49	1.3	-98
Lower Dibang Valley	356.6	423	201.2	126	0.0	-100
Lower Subansari	**	**	**	**	**	**
Papumpare	155.8	30	10.7	-82	33.6	-73
Tawang	200.0	251	61.0	11	15.0	-76
Tirap	169.6	57	87.0	-5	11.2	-82
Upper Siang	133.0	-56	59.2	-40	92.2	125
Upper Subansari	50.7	-25	23.8	-20	59.6	148
West Kameng	37.4	-77	0.0	-100	3.0	-95
West Siang	1.0	-99	3.0	-94	**	**
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	97.0	99	24.6	-68	4.5	-94
Barpeta	122.6	152	32.9	-58	38.2	-47
Bongaigaon	122.4	117	38.0	-55	45.0	-57
Cachar	228.6	274	54.2	-30	6.4	-93
Chirang	134.0	137	27.4	-67	57.4	-45
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	0.0	-100	0.0	-100
Dhubri	36.1	-16	57.0	-16	63.8	-19
Dibrugarh	150.6	152	75.9	16	4.5	-93
Goalpara	77.5	35	83.9	-4	65.2	-3
Golghat	112.6	280	37.3	-30	8.7	-85
Hailakandi	302.5	362	110.6	18	9.0	-90
Jorhat	195.3	349	31.9	-53	8.8	-85
Kamrup(Rural)	138.4	262	70.2	-4	28.1	-48
Kamrup(Metro)	47.9	25	37.6	-49	18.6	-66
Karbi Anglong	11.3	-67	38.6	19	6.6	-73
Karimganj	281.2	244	103.3	-11	6.6	-96

Kokrajhar	61.7	-22	31.9	-54	54.3	-45
Lakhimpur	111.1	146	27.8	-54	22.9	-65
Morigaon	10.8	-66	20.8	-57	22.6	-33
N.C.Hills	285.7	469	128.1	179	0.0	-100
Nagaon	11.9	-65	31.4	-35	2.5	-94
Nalbari	155.9	293	42.4	-64	35.3	-61
Sonitpur	130.2	270	9.7	-85	10.8	-82
Sibsagar	217.6	609	62.5	17	15.8	-72
Tinsukia	155.6	214	103.6	84	11.3	-83
Udalgiri	176.6	405	24.3	-66	26.8	-65
<b>Meghalaya</b>						
East Garo Hills	61.0	-28	51.0	-43	160.4	83
East Khasi Hills	332.1	363	80.7	-47	48.6	-69
Jaintia Hills	1.0	-99	1.0	-99	2.0	-98
Ribhoi	21.8	-55	42.1	-18	12.9	-80
South Garo Hills	20.0	-62	4.0	-95	24.0	-69
West Garo Hills	12.6	-76	43.4	-47	72.6	-6
West Khasi Hills	46.0	5	16.0	-82	9.0	-85
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	44.6	-31	96.7	25	1.2	-98
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	34.0	2	78.0	96	13.0	-81
Serchhip	2.6	-94	5.1	-88	0.0	-100
<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	49.0	717	58.0	161	2.0	-96
Churachandpur	**	**	**	**	**	**
Imphal east	117.6	339	46.2	16	1.3	-98
Imphal west	316.7	1549	71.6	132	0.0	-100
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	144.0	1090	50.0	268	0.0	-100
Ukhrul	2.0	-85	0.0	-100	0.0	-100
<b>Nagaland</b>						
Dimapur	4.7	-63	31.7	-12	4.5	-86
Kephire	**	**	**	**	**	**
Kohima	0.4	-98	21.5	-38	0.9	-87
Longleng	**	**	**	**	**	**
Mokokchung	2.0	-92	2.0	-95	**	**
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	9.0	-65	40.0	16	15.0	-52
Tuensang	**	**	**	**	**	**
Wokha	0.0	-100	1.0	-99	4.0	-93

Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	5.6	-91	88.8	3	55.6	-48
NorthTripura	81.7	38	145.3	88	44.0	-62
SouthTripura	5.4	-88	46.7	-28	8.5	-90
West Tripura	3.9	-92	46.1	-36	20.8	-76
<b>Himachal Pradesh</b>						
Bilaspur	0.7	-91	0.1	-97	62.3	642
Chamba	2.8	-69	3.0	-74	33.6	195
Hamirpur	1.7	-77	0.0	-100	60.6	604
Kangra	0.7	-91	0.3	-98	54.2	421
Kinnaur	7.9	-42	2.3	-88	1.7	-89
Kullu	8.7	-42	3.4	-82	29.5	83
Lahaul and Spiti	10.7	-49	1.7	-93	13.3	-36
Mandi	8.5	1	0.8	-92	107.1	649
Shimla	5.2	-43	6.8	-44	46.0	171
Sirmaur	0.3	-93	0.0	-100	18.2	149
Solan	1.2	-69	0.0	-100	81.2	560
Una	0.0	-100	0.0	-100	74.3	1276
<b>Punjab</b>						
Amritsar	0.0	-100	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.5	-62	2.0	25	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.3	-90
Ferozpur	0.0	-100	0.3	-90	0.7	-81
Gurdaspur	0.0	-100	0.3	-96	12.3	119
Hoshiarpur	0.1	-95	0.0	-100	14.9	175
Jalandhar	0.8	-36	0.0	-100	0.0	-100
Kapurthala	0.5	-50	0.0	-100	0.0	-100
Ludhiana	0.0	-98	0.0	-100	7.0	38
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	2.1	-23	0.3	-92	27.5	305
Patiala	0.0	-100	0.0	-100	6.5	75
Ropar	1.0	-33	0.0	-100	10.5	72
Sangrur	0.3	-72	0.0	-100	2.6	-50
Mohali	0.0	-100	0.0	-100	7.8	11
TarnTaran	0.0	-100	0.0	-100	0.0	-100
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						
Ambala	0.4	-76	0.0	-100	12.2	176
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.3	-80	0.0	-100	22.2	394
Faridabad	0.0	-100	0.0	-100	14.0	419
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.3	-58	0.0	-100	3.6	64
Hissar	0.0	-100	0.0	-100	0.0	-100

Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	1.7	-52
Katihah	0.0	-100	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	13.4	253
Kurukshetra	0.0	-100	0.0	-100	8.3	230
Mahendragarh	0.0	-100	0.0	-100	8.1	153
Mewat	0.0	-100	0.0	-100	2.0	67
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	0.0	-100	0.0	-100	13.3	80
Panipat	0.0	-100	0.0	-100	5.4	86
Rewari	0.0	-100	0.0	-100	3.8	217
Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	11.2	219
Yamunanagar	0.0	-100	0.0	-100	9.8	21
<b>Delhi</b>						
Central Delhi	0.0	-100	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	0.0	-100
New Delhi	0.0	-100	0.0	-100	3.8	-11
North Delhi	0.0	-100	0.0	-100	3.0	-29
North East Delhi	0.0	-100	0.0	-100	4.0	-5
North West Delhi	0.0	-100	0.0	-100	7.0	67
South Delhi	0.0	-100	0.0	-100	1.4	-67
South West Delhi	0.0	-100	0.0	-100	0.5	-88
West Delhi	0.0	-100	0.0	-100	0.0	-100
<b>Jammu &amp; Kashmir</b>						
Anantnag	17.3	-29	3.9	-83	12.3	-47
Badgam	11.0	-47	1.0	-94	10.7	-36
Bandipore	**	**	**	**	**	**
Baramula	11.4	-67	3.8	-87	19.9	-53
Doda	13.6	-32	3.8	-85	15.6	-4
Ganderbal	17.6	-14	4.8	-75	19.4	18
Jammu	2.2	-52	0.5	-91	6.0	18
Kargil	**	**	**	**	**	**
Kathua	0.5	-88	11.2	261	3.9	200
Kistwar	**	**	**	**	**	**
Kulgam	22.6	-7	2.4	-89	9.2	-60
Kupwara	6.4	-81	6.3	-78	16.9	-28
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	10.7	-46	0.9	-96	8.0	-56
Rajouri	9.5	164	3.0	-59	1.2	-73
Ramban	5.9	-71	4.9	-81	32.4	100
Reasi	1.4	-84	1.0	-93	14.0	-14
Samba	0.0	-100	0.6	-89	1.8	-65
Shopian	**	**	**	**	**	**
Srinagar	10.5	-49	1.4	-93	10.3	-37
Udhampur	14.0	56	0.2	-99	17.8	9



<b>East Madhya Pradesh</b>						
Anuppur	0.0	-100	0.0	-100	0.5	-93
Balaghat	0.1	-99	1.9	58	1.5	9
Chhatarpur	0.0	-100	0.2	-63	3.6	345
Chindwara	0.0	-100	0.0	-100	24.7	1956
Damoh	0.0	-100	0.0	-100	19.5	3150
Dindori	0.0	-100	0.0	-100	7.0	600
Jabalpur	0.0	-100	1.6	-24	0.0	-100
Katni	0.0	-100	1.0	233	6.0	1900
Mandla	0.0	-100	1.4	-22	13.2	1550
Narsingpur	0.0	-100	0.2	-17	0.6	500
Panna	0.0	-100	0.0	-100	3.2	540
Rewa	0.0	-100	1.2	-100	0.0	-100
Sagar	0.0	-100	2.7	800	5.4	984
Satna	0.0	-100	1.4	250	4.5	793
Seoni	0.0	-100	0.0	-100	1.3	-2
Shahdol	0.0	-100	0.0	-100	8.0	789
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	5.0	355
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.2	-78	8.3	538
<b>West Madhya Pradesh</b>						
Agar	0.0	-100	0.0	-100	2.1	933
Alirajpur	0.0	-100	0.0	-100	19.8	19700
Asoknagar	0.0	-100	0.0	-100	7.3	2317
Badwani	0.0	-100	0.0	-100	2.1	313
Betul	0.0	-100	0.0	-100	4.7	1070
Bhind	0.0	-100	0.0	150	5.9	1080
Bhopal	0.0	-100	0.0	-100	9.0	1186
Burhanpur	0.0	-100	0.0	-100	1.4	-51
Datia	0.0	-100	0.0	-100	13.0	665
Dewas	0.0	-100	0.0	-100	3.3	1011
Dhar	0.0	-100	0.0	-100	0.5	371
Guna	0.0	-100	0.0	-100	2.8	300
Gwalior	0.0	-100	0.0	-33	22.4	964
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	5.4	970
Indore	0.0	-100	0.0	-100	8.7	624
Jhabua	0.0	-100	0.0	-100	18.0	1100
Khandwa	0.0	-100	0.0	-100	9.0	1025
Khargone	0.0	-100	0.0	-100	2.8	1292
Mandsaur	0.0	-100	0.0	-100	1.3	39
Morena	0.0	-100	0.0	-100	1.1	10
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	8.9	2880
Rajgarh	0.0	-100	0.0	-100	9.7	2330
Ratlam	0.0	-100	0.0	-100	12.4	1671
Sehore	0.0	-100	0.0	-100	4.6	1050

Shajapur	0.0	-100	0.0	-100	11.0	1733
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	1.0	-23
Ujjain	0.0	-100	0.0	-100	25.2	2700
Vidisha	0.0	-100	0.0	-100	2.2	214
<b>Chhattisgarh</b>						
Bastar	23.0	164	8.9	5	6.2	-20
Bijapur	0.0	-100	0.0	-100	18.6	613
Bilaspur	0.0	-100	3.2	-14	9.4	177
Dantewara	0.0	-100	1.2	-63	2.4	-45
Dhamtari	1.8	50	0.0	-100	19.8	662
Durg	0.0	-100	3.4	100	8.8	361
Janjgir	0.0	-100	**	**	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	**	**
Korba	0.0	-100	0.0	-100	6.3	126
Koriya	0.0	-100	0.0	-100	**	**
Kawardha	0.0	-100	**	**	0.0	-100
Mahasumund	0.0	-100	6.6	247	12.8	1494
Narayanpur	2.9	-48	**	**	66.2	1003
Raigarh	0.0	-100	2.2	-49	**	**
Raipur	0.0	-99	11.2	195	6.3	152
Rajnandgaon	0.0	-100	8.4	320	3.8	58
Surguja	0.0	-100	2.7	0	0.0	-100
<b>East Uttar Pradesh</b>						
Allahabad	0.0	-100	0.4	-63	0.0	-100
Ambedkar Nagar	0.0	-100	0.0	-100	13.5	487
Azamgarh	0.0	-100	12.7	452	2.1	11
Bahraich	0.0	-100	25.8	617	1.5	-73
Ballia	0.0	-100	1.7	-43	24.8	726
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	5.7	414	8.4	364
Barabanki	0.0	-100	0.0	-100	0.6	-75
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	1.0	-23
Deoria	0.0	-100	0.0	-100	5.0	39
Faizabad	0.0	-100	0.0	-100	13.6	613
Farrukhabad	0.0	-100	0.0	-100	2.1	-13
Fatehpur	0.0	-100	0.5	-69	0.0	-100
Gazipur	0.0	-100	13.1	368	7.3	246
Gonda	0.0	-100	0.0	-100	1.0	-60
Gorakhpur	0.0	-100	0.0	-100	8.3	158
Hardoi	0.0	-100	0.0	-100	0.8	-73
Jaunpur	0.0	-100	1.9	-26	0.0	-100
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	8.3	654
Kanpur Dehat	0.0	-100	0.0	-100	5.6	1300
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	11.3	176	19.6	334

Kushi nagar	0.0	-100	0.0	-100	16.0	171
Lucknow	0.0	-100	0.0	-100	2.7	148
Maharajganj	0.0	-100	0.0	-100	22.5	226
Mau	0.0	-100	0.0	-100	3.5	52
Mirzapur	0.0	-100	0.0	-100	6.8	322
Pratapgarh	0.0	-100	0.0	-100	6.0	445
RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	**	**	**	**	**	**
Sidharthnagar	0.0	-100	0.0	-100	8.0	150
Sitapur	0.0	-100	1.0	-60	4.1	10
Sonbhadra	0.0	-100	0.0	-100	0.8	-74
Sultanpur	0.0	-100	5.1	63	6.9	433
Unnao	0.0	-100	0.0	-100	6.0	300
Varanasi	0.0	-100	0.1	-97	3.2	146
<b>West Uttar Pradesh</b>						
Agra	0.0	-100	1.1	-8	0.3	-88
Aligarh	0.0	-100	1.3	-60	5.1	88
Auraiya	0.0	-100	0.0	-100	2.0	54
Badaun	0.0	-100	0.0	-100	12.0	243
Baghpat	0.0	-100	0.0	-100	6.4	88
Bareilly	0.0	-100	0.0	-100	45.6	1528
Bijnor	0.0	-100	0.0	-100	13.0	364
Bulandsahar	0.0	-100	0.0	-100	13.0	282
Etah	0.0	-100	0.0	-100	0.7	-80
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	6.1	203
GBNagar	0.0	-100	0.0	-100	1.0	0
Ghaziabad	0.0	-100	0.0	-100	0.9	-76
Hamirpur	0.0	-100	0.0	-100	14.3	2283
Jalaun	0.0	-100	0.0	-100	5.9	493
Jhansi	0.0	-100	0.5	-75	3.4	68
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	4.0	90
Lalitpur	0.0	-100	0.0	-100	1.0	25
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	3.0	25
Mainpuri	0.0	-100	0.0	-100	2.2	100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.3	-89	4.1	2
Moradabad	0.0	-100	12.9	462	0.4	-86
Muzzaffarnagar	1.0	107	0.3	-88	2.0	-5
Pilibhit	0.0	-100	1.0	-60	17.6	433
Rampur	0.0	-100	1.3	-57	12.0	234
Saharanpur	1.3	122	0.0	-100	3.3	-36
Shahjahanpur	0.0	-100	0.0	-100	7.5	242

<b>Uttarakhand</b>						
Almora	1.8	-69	0.0	-100	24.0	203
Bageshwar	0.0	-100	0.0	-100	48.5	514
Chamoli	0.4	-93	8.0	-38	18.5	20
Champawat	0.0	-100	3.5	-43	15.0	42
Dehradun	1.1	-64	3.7	-46	17.8	97
Garhwal Pauri	0.0	-100	0.0	-100	5.3	-32
Garhwal Tehri	1.9	-65	0.0	-100	21.2	102
Haridwar	0.0	-100	0.0	-100	23.3	276
Nainital	1.7	-66	0.0	-100	52.8	388
Pithorgarh	2.0	-84	4.0	-71	72.6	308
Rudraprayag	0.5	-97	0.0	-100	12.8	-40
Udham Sing Nagar	0.1	-98	0.0	-100	25.4	567
Uttarkashi	4.5	-51	2.9	-75	7.4	-52
<b>Bihar</b>						
Araria	0.0	-100	30.6	38	7.9	-59
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	20.9	175
Begusarai	0.0	-100	0.0	-100	14.1	48
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	25.5	111
Bhojpur	0.0	-100	0.0	-100	5.4	93
Buxar	0.0	-100	0.0	-100	**	**
Darbhanga	0.0	-100	20.0	54	**	**
East Champaran	0.0	-100	0.0	-100	**	**
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	**	**
Jahanabad	0.0	-100	0.0	-100	**	**
Jamui	0.0	-100	0.0	-100	**	**
Kathihar	0.0	-100	0.0	-100	2.1	-90
Khagadia	0.0	-100	0.0	-100	3.1	-69
Kishanganj	0.0	-100	31.7	0	**	**
Lakhisarai	0.0	-100	0.0	-100	**	**
Madhepura	**	**	20.7	51	27.7	63
Madhubani	0.0	-100	11.3	-13	**	**
Monghyar	0.0	-100	0.0	-100	**	**
Muzaffarpur	0.0	-100	15.5	91	18.8	90
Nalanda	0.0	-100	0.0	-100	3.1	-32
Nawada	0.0	-100	0.0	-100	4.1	-34
Patna	0.0	-100	2.1	-57	14.2	256
Purnea	**	**	20.5	1	28.0	24
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	**	**	22.6	7	**	**
Samstipur	0.0	-100	7.8	21	25.5	235
Saran	0.0	-100	3.2	-31	10.1	46
Sheikpura	0.0	-100	0.0	-100	**	**
Sheohar	0.0	-100	0.0	-100	3.4	-73
Sitamarhi	0.0	-100	0.0	-100	0.0	-100

Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	22.9	69	38.5	139
Vaishali	0.0	-100	0.3	-95	44.2	1063
West Champaran	0.0	-100	0.0	-100	9.9	43
<b>Jharkhand</b>						
Bokaro	0.0	-100	1.4	-86	21.2	172
Chatra	0.0	-100	0.0	-100	**	**
Deoghar	0.0	-100	0.0	-100	7.2	7
Dhanbad	0.0	-100	0.0	-99	17.6	78
Dumka	0.0	-100	0.0	-100	30.2	119
East Singbhum	0.0	-100	24.1	146	35.4	160
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	23.2	186
Godda	0.0	-100	0.0	-100	15.0	95
Gumla	0.0	-100	0.0	-100	2.3	-77
Hazaribagh	0.0	-100	12.2	139	7.4	19
Jamtara	0.0	-100	1.1	-91	26.4	184
Khunti	0.0	-100	0.0	-100	20.5	280
Koderna	0.0	-100	0.0	-100	2.0	-53
Latehar	0.0	-100	0.0	-100	**	**
Lohardagga	0.0	-100	0.0	-100	3.9	-29
Pakur	0.0	-100	1.3	-91	8.2	-46
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	1.6	-81
Ranchi	0.0	-100	4.9	-21	8.2	19
Sahebganj	0.0	-100	0.0	-100	**	**
Saraikela	0.0	-100	14.2	71	10.9	-7
Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	23.3	77
<b>East Rajasthan</b>						
Ajmer	0.0	-100	0.2	-71	0.0	-100
Alwar	0.0	-100	0.0	-100	13.3	291
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	4.4	775
Bharatpur	0.0	-100	0.0	-100	5.4	135
Bhilwara	0.0	-100	0.4	-65	3.5	250
Bundi	0.0	-100	0.0	-100	4.0	400
Chittorgarh	0.0	-100	0.0	-100	3.4	180
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	1.2	-27	2.2	67
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.4	-56	6.1	165
Jhalawar	0.0	-100	0.0	-100	11.0	1000
Jhunjhunu	0.0	-100	0.4	-72	5.7	35
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	6.1	1419
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	0.0	-100

Sikar	0.0	-100	0.0	-100	15.7	282
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	3.0	42
Udaipur	0.0	-100	0.0	-100	0.0	-100
<b>West Rajasthan</b>						
Barmer	0.0	-100	0.0	-100	0.1	-95
Bikaner	0.0	-100	0.0	-100	0.0	-99
Churu	0.0	-100	0.0	-100	16.0	357
Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	4.4	631
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-98
<b>Gujarat Region</b>						
Ahmedabad	0.0	-100	0.0	-100	0.1	-97
Anand	0.0	-100	0.0	-100	2.6	119
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
Dangs	0.0	-100	0.0	-100	12.5	1983
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	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.2	-74
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	0.0	-100	0.0	-100	4.9	1528
Bhavnagar	0.0	-100	0.0	-100	0.2	-73
Diu	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	1.7	237
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	0.0	-100

Mumbai Suburban	0.0	-100	0.0	-100	0.0	-100
North Goa	0.0	-100	0.0	-100	0.0	-100
Raigad	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.0	-100	0.0	-100	0.0	-100
South Goa	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100	0.0	-100	2.4	300
Jalgaon	0.0	-100	0.0	-100	1.8	254
Kolhapur	0.0	-100	0.0	-100	0.0	-100
Nandurbar	0.0	-100	0.0	-100	0.3	-63
Nasik	0.0	-100	0.0	-100	9.3	615
Pune	0.0	-100	0.0	-100	7.6	302
Sangli	0.0	-100	0.8	-93	0.0	-100
Satara	0.0	-100	0.0	-100	1.4	-63
Solapur	0.0	-100	0.4	-91	0.6	-71
<b>Marathwada</b>						
Aurangabad	0.0	-100	0.0	-100	4.0	341
Beed	0.0	-100	0.8	-60	2.0	67
Hingoli	0.0	-100	0.0	-100	1.8	22
Jalna	0.0	-100	0.0	-100	0.9	-2
Latur	0.0	-100	4.1	58	8.2	529
Nanded	0.0	-100	1.2	-17	9.9	481
Osmanabad	0.0	-100	1.4	-51	3.5	84
Parbhani	0.0	-100	0.3	-88	1.4	1
<b>Vidarbha</b>						
Akola	0.0	-100	0.0	-100	6.0	902
Amraoti	0.0	-100	0.0	-100	14.2	1483
Bhandara	0.0	-100	1.4	1	14.1	607
Buldhana	0.0	-100	0.0	-100	4.8	855
Chandrapur	0.0	-100	13.1	669	21.9	1051
Gadchiroli	0.0	-100	10.7	267	5.1	75
Gondia	0.0	-100	2.4	240	9.4	525
Nagpur	0.0	-100	0.1	-96	7.9	275
Wardha	0.0	-100	0.3	-86	10.2	437
Washim	0.0	-100	0.0	-100	9.7	593
Yeotmal	0.0	-100	0.1	-95	10.0	378
<b>Odisha</b>						
Angul	0.0	-100	3.3	-66	4.0	-64
Balasore	0.2	-99	8.4	-44	25.4	-1
Bargarh	0.0	-100	5.0	28	6.5	72
Bhadrak	0.0	-100	0.0	-100	57.2	124
Bolangir	5.3	15	5.9	22	4.1	-40
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	2.8	-87	16.2	6
Deogarh	0.0	-100	1.7	-75	0.0	-100

Dhenkanal	0.8	-94	0.8	-94	11.8	-24
Gajapati	0.4	-99	27.4	18	29.9	-40
Ganjam	2.3	-82	5.9	-44	10.1	-64
Jagatsingpur	0.0	-100	1.9	-90	2.3	-89
Jajpur	0.0	-100	0.3	-98	27.8	40
Jharsuguda	0.0	-100	0.2	-97	0.0	-99
Kalahandi	0.8	-90	0.0	-100	13.0	51
Kandhamal	0.0	-100	2.9	-80	2.3	-86
Kendrapara	0.0	-100	0.0	-100	8.7	-44
Keonjhar	6.3	-56	0.0	-99	26.8	11
Khurda	0.0	-100	3.8	-60	1.1	-93
Koraput	1.9	-87	10.0	-44	35.4	28
Malkangiri	0.0	-100	0.0	-100	23.8	143
Mayurbhanj	1.1	-94	5.1	-75	17.4	-14
Nawapara	0.0	-100	0.0	-100	2.9	-35
Nawarangpur	15.6	-38	3.0	-79	24.9	45
Nayagarh	10.5	-15	4.4	-68	6.0	-7
Puri	0.0	-100	0.7	-93	0.0	-99
Rayagada	5.5	-55	2.5	-79	16.4	-51
Sambalpur	0.0	-100	5.6	-19	1.6	-72
Sonepur	0.0	-100	2.7	-47	0.8	-84
Sundargarh	0.0	-100	1.2	-78	3.3	-49
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	0.6	-98	4.8	-92	19.7	-69
North & Middle Andaman	0.0	-100	0.0	-100	0.0	-100
South Andaman	0.0	-100	0.0	-100	0.0	-100
<b>GWB</b>						
Bankura	0.0	-100	4.8	-65	5.4	-62
Birbhum	0.0	-100	3.0	-75	24.4	73
Burdwan	0.0	-100	0.5	-97	31.2	173
East Midnapore	0.0	-100	6.9	-69	3.0	-84
Hooghly	0.0	-100	2.6	-86	15.0	-24
Howrah	0.0	-100	7.4	-65	2.1	-90
Kolkata	0.0	-100	4.6	-78	4.7	-76
Murshidabad	0.0	-100	1.0	-92	27.0	58
Nadia	0.0	-100	1.6	-92	65.9	274
24 Pargana (N)	0.0	-100	6.7	-75	46.4	111
Purulia	0.0	-100	1.5	-87	14.6	85
24 Pargana (S)	0.0	-100	3.6	-82	4.1	-81
West Midnapore	0.0	-100	30.1	81	40.6	129
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	0.0	-100	7.3	-87	57.1	-5
Darjeeling	2.6	-94	10.0	-81	28.5	-40
East Sikkim	115.5	163	14.7	-75	28.5	-53
Jalpaiguri	7.6	-82	42.4	-27	56.1	-7
Malda	0.0	-100	0.0	-100	21.9	7
North Dinajpur	**	**	**	**	**	**



North Sikkim	111.0	111	31.9	-56	25.8	-60
South Dinajpur	0.0	-100	0.0	-100	2.3	-93
South Sikkim	16.7	-62	12.4	-79	22.0	-64
West Sikkim	33.0	-37	38.5	-47	20.5	-68
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshina Kannada	0.0	-100	2.4	-87	7.0	-64
Udupi	0.0	-100	0.0	-100	0.0	-100
Uttara Kannada	0.0	-100	0.1	-99	0.0	-100
<b>NI Karnataka</b>						
Bagalkote	0.0	-100	2.0	-70	2.8	-63
Belagavi	0.1	-99	5.2	-64	0.0	-100
Bidar	0.0	-100	20.0	325	43.7	1021
Dharwad	0.0	-100	4.3	-75	0.0	-100
Gadag	0.0	-100	2.8	-77	3.7	-62
Haveri	0.1	-99	0.0	-100	6.1	-55
Kalaburgi	0.9	-83	3.4	-35	33.2	656
Koppal	0.0	-100	0.0	-100	17.8	170
Raichur	0.0	-100	4.5	42	8.6	75
Vijayapura	0.0	-100	8.3	45	2.0	-56
Yadgir	0.1	-99	0.9	-79	14.1	329
<b>SI Karnataka</b>						
Ballari	0.0	-100	4.8	-49	32.2	288
Bangalore Rural	2.3	-81	0.0	-100	55.3	300
Bangalore Urban	5.4	-58	0.0	-100	36.8	123
Chamarajanagar	4.9	-77	2.6	-90	51.5	108
Chikaballapur	2.0	-75	6.4	-50	28.4	208
Chikkamagaluru	0.2	-99	10.5	-53	7.8	-44
Chitradurga	0.0	-100	9.4	-17	20.9	129
Davangere	0.0	-100	2.5	-81	0.0	-100
Hassan	0.0	-100	8.1	-62	22.9	26
Kodagu	2.0	-93	19.8	-31	58.1	120
Kolar	0.0	-100	0.0	-100	58.7	482
Mandya	6.3	-57	1.4	-93	36.5	137
Mysuru	10.5	-46	9.5	-59	46.6	105
Ramanagara	1.0	-94	0.9	-97	27.5	43
Shivamogga	0.0	-100	6.4	-58	0.0	-100
Tumakuru	0.0	-100	4.0	-73	14.2	18
<b>Kerala</b>						
Alappuzha	5.0	-85	16.1	-64	28.2	-41
Kannur	0.0	-100	3.3	-87	22.7	-20
Ernakulam	2.7	-90	16.3	-64	37.5	18
Idukki	4.0	-90	2.7	-94	93.8	212
Kasaragod	0.0	-100	0.0	-100	0.1	-99
Kollam	16.4	-64	11.2	-76	53.7	22
Kottayam	6.4	-76	29.8	-32	33.0	-21
Kozhikode	0.0	-99	0.0	-100	15.9	-45
Malappuram	0.2	-99	0.2	-99	52.2	35
Palakkad	0.0	-99	0.3	-99	64.5	163

Pathanamthitta	38.3	-24	40.3	-28	52.7	-5
Thiruvananthapuram	9.8	-65	5.0	-86	41.9	14
Thrissur	1.5	-93	0.0	-100	58.1	44
Wayanad	3.0	-87	11.1	-55	50.3	117
<b>Tamil Nadu</b>						
Ariyalur	0.0	-100	0.0	-100	0.0	-100
Chennai	0.0	-100	0.0	-100	0.0	-100
Coimbatore	0.7	-96	0.5	-97	25.1	46
Cuddalore	0.0	-100	0.0	-100	0.0	-100
Dharmapuri	0.0	-100	0.0	-100	15.3	0
Dindigul	0.5	-97	0.0	-100	39.0	110
Erode	1.3	-91	0.4	-98	10.4	-30
Kanchipuram	0.0	-100	0.0	-100	0.0	-100
Kanyakumari	4.1	-81	3.2	-90	21.3	-22
Karikal	0.0	-100	0.0	-100	0.0	-100
Karur	0.5	-96	0.0	-100	60.7	333
Krishnagiri	2.5	-82	0.0	-100	30.4	76
Madurai	1.3	-91	0.0	-100	4.0	-78
Nagapattinam	0.0	-100	0.0	-100	0.0	-100
Namakkal	0.0	-100	0.0	-100	23.5	39
Nilgiris	5.2	-76	0.4	-98	30.6	51
Perambalur	0.0	-100	0.0	-100	66.8	480
Puducherry	0.0	-100	0.0	-100	0.0	-100
Pudukottai	0.0	-100	0.0	-100	4.2	-58
Ramanathapuram	0.5	-97	4.1	-57	4.3	-63
Salem	2.8	-79	0.0	-100	18.9	15
Sivaganga	0.0	-100	0.0	-100	13.7	-10
Thanjavur	0.0	-100	0.0	-99	1.3	-91
Theni	2.7	-87	0.5	-97	31.8	129
Tirunelveli	9.4	-37	1.3	-92	22.2	57
Tirupur	0.0	-100	0.0	-100	25.7	90
Tiruvallur	0.0	-100	0.0	-100	0.1	-99
Tiruvannamalai	0.0	-100	0.0	-100	5.4	-57
Tiruvarur	0.0	-100	0.0	-100	5.2	-65
Toothukudi	0.0	-100	0.0	-100	1.4	-87
Trichy	0.0	-100	0.0	-100	26.9	101
Vellore	0.0	-100	0.0	-100	9.0	-34
Villupuram	0.0	-100	0.0	-100	1.6	-84
Virudhunagar	1.8	-89	0.0	-100	15.9	-12
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	0.0	-100	1.8	-80	7.8	-71
Guntur	0.2	-96	3.2	-27	32.7	67
Krishna	0.0	-100	0.3	-96	20.4	122
Nellore	0.0	-100	0.4	-95	3.6	-70
Prakasam	0.0	-100	2.3	-65	9.3	-11
Sirkakulam	0.7	-90	6.8	-26	7.3	-61
Visakhapatnam	4.6	-66	7.9	-51	12.7	-59

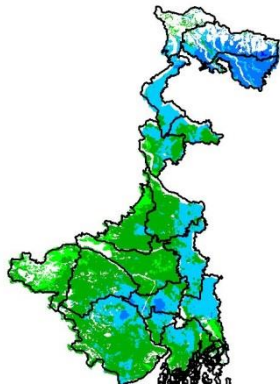
Vizianagram	0.6	-93	17.8	38	11.2	-60
West Godavari	0.0	-100	1.8	-72	12.0	-32
<b>Rayalaseema</b>						
Anantapur	0.0	-100	2.0	-77	13.9	79
Chittoor	0.4	-96	0.1	-99	25.7	120
Cuddapah	0.1	-98	0.4	-94	10.2	40
Kurnool	0.0	-100	4.3	-32	18.9	136
<b>Telangana</b>						
Adilabad	0.0	-100	7.9	217	22.7	631
Hyderabad	0.0	-100	7.3	86	96.7	2150
Karimnagar	6.5	81	5.7	36	50.0	707
Khammam	1.7	-74	3.7	-48	24.7	126
Mehabubnagar	0.0	-100	7.8	70	33.9	653
Medak	0.0	-100	3.4	16	36.5	748
Nalgonda	0.0	-100	8.3	176	73.1	1683
Nizamabad	0.5	-81	12.0	444	32.3	534
Rangareddy	2.1	-68	3.6	-42	62.5	1258
Warangal	0.0	-100	10.6	193	27.8	479

#### Legends

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

#### Annexure II

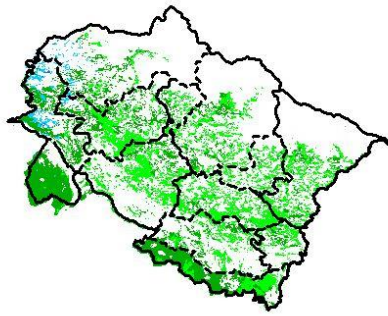
#### INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON 11<sup>th</sup> May 2016 FOR DIFFERENT STATES



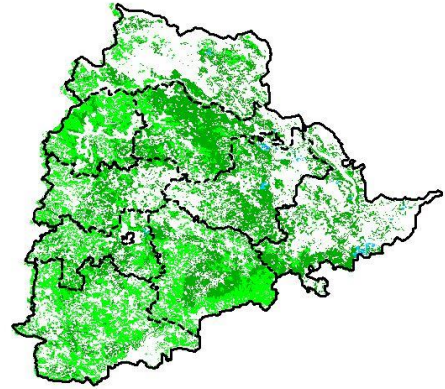
Agricultural vigour is good in West Bengal, whereas western region of the state shows moderate NDVI.



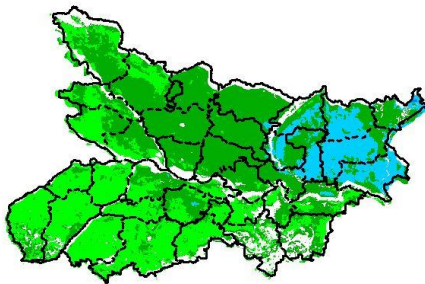
Agricultural vigour is moderate over entire state of Uttar Pradesh .



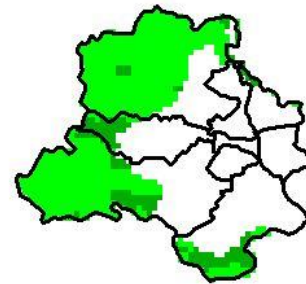
Agricultural vigour is moderate over entire state of Uttarakhand.



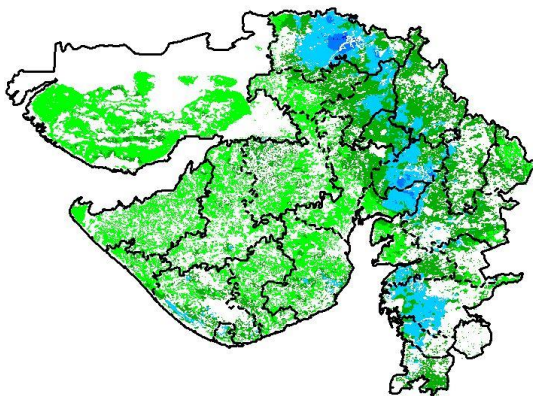
Agriculture vigour is moderate over entire state of Telangana.



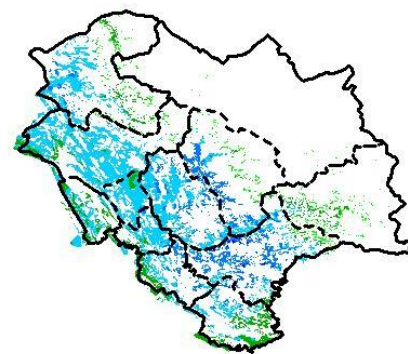
Agriculture vigour is moderate over major parts of Bihar whereas eastern part shows patches of good NDVI values.



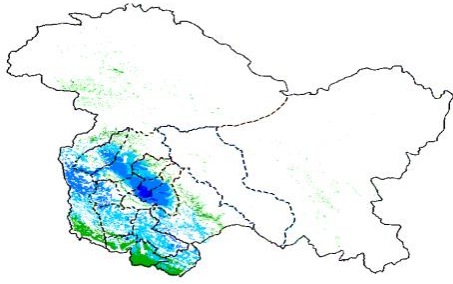
Agriculture vigour is moderate all over Delhi.



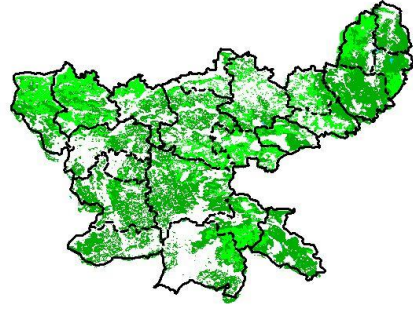
Agriculture vigour is moderate in Kutch and Saurashtra whereas, good agricultural vigour is observed over patches in Gujarat region.



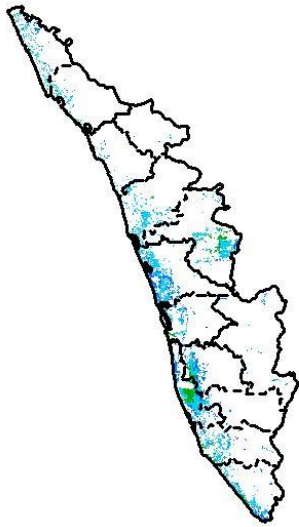
Agriculture vigour is good over entire state of Himachal Pradesh, except few patches over south and east shows moderate values of NDVI.



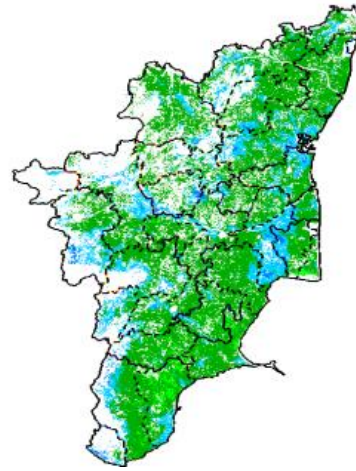
Agriculture vigour is good over central and northern part of Jammu & Kashmir, whereas the remaining region shows moderate NDVI.



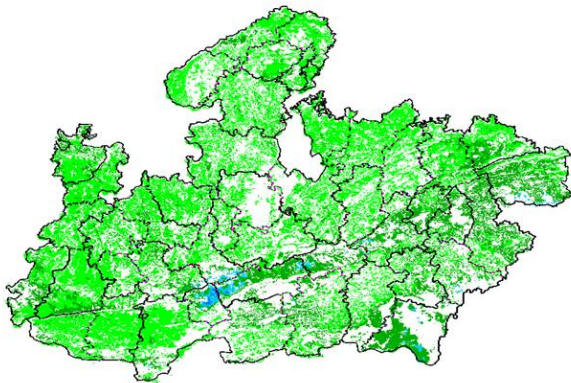
Agriculture vigour is moderate over entire state of Jharkhand.



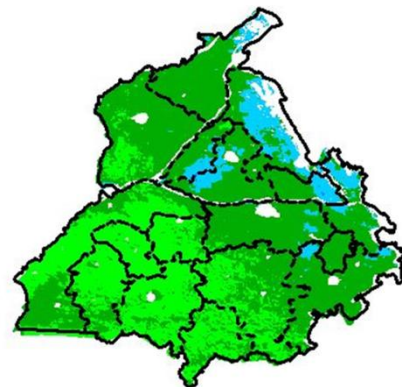
Agriculture vigour is good over entire state of Kerala.



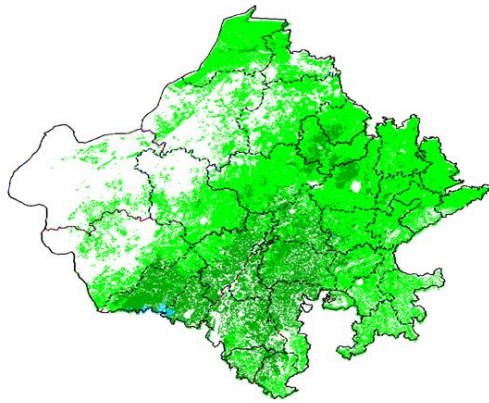
Agricultural vigour is good over major part of Tamil Nadu, except for western and central part shows moderate NDVI.



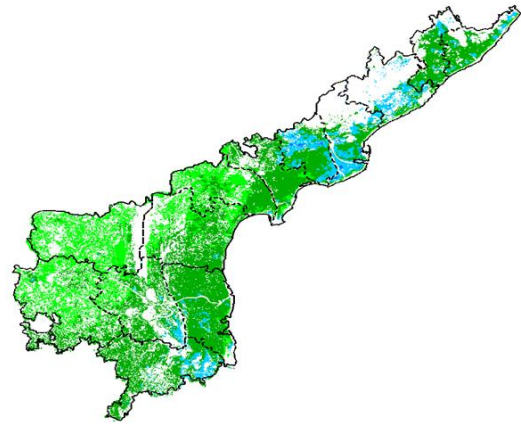
Agriculture vigour shows moderate values of NDVI over entire state of Madhya Pradesh.



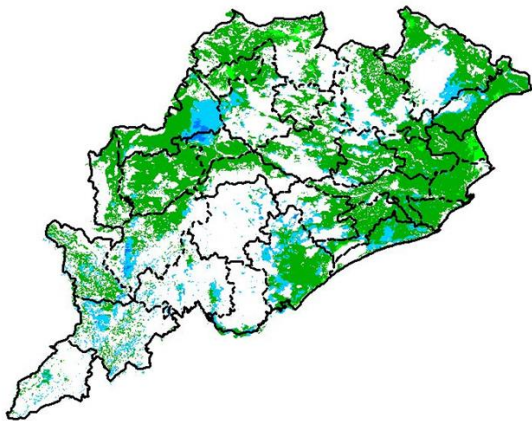
Agricultural vigour is good over northern parts of Punjab whereas, the remaining region shows moderate NDVI.



Agriculture vigour is moderate over the entire state of Rajasthan.



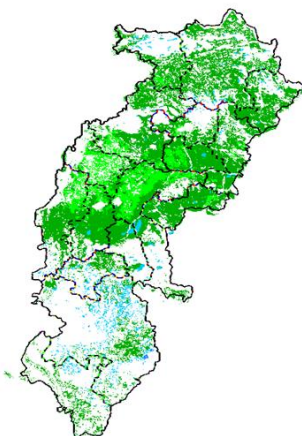
Agriculture vigour is good over coastal part of Andhra Pradesh whereas other region shows moderate values.



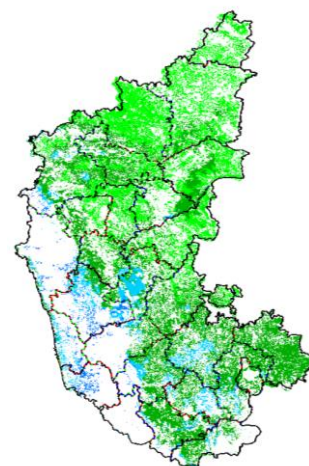
Agricultural vigour is good in patches of coastal and western parts of Odisha where rest of region shows moderate NDVI.



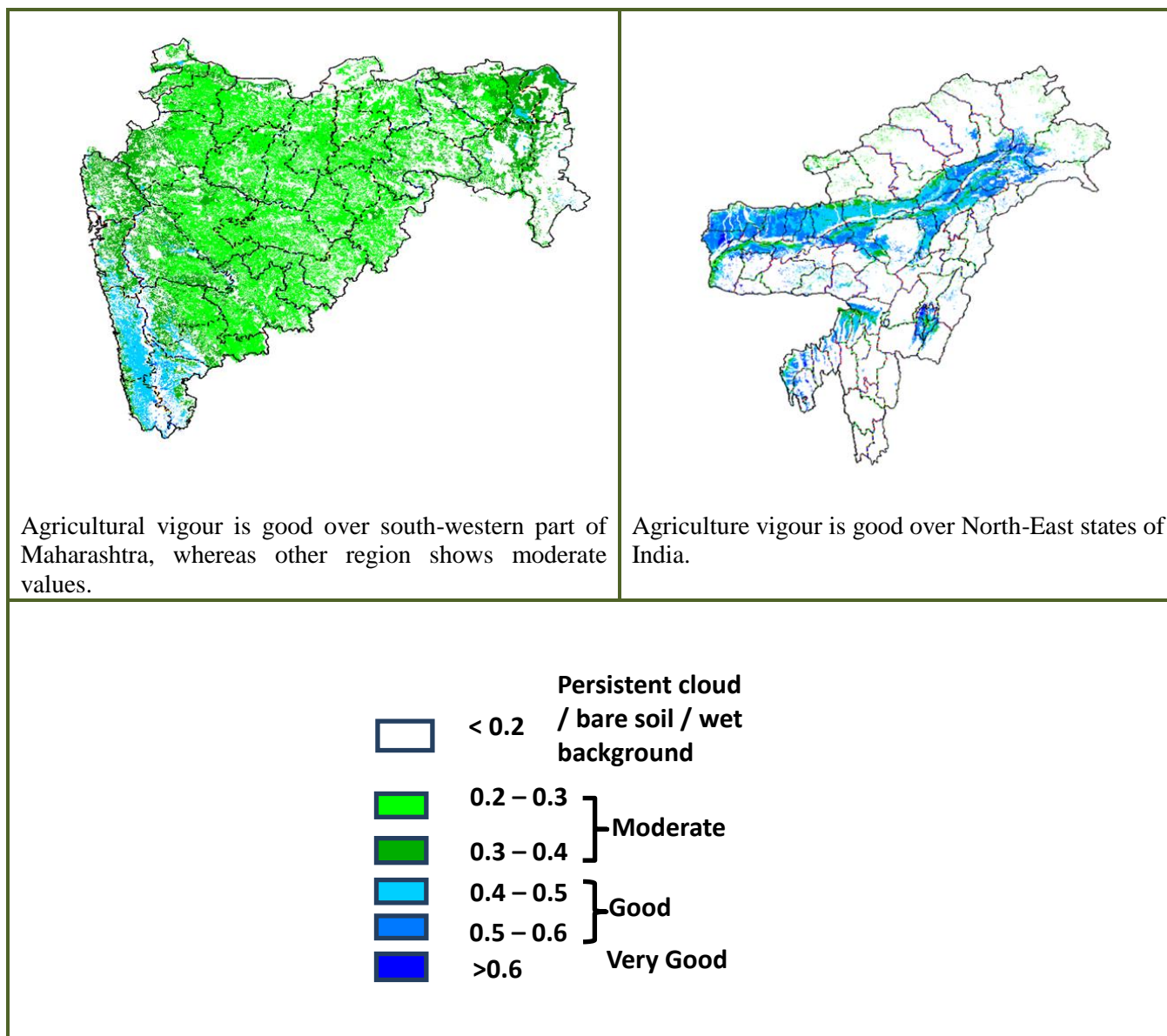
Agriculture vigour is moderate over entire state of Haryana.



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



Agriculture vigour is good over patches in central and Southern 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 kalian

### Jammu & Kashmir

**Cabbage**: Golden Acre, Pride of India and PusaMukta.

**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,PunjabRatta, 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, RZ19,209,223and 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 sunheri, 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