



National Agromet Advisory Service Bulletin



Friday 19th February 2016

(For the period 19th to 23rd February 2016)



Issued by

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

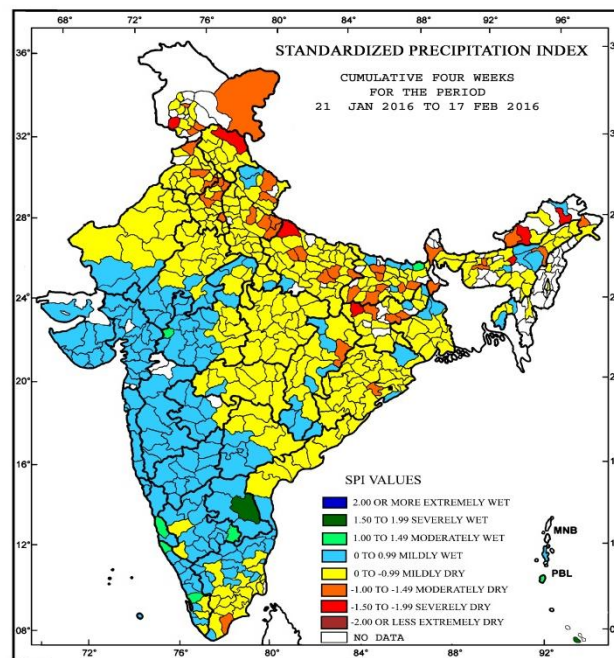
Weblink For

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

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

Standardised Precipitation Index Four Weekly for the Period 21st January to 17th February 2016

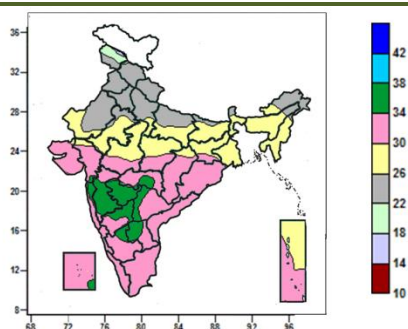
MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



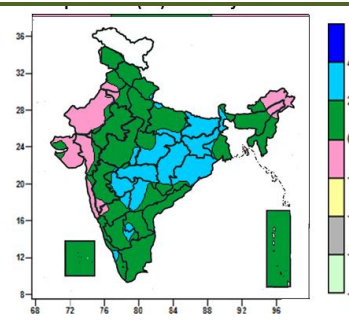
- Extremely/severely wet conditions experienced in Cuddapah district of Andhra Pradesh. Nicobar district of Andaman and Nicobar islands.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh; Delhi; Morigaon district of Assam; Palamu district of Jharkhand; Kheri district of Uttar Pradesh; Lahaul & Spiti district of Himachal Pradesh; Rajouri district of Jammu & Kashmir.
- Moderately dry conditions experienced in many districts of Delhi; few districts of Arunachal Pradesh; Jammu & Kashmir; Goalpara, Barpeta, Golaghat districts of Assam; Darjeeling, Malda districts of West Bengal; Nayagarh district of Odisha; Bokaro, Chatra, Dhanbad districts of Jharkhand; Bhagalpur, Gaya, Monghyr, Muzaffarpur, Nalanda, Rohtas, Vaishali districts of Bihar; Azamgarh, Ballia, Barabanki, Jaunpur, Lucknow, Bareilly, Moradabad, Pilibhit, Shahjahanpur districts of Uttar Pradesh; Ambala, Gurgaon, Karnal, Yamuna Nagar, Chandigarh districts of Haryana; Almora, Chamoli districts of Uttarakhand; Gurdaspur, Ludhiana, Patiala, Sangrur districts of Punjab; Raigarh district of Chhattisgarh. Toothukudi district of Tamil Nadu.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 17.02.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 17.02.2016



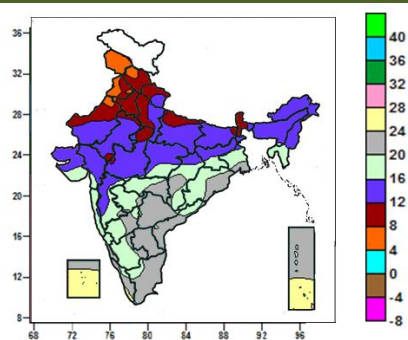
Mean Maximum Temperature (°C) Anomaly in India for the week ending 17.02.2016



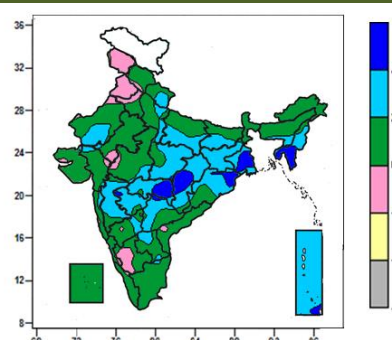
- Mean maximum temperature was between 34 to 38°C over many parts of Madhya Maharashtra, Marathwada, North Interior Karnataka, Rayalaseema, some parts of Vidarbha, Konkan, Telangana, South Interior Karnataka and isolated pockets of Gujarat region, Lakshadweep.
- Mean maximum temperature was between 26 to 34°C over rest of the country except Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Haryana & Delhi, Punjab, many parts of Uttar Pradesh, Sikkim, Arunachal Pradesh, West Rajasthan, some parts of East Rajasthan, Bihar, Assam where it was between 18 and 26°C.

- Mean maximum temperature was above normal by 2 to 4°C over Jharkhand, many parts of Sub-Himalayan West Bengal, Bihar, East Madhya Pradesh, Chhattisgarh, Odisha, Marathwada, Vidarbha, some parts of Telangana, North Interior Karnataka and isolated pockets of East Uttar Pradesh, Gangetic West Bengal, Rayalaseema, South Interior Karnataka, Kerala.
- It was normal to near normal in remaining parts of the Country.

Actual Mean Minimum Temperature (°C) in India for the week ending 17.02.2016



Mean Minimum Temperature (°C) Anomaly in India for the week ending 17.02.2016



- Mean minimum temperature was between 4 to 8°C over Jammu & Kashmir, many parts of Punjab, some parts of Himachal Pradesh and isolated pockets of West Rajasthan.
- Mean minimum temperature was between 8 to 12°C over Haryana & Delhi, Sikkim, many parts of Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Sub-Himalayan West Bengal, some parts of Punjab, East Uttar Pradesh, West Rajasthan, West Madhya Pradesh and isolated pockets of East Rajasthan, Bihar.
- Mean minimum temperature was between 12 to 20°C over rest of country except Lakshadweep, Andaman & Nicobar Islands, Telangana, Rayalaseema, many parts of Coastal Andhra Pradesh, Coastal Karnataka, Tamil Nadu, Kerala, some parts of Vidarbha,

- Mean minimum temperature was above normal by 4 to 6°C over Mizoram, many parts of Gangetic West Bengal, Tripura, some parts of Chhattisgarh, Vidarbha and isolated pockets of Odisha, Marathwada, Telangana and Andaman & Nicobar Islands.
- Mean minimum temperature was above normal by 2 to 4°C over many parts of East Madhya Pradesh, Jharkhand, Odisha, Manipur, Chhattisgarh, Vidarbha, Marathwada, Madhya Maharashtra, Telangana, Andaman & Nicobar Islands, some parts of Uttarakhand, Uttar Pradesh, West Rajasthan, Bihar, Gangetic West Bengal, Nagaland, Rayalaseema, North Interior Karnataka and isolated pockets of Assam & Meghalaya, Gujarat region, East Rajasthan, West Madhya Pradesh, Konkan,

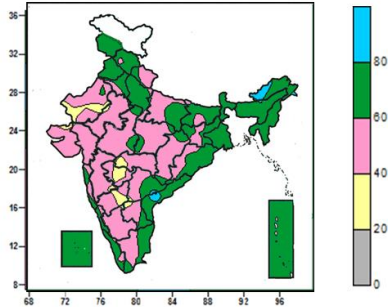
Chhattisgarh, Odisha, Interior Karnataka, and isolated pockets of Madhya Maharashtra, Marathwada and Gangetic West Bengal, where it was 20 to 28⁰C.

Tamil Nadu.

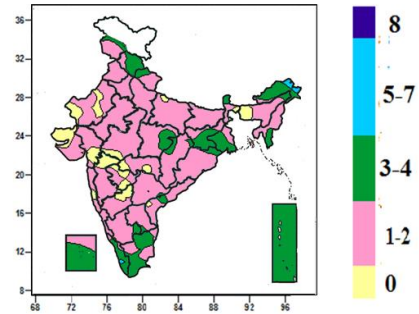
- It was normal to near normal in remaining parts of the country.

Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 17.02.2016

Relative Humidity (%) over India for the week ending 17.02.2016



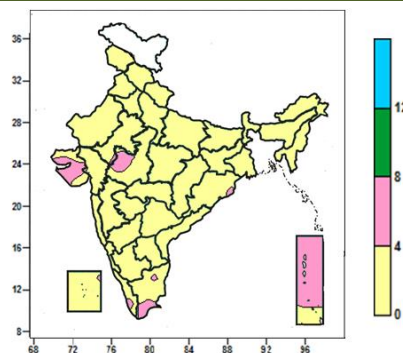
Cloud amount (okta) over India for the week ending 17.02.2016



- Mean Relative humidity was above 80% over isolated pockets of Arunachal Pradesh, Coastal Andhra Pradesh and Telangana.
- Mean Relative humidity was between 40 to 80% over rest of the country except some parts of Marathwada, West Rajasthan, North Interior Karnataka and isolated pockets of Kutch, East Rajasthan, Vidarbha, Telangana, Rayalaseema where it was between 20 to 40%.

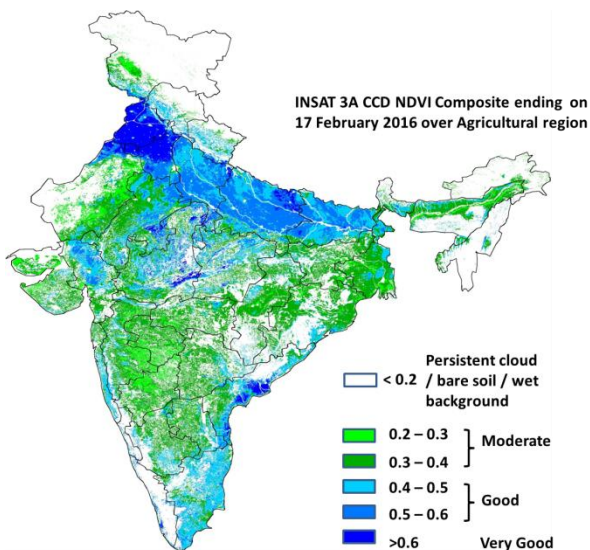
- Sky remained generally cloudy (5-7 okta) over isolated pockets of Arunachal Pradesh, Kerala.
- Sky remained partly cloudy (3-4 okta) over Sikkim, Andaman & Nicobar Islands, many parts of Himachal Pradesh, Jharkhand, Gangetic West Bengal, Arunachal Pradesh, Mizoram, Tamil Nadu, Kerala, Lakshadweep, some parts of East Madhya Pradesh and isolated pockets of Jammu & Kashmir, Uttarakhand, Assam, Nagaland, Chhattisgarh, Coastal Andhra Pradesh, South Interior Karnataka and Rayalaseema.
- Sky remained mainly clear/clear sky (1 to 2/0 okta) over rest of the country.

Wind speed (knots) over India for the week ending 17.02.2016



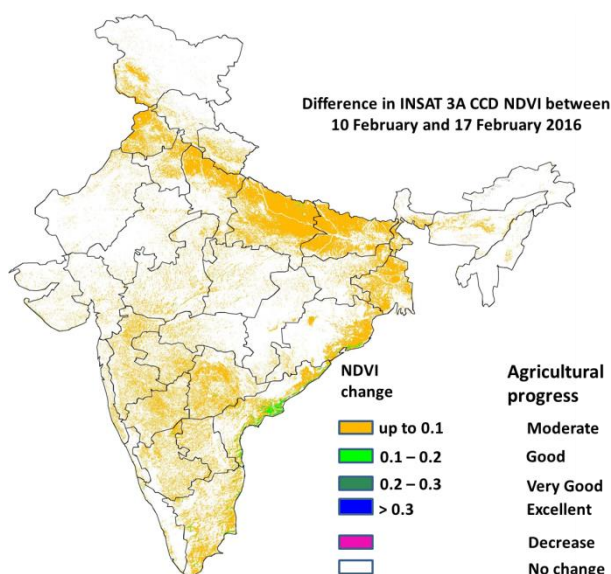
- Mean wind speed was 4 to 8 knots over many parts of Saurashtra & Kutch, Andaman & Nicobar Islands, some parts of West Madhya Pradesh and isolated pockets of Tamil Nadu, Kerala and Odisha.
- It was less than 4 knots over rest of the country.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 17th February 2016 OVER AGRICULTURAL REGION OF INDIA



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

Difference in INSAT 3A CCD NDVI between 10th and 17th February 2016



- Good Progress in NDVI is observed in coastal Andhra Pradesh. Moderate progress in NDVI was observed in states of Uttar Pradesh, Bihar, Punjab, Haryana, Maharashtra, Telangana, West Bengal, Coastal Odisha, Karnataka and patches in Madhya Pradesh. No change in NDVI was observed in Kerala, Chhattisgarh, Rajasthan, Gujarat and Odisha.

- INSAT 3A CCD NDVI composite maps for the week ending on 17th February 2016 for different States are given below in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 24th February 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Fall in maximum and minimum temperatures very likely to occur over plains of northwest India and adjoining central India from 21st February.
- Maximum and minimum temperatures likely to continue to be markedly above normal (5.1°C or more) over Odisha and Gangetic West Bengal and slight fall by 1-2°C over Gujarat region during next 48 hours.

5 Day Rainfall Forecast (MID DAY) 19th February 2016

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

% Station Reporting Rainfall

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

Weather Warning during next 5 days

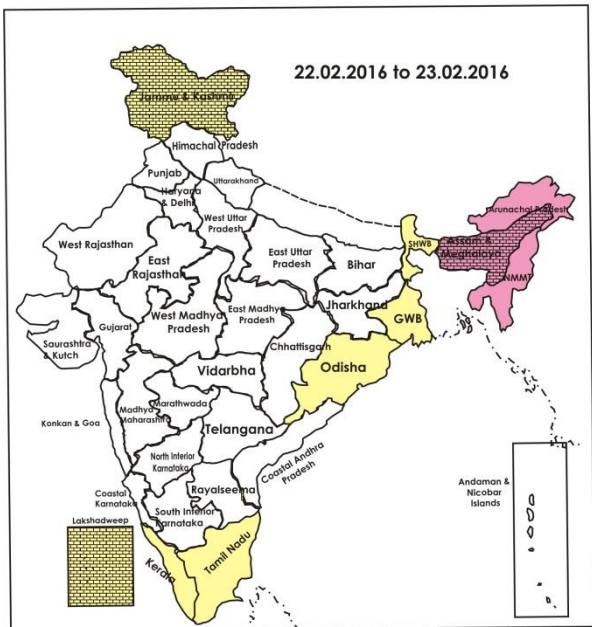
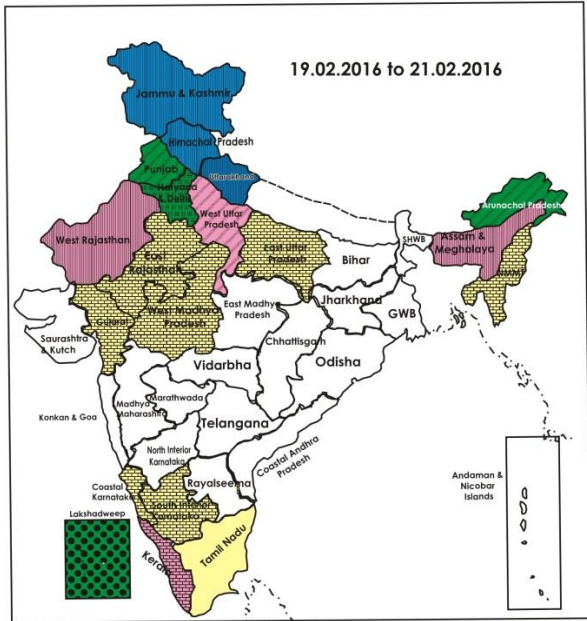
- **19 February (Day 1):** Heavy rain/snow very likely to occur at isolated places over Jammu & Kashmir and Himachal Pradesh. Hailstorm very likely to occur at isolated places over Himachal Pradesh, Uttarakhand, Punjab and Haryana, Chandigarh & Delhi.
- **20 February (Day 2):** Heavy rain/snow very likely to occur at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand. Hailstorm very likely to occur at isolated places over Himachal Pradesh, Uttarakhand and Haryana, Chandigarh & Delhi. Thundersquall accompanied with hailstorm likely to occur at isolated places over West Uttar Pradesh. Thunderstorm accompanied with thundersquall very likely to occur at isolated places over Tripura.

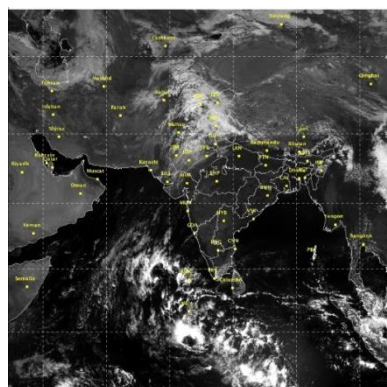
- **21 February (Day 3):** Heavy rain very likely to occur at isolated places over Arunachal Pradesh.
- **22 February (Day 4):** No weather warning.
- **23 February (Day 5):** No weather warning.

Weather Outlook for subsequent 2 days from 24th to 26th February 2016

- Rain/snow likely to occur at a few places over Western Himalayan region.
- Rain/thundershower likely to occur at a few places over east India and northeastern states and Isolated over extreme south peninsular India.

Weather Forecast Map (Valid upto 0830 hours of 24th February, 2016)





Salient Advisories

- As rain/snow would occur at most places over **Jammu & Kashmir, Himachal Pradesh** and **Uttarakhand** on 19th and 20th along with heavy rain/snow very likely at isolated places over Jammu & Kashmir and Himachal Pradesh on 19th and 20th and over Uttarakhand on 20th February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Arrange for adequate drainage in the crop fields to avoid water stagnation.
- As hailstorm is very likely to occur at isolated places over **Punjab on 19th, over Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi** on 19th and 20th February and thundersquall accompanied with hailstorm likely to occur at isolated places over **West Uttar Pradesh** on 20th February, farmers are advised to use hail nets/hail caps for orchard crops to protect from mechanical damage. They are also advised provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Also undertake propping up in sugarcane crop in West Uttar Pradesh, Punjab and Haryana. Postpone harvesting of sugarcane in Punjab and early sown mustard in West Uttar Pradesh and keep the harvested produce at safer places.
- As rain/thundershowers is very likely at many places over **Haryana** on 19th & 20th and over **Punjab** on 19th February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- In **Arunachal Pradesh**, as rain is very likely at many places on 21st February along with heavy rain at isolated places, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Continue sowing of early maize and cowpea utilising the realised and expected rainfall.
- In the Western Zone of **Tamil Nadu**, continue sowing of summer irrigated sesame and planting of mid season sugarcane and transplanting of *Navarai* rice.
- As mainly dry weather would prevail, undertake harvesting of matured *Thaladi* rice in Cauvery Delta Zone of **Tamil Nadu** and continue harvesting of *Mundakan* rice in Northern Zone of **Kerala**.
- Undertake direct sowing of *Puncha* rice in Southern Zone of **Kerala**.
- In **Jharkhand**, as normal sown wheat is at flowering/grain filling stage, in view of the prevailing above normal maximum temperature and expected dry weather conditions, apply irrigation in the wheat fields to keep optimum soil moisture conditions.
- In **Gujarat**, as dry weather and above normal maximum temperature conditions are prevailing, apply light irrigation in mustard and castor in North West Zone, apply irrigation to vegetable crops in South Gujarat Zone, papaya, amaranth in North Gujarat Zone and to wheat in North West Zone, Middle Gujarat Zone.
- In **Madhya Maharashtra**, as day temperature is rising, apply irrigation and mulch with crop residue or plastic sheet to vegetables, sugarcane, wheat and in pomegranate and banana orchards. Continue sowing of irrigated summer groundnut and sunflower using Broad Based Furrow (BBF) method. In **Marathwada**, apply irrigation to timely sown wheat at flowering/milking stage and continue sowing of irrigated summer groundnut using Broad Based Furrow (BBF) method.
- In **Himachal Pradesh** and Central and Undulating Plain Zone of **Punjab**, there is chance for occurrence of yellow rust in wheat in the present weather condition. Monitor the crops and if symptoms are noticed, spray with Tilt/ Shine/ Bumper/Compass/ Markzole @ 200 ml in 200 litres of water/acre after current spells of rain.

Detailed Zonewise Agromet Advisories

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



Banana



Groundnut



Sugarcane



Cotton

- **Realised Rainfall:** Rainfall occurred in Alappuzha, Ernakulam and Kottayam districts of Kerala. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **Tamil Nadu:**
 - In the Western Zone, continue sowing of summer irrigated sesame (TMV4 or TMV6 or SVPR1) and planting of mid season sugarcane. Considering the dry weather, spray either 0.5% Urea @ 5g/litre of water or 1% Potassium nitrate @ 10g/litre of water to induce flowering in mango trees without flowers, under sufficient soil moisture. Due to rising maximum temperature, give irrigation to banana crop and provide support to prevent banana from lodging .
 - In the Cauvery Delta Zone, undertake harvesting of matured *thaladi* rice utilizing the expected mainly dry weather.
 - In the South Zone, apply irrigation to rice, banana and sugarcane (Irrigated) crops.Undertake land preparation for sowing of cotton (MCU 5, LRA 5166 and SVPR 2) under irrigated conditions.
 - In the High Rainfall Zone, maintain 5 cm water in rice fields and continue staking of banana plants with bamboo poles to protect from strong wind.
 - In the Cauvery Delta Zone, leaf caterpillar damage is noticed in rice fallow black gram. To control this, spray Cholorphyriphos @ 400ml/acre.
 - **Andhra Pradesh:**
 - In the Scarce Rainfall Zone, continue transplanting of rice.
 - In the Krishna Godavari Zone, due to prevailing dry weather condition,continue providing light irrigation to *rabi* black gram and green gram.
 - In the Southern Zone, due to prevailing dry weather, continue giving light and frequent irrigations to get synchronized flowering in mango crop.
 - In the Krishna Godavari Zone, prevailing dry weather conditions are congenial for leaf drying and leaf rust in maize and mites in jowar. Spray Mancozeb @ 500 g/200 litres of water per acre to control leaf rust and Carbaryl @ 8 kg per acre to control mites.
 - In the North Coastal Zone, prevailing weather conditions are congenial for incidences of powdery mildew and stem blight in sesamum. Spray Tridemorph @ 1.0 ml or Sulphur @ 3.0 g/litre of water to control powdery mildew and Carbendazim @ 3.0 g /litre of water to control stem blight.
 - In the Scarce Rainfall Zone, leaf folder incidence is noticed in rice. To control, move the rope across the field 2-3 times so that the insects may fall off on the ground in the initial stages. Spray Chloropyriphos @ 2.5ml/Acphate @ 1.5g/Plubendiamide 20wg @ 0.25g/ litre of water or apply Kartophydro Chloride granules 4G @ 8kg/acre in the later stages.
 - In the High Altitude Tribal Zone, leaf folder and hispa incidence was observed in rice. Spray Profenophos @ 2 ml or Chlorpyriphos @ 2.5 ml or Monocrotophos 36 SL @ 1.6 ml/litre of water for control.
 - **Telangana:**
 - In the Southern Telangana Zone, continue sowing of fodder crops like sorghum, bajra and maize where irrigation facilities are available and fodder sorghum, bajra, maize, pillipesara, sunhemp and horsegram in rice fallows.
 - In the Northern Telangana Zone, continue sowing of green gram and black gram and harvesting of Bengal gram and tomato.
 - In the Northern Telangana Zone, prevailing weather conditions(dry and partially cloudy) are congenial for leaf folder and stem borer attack in rice. To control, spray Cartaphydrochloride @ 2 g or Chlorantraniliprole @ 0.4 ml/litre of water.
 - In the Southern Telangana Zone, prevailing high temperatures are congenial for jassids in tomato which transmits Tomato spotted wilt virus (TSWV). Remove and destroy the affected plants and prevent the disease by spraying systemic insecticides like Dimethoate @ 2 ml or Methyl Demeton @ 2 ml per litre of water to control the insect vector.

▪ **Karnataka:**

- In North East Dry Zone, undertake sowing of Bt. cotton under irrigation facility. Apply irrigation in rice, groundnut and watermelon. As dry weather is prevailing, complete harvesting of wheat, Bengal gram sorghum and safflower.
- In Southern Transition Zone, undertake first hand weeding in rice. Apply Butachlor 50 EC @ 2 litre/ha 2-3 days after transplanting of rice. Continue harvesting of matured ginger and turmeric rhizomes.
- In North Transition Zone, in view of the prevailing dry weather, continue harvesting of wheat crop sown in October; complete harvesting of early sown chickpea and chilli; apply irrigation to early sown sorghum (grain filling) and chickpea (pod formation) crop sown in November 1st week. Continue planting of Co-8014 and Co-740 varieties of sugarcane during February.
- In North Dry Zone, continue ploughing the field which will facilitate conservation of rainwater during pre-monsoon showers. Adopt drip irrigation for sugarcane to save water.
- In Southern Dry Zone, Zinc deficiency is noticed in rice field; to overcome, apply Zinc Sulphate @ 8 kg/acre without mixing with fertilizer. As dry weather is prevailing, provide irrigation to dry land horticulture crops and other field crops depending on soil and crop condition.
- In Hill Zone, continue deep ploughing in rice fields. Continue harvesting of completely ripened bunches of black pepper and arecanut. Apply irrigation to coconut gardens either in furrows or by drip irrigation
- Due to increase in temperature, powdery mildew is noticed in mango crop in North East Dry Zone; spray Difenconazole @ 1 ml/litre of water. Infestation of leaf spot was noticed in groundnut; as a control measure take up spraying of Hexaconazole 1 ml/litre or Carbendazim 1g/litre of water.
- In Southern Transition Zone, there is chance of leaf spot/sigatoka disease in banana; as a precautionary measure spray Carbendazim + Mancozeb (SAAF) @ 2.0 g/litre of water followed by (after 15 days) Chlorothalnil @ 2.0 g/litre of water.
- In North Dry Zone, due to present weather conditions, there is chance of incidence of sucking pests and leaf roller in onion; spray Dimethoate @1.7 ml or Acitamaprid @ 0.25 g + Boron @1 g + Hexaconazole @1 ml dissolved in one litre of water for control.

▪ **Kerala:**

- In the Northern Zone, complete harvesting of matured rice on bright sunny days. Protection should be given to the crops on the southern side to prevent sun scorching and undertake mulching to prevent evaporation loss of water.
- In the Problem Area Zone, gloomy discoloration may occur in rice due to prevailing dry weather conditions. To prevent discoloration, spray Tebuconazole 50% + Trifloxystrobin 25% towards panicle initiation. Provide irrigation to nutmeg, pepper and banana crops.
- In the High Altitude Zone, continue land preparation for cultivation of ginger and pepper and complete harvesting of pepper, cardamom and coffee at the earliest.
- In the Southern Zone, continue sowing of cucurbitaceous vegetables and bhindi and sowing *puncha* rice.
- In the Southern Zone, warm climate coupled with high humidity is congenial for incidence of pseudo stem weevil in banana. To control pseudostem weevil, remove the dry outer sheaths of the pseudostem of all the infested and uninfested plants and drench the leaf axils, with Chlorpyrifos @ 4g/litre of water on a non rainy day.
- In the Central Zone, increase in temperature is congenial for stunted growth and leaf curling in chilli. Spray 2% Neem oil-garlic-soap emulsion to prevent stunted growth and leaf curling or spray Dimethoate 30 EC @ 1.5 ml per one liter of water in such a way that the pesticide should fall on the lower surface of the leaf on a non rainy day.
- In the Northern Zone, prevailing dry weather condition is congenial for the spread of leaf eating caterpillars in coconut palms in coastal areas. This can be effectively controlled by releasing *Trichospilus Pupivora* Parasites. If stem bleeding is found, drench the basin with Calyxin @ 25ml in 25L of water per palm on a non rainy day. Repeat the application in every 30 days interval till the symptom disappears.

• **Animal Husbandry**

- In the Northern Telangana Zone, vaccinate animals to prevent pneumonia, blue tongue disease in sheep and goats, birds to prevent kokkera disease, provide clean and fresh water daily & undertake deworming at regular intervals.
- In the Western Zone of Tamil Nadu, considering the rising maximum temperature and high morning relative humidity, vaccinate all cattles and buffaloes against Foot and Mouth disease.
- In North Dry Zone of Karnataka, following measures should be adopted to take care of heat stress in livestock during summer season:
 - Leave the buffaloes in ponds during afternoon hours or sprinkle cold water 2-3 times a day on the body of the animals to overcome the heat.
 - Apply 4-6 inch thick hay thatch as a roofing material. Water can be used for spraying the floor and roof of shelter periodically during peak hot hours which lowers the temperature and consequently reduces the heat.
 - Maintain proper ventilation for free circulation of air in the sheds.
 - Animals may preferably be grazed during early morning and late evening to avoid exposure to hot conditions and during hot hours, they must be tied and fed in shaded place or under the tree. This will also help in reducing the water requirement.
 - Provided clean drinking water to animals and clean water troughs regularly.



Mustard



Rice



Okra



Cabbage

- **Realised Rainfall:** Rainfall occurred in Upper Siang district of Arunachal Pradesh. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Arunachal Pradesh, as rain is very likely at many places on 21st February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Continue sowing of local/early maize and cowpea utilising the realised and expected rainfall.
 - In Hill Zone of Assam, continue sowing of recommended high yielding varieties of cucurbits and early okra, nursery sowing of early *ahu* rice and land preparation of summer black gram/green gram.
 - In Lower Bramhapurtra Valley Zone of Assam, continue sowing of early *ahu* rice (direct seeded), land preparation and sowing of summer black gram/ green gram and ridge gourd, pointed gourd and sponge gourd. Undertake land preparation and sowing of *Capsularis* jute.
 - In Barak Valley Zone of Assam, maintain 6 cm standing water in the rice field at tillering stage.
 - In Upper Bramhaputra Valley Zone of Assam, continue land preparation for sowing of cucurbits, ridge gourd and okra. Undertake direct sowing of early *ahu* rice (varieties IR-50, Pusa 2-21, Rasi, Culture -1, Luit, Kopilee (Semi-dwarf varieties), Rongadoria, Dubaichenga, Nilajee (Tall varieties) etc. in the main field in low lying area.
 - In Central Bramhapurtra Valley Zone of Assam, continue land preparation and sowing of green gram/black gram, summer vegetables and *Capsularis* jute. Undertake gap filling of dead hills at 7-10 days of transplanting of *boro* rice. Undertake nursery bed preparation for transplanted early *ahu*.
 - In North Bank Plain Zone of Assam, continue land preparation for sowing of summer vegetables like ridge gourd, cucumber, bitter gourd, okra etc. Continue land preparation and sowing of direct seeded *ahu* rice, green gram/black gram and main and field preparation for transplanting of *ahu* rice.
 - In Meghalaya, complete replanting of dead hills or gap filling with seedlings of similar age of *boro* rice within 7-10 days of transplanting.
 - In Hill Zone and North Bank Plain Zone of Assam, spray Chloropyriphos @ 2ml/litre of water against thrips in *boro* rice in seedling stage during morning hours on a non rainy day if the population of thrips is above ETL.
 - In Lower Bramhapurtra Valley Zone of Assam, there is chance of attack of blast and sheath blight in *boro* rice at tillering/vegetative stage. Spray Ediphenophos(0.1%)/Mancozeb(0.2%)/Cu-oxychloride(0.4%) against blast and Carbendazim(0.05%)/Hexaconazole(0.2%) against sheath blight. To control wilt disease and aphids in lentil and khesari fields at vegetative stage, farmers are advised to drench the soil with Bavistin @ 1mg/litre of water. They are also advised to apply Malathion 50EC @ 2 ml/litre of water. Undertake plant protection measures on a non rainy day.
 - In Arunachal Pradesh, there is chance of attack of leaf eating insects in cabbage/cauliflower, pea & other vegetables, spray Azadirachtin 0.15% EC @ 6ml/litre of water for control.
 - In Meghalaya, in the prevailing weather, there is chance of attack of aphids in mustard/rapeseed in flowering /pod formation stage. Spray Chlorpyriphos 20 EC or Dimethoate 30 EC @ 2 ml/litre of water on a non rainy day for control.
 - **Nagaland, Manipur, Mizoram and Tripura:**
 - In Tripura, as thunderstorm accompanied with thundersquall very likely to occur at isolated places over Tripura, provide mechanical support to banana, young fruit plants and vegetables.
 - In Manipur, undertake transplanting of 4-leaf seedling cucurbits.
 - In Mizoram, undertake harvesting of matured pea on bright sunny days and undertake nursery sowing of chilli and brinjal.
 - In Nagaland, continue harvesting of chickpea, lentil, linseed, pea, tomato, mustard, maize and ginger on bright sunny days.
 - In Manipur, due to humid weather condition there is chance of attack of aphids in lentil. Spray Cypermethrin @ 2ml/litre of water or Nuvan @ 0.5ml/litre of water against aphid on a non rainy day.
 - In Tripura, apply irrigation and mulching after irrigation in *rabi* maize at post silking stage. Undertake transplanting of brinjal and tomato in the main field.
 - In Tripura, due to foggy weather, there is chance of attack of hopper and mealy bug in mango plant at flowering stage. Spray Malathion @ 2ml per litre of water to manage the attack. Also spray Mancozeb @ 2ml per litre of

- water against stock rot on a non rainy day.
- Suitable varieties are given in Annexure III.
- **Animal Husbandry**
- In North Bank Plain Zone of Assam, vaccinate poultry against *ranikhet* disease.
- In Nagaland, undertake deworming and vaccination for FMD (Foot and Mouth disease in piggery).

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Gram



Sugarcane



Groundnut



Wheat

- **Realised Rainfall:** Weather remained dry over the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, as dry weather is prevailing apply irrigation to summer groundnut (at 10–12 days interval) and vegetables. Also undertake intercultural operations in vegetable crops, mango, cashew orchards. In *rabi* rice, maintain water level of 3-5 cm at vegetative stage/early tillering stage.
 - In Madhya Maharashtra, as day temperature is rising, apply irrigation and mulch with crop residue or plastic sheet to vegetables, sugarcane, wheat, pomegranate and banana orchards. Continue intercultural operations like weeding and apply fertilizers in sugarcane, vegetables and in early sown groundnut. Apply irrigation to onion crop at an interval of 6-8 days. Continue sowing of irrigated summer groundnut and sunflower using Broad Based Furrow (BBF) method. Provide shade arrangement, to protect the mango grafts from bright sunshine (maximum temperature above 32⁰C).
 - In Marathwada, continue sowing of irrigated summer groundnut using Broad Based Furrow (BBF) method. Apply irrigation to timely sown wheat at flowering/milking stage. Continue harvesting of matured *rabi* jowar, sunflower and safflower. Provide shade arrangement, to protect the mango grafts from bright sunshine (maximum temperature above 32⁰C). To protect banana from bright sunshine, cover the bunches with plastic sheet or dry leaves and apply drip irrigation. Undertake sowing of fodder crops like maize, jowar and bajra with assured irrigation.
 - In Vidarbha, as prevailing temperature is favourable for germination, continue sowing of summer sesame. Continue sowing of fodder crops like maize and jowar. Apply irrigation to summer groundnut and wheat crop. Maintain water level of 3-5 cm in summer rice field in East Vidarbha. As dry weather is prevailing, apply irrigation to vegetable crops and orchards crops like orange and sweet lime in Central Vidarbha region. Also apply mulch of crop residue to the orchards.
 - Due to rise in night temperature in Madhya Maharashtra and Marathwada region, there are chances of attack of thrips on pomegranate in bud/early fruiting stage; spray Fipronil @ 2 ml per litre of water.
 - Due to rise in temperature in Western Scarcity zone, there are chances of attack of thrips on onion; spray Fipronil @ 15 ml per 10 litres of water along with sticker at an interval of 10-15 days.
 - **Gujarat:**
 - As dry weather and above normal maximum temperature conditions are prevailing, apply light irrigation in mustard and castor in North West Zone, apply irrigation to vegetable crops in South Gujarat Zone, papaya, amaranth in North Gujarat Zone and to wheat in North West Zone, Middle Gujarat Zone.
 - In North Gujarat Zone, continue sowing of groundnut, transplanting of brinjal seedling during evening hours. Undertake sowing of okra, cluster bean and cowpea. Continue weeding and earthing up operations in papaya. Continue harvesting of potato at maturity. Undertake land preparation for sowing of summer fodder crops like sorghum and maize.
 - In Bhal and Coastal Zone, continue land preparation for sowing of summer crops. Undertake harvesting of matured spikes of castor.
 - In North Saurashtra Zone, complete sowing of irrigated summer groundnut, sesame, vegetable crops (ridge gourd, bottle gourd, sponge gourd, bitter gourd, lady's finger, cluster bean and water melon). Complete sowing of maize for fodder purpose. Continue harvesting of chickpea, cumin and ripened chilli.
 - In South Gujarat Heavy Rainfall Zone, continue land preparation for sowing of groundnut and green gram, sowing of vegetable cowpea, cluster bean, summer pigeon pea, okra, cucurbits (bottle gourd, ridge gourd, sponge gourd, bitter gourd, cucumber, watermelon and muskmelon) and amaranth. Apply light irrigation after sowing of crops.
 - In North West Zone, continue land preparation for sowing of groundnut and sesame. Procure good quality seeds of Summer Groundnut (early maturing varieties) and sesame. Continue picking of matured bolls of cotton in

North West Zone and Bhal and Coastal Zone.

- In Middle Gujarat Zone, spray 2% Potassium Nitrate in mango orchards for effective control of fruit dropping and higher flower setting.
- In the prevailing weather, there is possibility of occurrence of pod borer in gram and aphids in cumin and vegetables in North Gujarat Zone; if infestation crosses ETL, spray Quinalphos @ 20 ml in 10 litres of water for control of pod borer and spray Phosphamidon @ 3ml or Dimethoate @ 10ml or Monocrotophos @ 10ml adding in 10 litres of water for control of aphids.
- In the prevailing temperature condition, outbreak of powdery mildew disease is observed in fenugreek in North Gujarat Zone; for its effective control, spray Soluble Sulphur (80%) @ 25 kg/ha or Dinocap (48%) @ 5 ml in 10 litres of water.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Gujarat, due to change in weather, there are chances of infections in cattle; provide healthy and nutritive food to cattle to improve their health. For prevention of New castle disease/Ranikhet disease do vaccination in poultry.

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



Rice



Wheat



Maize



Mustard

- **Realised Rainfall:** Rainfall occurred in Nicobar district of Andaman & Nicobar Islands. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **West Bengal:**
 - In Coastal Saline Zone, continue sowing of sesame and green gram. Undertake harvesting of mustard.
 - In Laterite and Red Soil Zone, maintain 2-3 cm stagnant water in transplanted *boro* rice fields. As mainly dry weather would prevail, undertake harvesting of matured mustard. Apply irrigation to wheat, groundnut and potato crops.
 - In Old Alluvial Zone, keep 5 cm water in the transplanted rice fields. Continue gap filling in rice in New Alluvial Zone.
 - In Hill Zone, continue land preparation for sowing of maize, okra and planting of ginger and turmeric.
 - In Coastal Saline Zone and in Terai Zone due to low temperature and humid weather conditions, there is chance of attack of brown spot and blast in *boro* rice. Spray Tricyclozole 5-6 g/10 litre of water as preventive measures.
 - In Hill Zone, present weather conditions are favourable for attack of late blight disease in potato. Undertake 1st spray with Copper Oxychloride 50% WP @ 4g/litre of water and 2nd spray 10 days after 1st spray with Mancozeb 75% WP @ 2.5g/litre of water.
 - In New Alluvial Zone, weather is congenial for incidence of black spot on onion. Apply Mancozeb @ 2 gm or Zyrum @ 2 gm per litre of water.
 - In Terai and Old Alluvial Zone, weather is congenial for attack of fruit and shoot borer in brinjal. Use 6-8 pheromone traps/ bigha or apply Acephate + Fenvelarate mixture @ 1ml/litre water with 2g of detergent powder as sticker.
 - In Terai Zone, due to humid weather conditions, there may be attack of late blight disease in potato, spray Cymoxanil (8%) + Mancozeb (64%) @ 1.5 gm /litre of water.
 - **Andaman and Nicobar Islands:**
 - In South, North and Middle Andaman, apply mulching with crop residue/paddy straw in between 2 rows of vegetable like chilli, tomato and bhendi to reduce the evaporation after irrigation.
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, as temperature conditions are favourable, continue sowing of sunflower, groundnut and summer maize. Continue harvesting of matured early sown mustard. As wheat crop is at flowering to milking stage, which are critical stages, apply irrigation depending upon the soil moisture status.
 - In Western Undulating Zone, complete transplanting of summer rice. Provide irrigation at tillering stage. Alternate wetting and drying is advisable until hair line crack is seen in fields. Undertake planting of sugarcane.
 - In North Eastern Coastal Plain Zone, in view of the prevailing dry weather, apply irrigation in rapeseed and mustard flowering to pod formation stage.
 - In North Central Plateau Zone, now the temperature is favourable for sowing of summer sunflower and sesame.

- In North Eastern Coastal Plain Zone, rising temperature is favorable for attack of fruit and shoot borer in Brinjal. To control it, spray Thiodicarb @22g or Spinosad @ 6ml/15 litres of water. Due to temperature fluctuation, infestation of Tobacco caterpillar will aggravate in cole crops. To control it, spray Flubendiamide @5g/15 litres of water.
- In North Central Plateau Zone and in Western Undulating Zone, stem borer may attack the summer rice crop at tillering stage. Spray Triazophos/Profenophos/Monocrotophos @ 400ml/acre dissolving in 200 litres of water.
- In North Central Plateau Zone, cloudy weather may favour infestation of saw fly in mustard. Go for spraying of 2 ml Quinalphos per litre water to control it.
- In Western Undulating Zone, stem borer may attack the summer paddy crop at tillering stage. Spray Triazophos/Profenophos/Monocrotophos @ 400ml/acre or Flubendiamide 39.5 SC 20ml/acre dissolving in 200 litre of water.
- In East and South Eastern Coastal Plain Zone, stem borer attack is found on wheat crop. Spray Triazophos or Prophenophos @ 400 ml in 200 litres of water/acre. Also bacterial wilt has been noticed in brinjal and tomato. To control them, spray Streptocyclin @ 1 g in 10 litres of water.
- **Bihar:**
- In North West Alluvial Plain Zone, continue harvesting of matured mustard and potato and sowing of summer vegetables. Apply light irrigation in onion, vegetables, maize and late sown wheat crop which is at panicle initiation stage. Continue land preparation for sowing of summer vegetables. Undertake sowing of spring maize.
- In South Bihar Alluvial zone, continue harvesting of matured potato and planting of sweet potato.
- In North West Alluvial Plain Zone, weather is congenial for attack of aphids in late sown mustard. Spray Rogar or Quinalphos @ 2.0 ml/litre of water against aphids in mustard.
- In South Bihar Alluvial Zone and North West Alluvial Plain Zone, in the present weather condition, to protect onion from thrips, spray Imidacloprid @1 ml/litre of water.
- **Jharkhand:**
- In Jharkhand, as normal sown wheat is at flowering/grain filling stage, in view of the prevailing above normal maximum temperature and expected dry weather conditions, apply irrigation in the wheat fields to keep optimum soil moisture conditions.
- In Western Plateau Zone, continue sowing of vegetables like sponge gourd, bottle gourd, pumpkin, water melon, musk melon etc.
- In South Eastern Plateau Zone, continue sowing of summer Moong.
- In South Eastern Plateau Zone, because of foggy weather during morning hours and later on clear and sunny weather favours attack of aphids on mustard hence frequent monitoring is necessary. In early stages of attack, farmers are advised to separate and destroy the infected part of the plants.
- In Central, North Eastern Plateau and South Eastern Plateau Zone, due to variation in temperature and dew, spreading of powdery mildew disease is likely to be more prominent in pea. Hence, spraying of Karathen @ 1.5 ml or Sulfex @ 2.5 g per litre of water should be done to prevent it from further spreading.
- In South Eastern Plateau Zone, because of cool and humid weather, potato crop is seen with the infestation of early and late blight. Undertake spraying of Krilaksil or Ridomil MZ @ 1.5 g per litre of water to check it from further spreading.
- In South Eastern Plateau Zone, decreased sunshine hours with fluctuation in humidity is congenial for attack of Diamond back moth, aphids and thrips in cole crops and tomato. Spray Dimethoate (30%) @ 1 ml per litres of water to control the attack.
- In South Eastern Plateau Zone, if dead tillers are observed on wheat crop, spray Imidachloprid @ 2 ml per litre of water or Acetamiprid @ 0.5 g per 8 litres of water. If termites are noticed in the fields, then broadcast mixture of 20 kg sand with Chlorpyriphos 20 EC @ 2.0 litre per acre during evening time followed by subsequent irrigation. If small oval shaped yellowish-brown spots are seen on the leaves, spray Captafal or Mancozeb @ 2 g per litre of water.
- In South Eastern Plateau Zone, to control hoppers in Mango, Litchi and Jack fruit, spray Metasystox @ 1ml or Kung-fu or Karate or Matador (Lambda Cyhalothrin) @ 2 g along with 0.5 g Carbendazim per liter of water before or just after flowering in to minimize the attack.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Coastal Saline Zone of West Bengal undertake vaccination against pox disease in cattle.
- In South Bihar Alluvial zone of Bihar, keep the animals in sheds during night to protect them from cold.

CENTRAL INDIA [M.P., CHHATTISGARH]



Cauliflower



Gram



Okra



Wheat

- **Realised Rainfall:** Weather remained dry over the region.

- **Advisories:**

- **Madhya Pradesh:**

- In Malwa Plateau Zone, in view of prevailing dry weather and above normal maximum temperature, apply irrigation in wheat, potato and in gram at pod filling stage. Continue nursery sowing of tomato, brinjal and chilli. Continue harvesting of matured cauliflower and cabbage. Keep inputs ready for sowing of summer cucurbits and okra.
 - In Jhabua Hill Zone, continue harvesting of matured vegetables, turmeric and ginger. Continue harvesting early sown mustard and gram.
 - In Vindya Plateau Zone, undertake nursery preparation of summer vegetables and sowing of cucurbits, okra, cowpea and cluster bean. Undertake harvesting of matured turmeric and ginger.
 - In Satpura Plateau Zone, continue sowing of groundnut and maize, nursery sowing of vegetables like chill, tomato and brinjal. Continue nursery sowing of summer vegetables in Grid Zone and undertake harvesting of matured mustard.
 - In Bundelkhand Zone, continue sowing of vegetables like pumpkin, bitter gourd, okra etc. and continue transplanting of vegetables like tomato, onion, brinjal, chilli and cauliflower in main fields.
 - In Kymore Plateau and Satpura Hill Zone due to variation in temperature conditions, there are chances of attack of aphids in mustard, apply Imidacloprid @ 100 ml/ha by mixing in 500-600 litre of water.
 - In Jhabua Hill Zone, to control termite attack in wheat use Chlorpyrifos 20 EC @ 3.5 litre/ha with irrigation.
 - Due to humid weather, there are chances of attack of stem borer in wheat in Bundelkhand Zone, spray Quinalphos 40 E.C. @ 2.0 ml. per litre of water.
 - Suitable varieties for sowing are given in Annexure III.

- **Chhattisgarh:**

- In North Hill Zone, continue sowing of maize and sunflower. Undertake sowing of cucurbits. Continue harvesting of matured mustard and potato.
 - In Bastar Plateau Zone, apply irrigation in pulse crops like chickpea and garden pea etc. at flowering stage. Continue planting of sugarcane and sowing of summer legume crops like mung and urad.
 - In Chhattisgarh Plain Zone, continue sowing of maize and sunflower and preparation of seedlings of cucurbitaceous vegetables in polythene bags.
 - Due to humid weather, there may be infestation powdery mildew in mustard crop in Bastar Plateau Zone, spray Sulfex @ 3 g/litre of water.
 - Due to partly cloudy weather, there is chance of yellow mosaic disease in pulses in Chhattisgarh Plain Zone, spray Metasystox or Rogar @ 1ml/litre of water.

- **Animal Husbandry**

- In Madhya Pradesh and Chhattisgarh vaccinate animals to prevent foot and mouth disease.

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



Wheat



Sugarcane



Cauliflower



Mustard

- **Realised Rainfall:** Rainfall occurred in Anantnag, Badgam, Baramula, Doda, Ganderbal, Kulgam, Kupwara, Pulwama, Ramban districts of Jammu & Kashmir. Weather remained mainly dry/dry over rest of the region.

- **Advisories:**

- As rain/snow would occur at most places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand on 19th and 20th along with heavy rain/snow very likely at isolated places over Jammu & Kashmir and Himachal Pradesh on 19th and 20th and over Uttarakhand on 20th February, 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.
- As hailstorm/squall likely to occur at isolated places over Punjab on 19th, over Uttarakhand, Haryana, Chandigarh & Delhi and West Uttar Pradesh on 19th and 20th February and over Himachal Pradesh on 20th February, farmers are advised to use hail nets/hail caps for orchard crops to protect from mechanical damage. They are also advised provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Also undertake propping up in sugarcane crop in West Uttar Pradesh, Punjab and Haryana. Postpone harvesting of sugarcane in Punjab and early sown mustard in West Uttar Pradesh and keep the harvested produce at safer places.
- **Jammu & Kashmir:**
 - In Valley Temperate Zone, continue mulching in Knol-khol, cabbage & root crops in view of the low temperature conditions. Maintain drainage channels in garlic/onion to avoid water logging.
 - In Sub Tropical Zone, continue transplanting of rabi onion and sowing of cucurbits after current spells of heavy rain.
 - In Intermediate Zone, continue nursery sowing of tomato, brinjal and chilli and complete sowing of cucurbits (cucumber, bottle gourd and bitter gourd) current spells of heavy rain.
 - In Cold Arid Zone, in view of the prevailing low temperatures, cover greenhouses with black polythene in the night for proper growth of crops or maintain 2 layers of polythene over greenhouse (at least 150 gsm each).
 - In Intermediate Zone, due to humid weather, keep strict vigil on yellow rust infestation in the wheat crop. If observed, spray the crop with Propiconazole (Tilt) 25 EC @ 0.1 % (1ml/litre of water). Farmers are advised to repeat the spray after 10-15 days interval if the disease persists. Also there may be aphids attack in the mustard crop. To Control, if more than 8–10 aphids population is noticed per plant, spray Rogor (Dimethoate) 30 EC @ 1 ml/litre of water after current spells of rain and repeat at fifteen days interval.
 - In Sub Tropical Zone, weather is congenial for incidence of white rust in mustard crops, to control, apply Mancozeb @ 0.25% after current spells of rain.
 - In Sub Tropical Zone, weather is congenial for attack of wilt and blight in gram at pod formation stage, for control spray Bavistin/Carbendazim @ 3gm. per litre of water after current spells of rain.
- **Uttarakhand:**
 - In Bhabar and Tarai Zone, continue planting of potato with varieties like Kufri Jyoti, Kufri Ashok & Kufri Anand etc. Also temperature conditions are favourable for planting of sugarcane crop. Continue nursery sowing of brinjal and tomato after current spells of heavy rain.
 - In Hill Zone, continue land preparation for nursery sowing of tomato, brinjal and capsicum and undertake field preparation for sowing of okra, French bean and also for potato in mid hill region after current spells of heavy rain.
 - In Hill Zone, in the present weather, there may be incidence of mahu/thrips in garlic and onion, spray Metacystacus/Roger @ 2ml per litre of water in toria and spray Imidacloprid @ 6 -8 ml in 10 litres of water in garlic and onion after current spells of rain.
 - In Bhabar and Tarai Zone, due to prevailing weather conditions, there are chances of aphids incidence in lentil crop at flowering stage. If aphids population is 10 aphids per plant, then spray 200 ml of Diamethoate 30 % dissolved in 250 ml of water/acre after current spells of rain.
- **Himachal Pradesh:**
 - In Sub-Montane and Low Hills Sub-Tropical Zone, continue sowing of fodder crops such as chari and bajra, Continue sowing of cucurbits such as cucumber, bitter gourd, bottle gourd and summer squash after current spells of heavy rain.
 - In Mid Hills sub-Humid Zone, continue nursery preparation of tomato, brinjal and capsicum after current spells of heavy rain.
 - In High Hill Temperate Dry zone, maintain desired moisture in nursery beds of poly houses of seedlings of Chinese cabbage, spinach and coriander and vegetable crops in lower region to protect from cold.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, under prevailing weather conditions, there are chances of attack of downy mildew in cruciferous vegetables and powdery mildew in peas, spray Redomil M-Z @ 2.5 g per litre of water at 15 days interval downy mildew and spray Celfex @ 25 g per 10 litres of water for powdery mildew. Also, there may be chances of attack of yellow rust and aphids in wheat and mustard crop respectively. For control of yellow rust, spray Tilt @ 1ml per litre of water and spray Cypermethrin @ 750 ml per 750 litre of water per hectare for aphids. Undertake plant protection measures after current spells of rain.
 - In Mid Hills sub-Humid Zone, weather is conducive for attack of aphids in cole crops, apply Malathion @15ml per 15 litre of water after current spells of rain.
- **Rajasthan:**
 - In East Rajasthan, apply irrigation in maize with top dressing of nitrogen at tasseling stage and third irrigation in wheat at jointing stage. Also apply irrigation in gram and mustard at pod formation stage in Southern Humid Plain Zone.

- In Sub Humid Southern Plain and Aravali Hill Zone, apply irrigation in wheat and barley at ear emergence stage, undertake sowing of summer okra continue field preparation for sowing of summer groundnut.
- In West Rajasthan, in Arid Western Zone, apply fourth irrigation in timely sown wheat, third irrigation in late sown wheat, second irrigation in barley alongwith top dressing of remaining dose of urea in barley. Undertake harvesting of matured mustard in morning time, apply irrigation in barley at milk stage and do not apply irrigation in cumin at seed ripening stage, continue field preparation for sowing of summer cucurbits and keep the harvested produce at safer place as there is possibility of light rain during next 3- 4 days in Barmer, Churu, Jalore, Jodhpur and Pali districts.
- In Transitional Plain Zone of Inland drainage, to protect young fruit plants from frost, cover north side of the plants with thatch of sarkanda sticks. Apply irrigation (70 days after sowing; ear head emergence) in wheat and (milking stage) in barley, continue weeding manually. Undertake sowing of zaid moong.
- In Irrigated North western Plain Zone, apply second irrigation in late sown wheat (tillering stage); third irrigation in timely sown wheat (at jointing stage), third irrigation in mustard at pod formation stage and third irrigation in barley (100-110 days after sowing) and second irrigation in gram at pod formation stage (90-100 days after sowing). Undertake field preparation for sugarcane and complete fruit plucking in kinnow orchards and continue intercultural operations.
- In Irrigated North Western Plain Zone, in the prevailing temperature, there is a chances of infestation of aphids and white rust in mustard; attack of termite in wheat and barley; attack of pod borer in gram, spray Methyl Dimeton 25 EC @ 1 litre per hectare in mustard; apply Chlorpyriphos 20 EC @ 1.0 litre per hectare with irrigation water in wheat; apply Chlorpyriphos 20 EC @ 4.0 litre per hectare with irrigation water in barley and apply Quinalphos @ 1.5 per cent dust 24 kg/ha in gram.
- In Transitional Plain Zone of Inland drainage, due to change in temperature there is a chance of infestation of aphids on mustard and cumin and rust in wheat and barley, spray Dimethoate 30 EC or Methyl Demeton 25 EC @1 litre/ha dissolved in water to control aphids and dust Sulphur powder @ 25 kg per ha to control rust in wheat and barley.
- In Sub Humid Southern Plain and Aravali Hill Zone, in the prevailing temperature condition, there is a chance of attack of aphids in mustard, spray Dimethoate 30 EC@ 875 ml/litre/ha water and to control termites in wheat and other crops, spray of solution of Chloropyriphos 20 EC @ 2 litre/ha with irrigation water.
- **Punjab, Haryana and Delhi:**
- As rain/thundershowers is very likely at many places over Haryana on 19th & 20th and over Punjab on 19th February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- In Undulating Plain Zone of Punjab, protect newly planted fruit plants from decreasing night temperature for their proper growth and cover the nursery/young fruit plants with rice straw, thatches, plastic sheet etc. Undertake intercultural operations in vegetable crops and complete the sowing of onion.
- In Western Plain Zone of Punjab, undertake sowing of okra, continue sowing of spring maize and planting of sugarcane.
- In Central and Undulating Plain Zone of Punjab, continue planting of peach, plum, pear, pomegranate and ber plants.
- In Sub-Montane and Central Plain Zone of Punjab, in view of the likely occurrence of hailstorm, postpone harvesting of sugarcane and keep harvested produce at safer places.
- In Western Semi-Arid Zone of Delhi, continue transplanting of *rabi* onion, tomato, cabbage, broccoli and early cauliflower on raised bed, sowing of garlic in raised bed, spinach, coriander, and fenugreek.
- In Central and Undulating Plain Zone of Punjab, there is chance for occurrence of yellow rust in wheat fields in the present weather condition. Monitor the crop and spray with Tilt/ Shine/ Bumper/ Compass/ Markzole @ 200 ml in 200 litres of water/acre on a non rainy day if symptoms are noticed.
- In Central, Western, Sub-Montane and Undulating Plain Zone of Punjab, there may be chances of aphids in mustard crop; to control spray 40g Actara 25 WG or 400 ml Rogor 30EC in 80-125 litre of water per acre. Also in Undulating Plain Zone of Punjab, there may be chances of *alternaria* blight in mustard, spray Indofil M 45 @ 25 gm/acre in 100 litres of water on a non rainy day.
- Due to cloudy weather, aphids may attack wheat crop in Western Plain Zone of Punjab. Spray 40ml of Imidacloprid 200 SL or 20g of Thiamethoxam 25 WG or 12g of Dantop (Clothianidin 50 WDG) or 150ml of Rogor 30 EC (Dimethoate) or Metasystox 25 EC (Oxydemeton methyl) in 80-100 litres of water/acre using knap sack sprayer or in 30 litres of water/acre with power sprayer on a non rainy day.
- Due to high relative humidity, there may be attack of stalk rot in mustard crop in Western Zone of Haryana, spray Carbendzin 0.1% solution. Also monitor wheat crop against attack of yellow rust. If symptom observed then apply of 200 ml Tilt 25% EC (Propiconazole 25% EC) in 200 litre water per acre on a non rainy day.
- **Uttar Pradesh:**
- As thundersquall accompanied with hailstorm is very likely to occur at isolated places over West Uttar Pradesh on 19th & 20th February, cover papaya fruits with skirting bags.
- As mainly dry weather is prevailing over East Uttar Pradesh, apply irrigation in wheat at ear head emergence/ flowering stage and in mustard at flowering/silique formation stage and all vegetables as per requirement.
- In Central Pain Zone, undertake harvesting of mature mustard crop and digging of mature tubers in potato crop.

Continue planting of autumn sugarcane, land preparation for sowing of cowpea, maize, urad, mung. Continue transplanting of onion and undertake nursery sowing and land preparation for planting of tomato, chili. Continue sowing of bhindi, cucurbits, water melon and bottle guard. Continue sowing of urad, mung, lobia, bhindi as inter crop in sugarcane.

- In Eastern Plain Zone, continue planting of autumn sugarcane. Continue sowing of urad, mung and cucurbits and transplanting of onion.
- In Western Plain Zone, continue planting of autumn sugarcane and sowing of sunflower.
- In Bundelkhand Zone, continue sowing of cucurbits, transplanting of cabbage, cauliflower, tomato, brinjal and chilli.
- In Bundelkhand Zone, due to prevailing temperature conditions, there may be chances of attack of pod borer in gram, for control spray Dimethoate @ 1.5 litres in 600 litres of water per hectare on a non rainy day.
- In Central Plain Zone, due to prevailing weather condition, there may be chances of attack of pod borer/semi looper in gram, for control spray Fenvalerate 0.4% D.P. @ 20 to 25 gm. or Quinalphos 25% EC @ 2 litres or Malathion 50 EC @ 2 litres in 500 to 600 litres of water per hectare.
- In Central Plain Zone, due to prevailing weather condition, there may be chances of attack of powdery mildew in pea, for control, spray Soluble Sulphur 80% @ 2 kg or Tridemorph 80 % EC @ 500 ml in 500 to 600 litres of water per hectare.
- In Central Plain Zone, due to prevailing weather condition, there may be chances of attack of fruit borer in cucurbits, for control, spray Neem oil @ 1.5 to 2 ml per litre of water 3 to 4 times, 8 to 10 days of intervals.
- Suitable varieties for sowing are given in Annexure III.
- **Horticulture**
- In Eastern Plain Zone of Uttar Pradesh, undertake planting of grape vines.
- In North Eastern Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mango hopper and mealy bug in mango trees for control spray mixture of 0.2 % Emidacloprid @ 400 ml and 0.2 % Carbendazim @ 400 gm. per 200 litres of water per 20 plants.
- Complete pruning operations in apple orchards in High Hill Temperate Dry zone of Himachal Pradesh, Continue preparation of tree basins in Mild Hills Sub Humid Zone of Himachal Pradesh for apple, stone fruits and pomegranate and also continue preparation of tree basins and pruning and in Mid Hills sub-Humid Zone, for apple, pear and stone fruits.
- In Mid Hills sub-Humid Zone of Himachal Pradesh, under prevailing weather conditions, there are chances of attack of powdery mildew in mango, for control, apply Contaf (100ml)/Bavistin (100gms)/Kerathene (100ml) in 200 litres of water after current spells of rain.
- **Floriculture**
- In Sub Montane and Low Hills Sub Humid Zone of Himachal Pradesh, as there is a chance of attack of aphids in winter flower plants, spray Malathion @ 0.05% for the control after current spells of rain.

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

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	03.02.16		10.02.06		17.02.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	0.6	-98	11.0	-74	12.3	-36
Dibang Valley	3.0	-92	19.0	-45	16.0	7
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.0	-100	8.0	-66	13.4	-4
Kurung Kumey	**	**	**	**	**	**
Lohit	0.0	-100	11.9	-24	9.7	-41
Lower Dibang Valley	0.3	-99	11.9	-66	16.1	8
Lower Subansari	**	**	**	**	**	**
Papumpare	1.6	85	8.3	25	4.2	-85
Tawang	3.0	70	0.0	-100	**	**
Tirap	0.8	-96	24.0	158	6.4	-63

Upper Siang	0.0	-100	17.8	-61	47.4	142
Upper Subansari	0.0	-100	11.2	58	18.6	30
West Kameng	0.4	-96	2.2	-83	1.6	-81
West Siang	0.0	-100	11.0	-41	18.0	165
Assam&Meghalaya						
Assam						
Baksa	0.0	-100	2.5	-19	0.0	-100
Barpeta	0.2	-94	0.5	-83	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	0.3	-96	13.9	143	9.1	1
Chirang	0.0	-100	10.4	160	0.8	-91
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	**	**	**	**
Dhubri	2.8	-18	0.0	-100	0.0	-100
Dibrugarh	0.2	-98	16.5	61	13.3	-1
Goalpara	0.0	-100	0.5	-89	0.0	-100
Golghat	0.5	-91	0.6	-90	1.0	-91
Hailakandi	0.0	-100	0.5	-87	5.6	24
Jorhat	0.0	-100	11.0	34	0.0	-100
Kamrup(Rural)	0.0	-100	5.9	51	0.0	-100
Kamrup(Metro)	1.7	-64	4.5	15	0.0	-100
Karbi Anglong	0.0	-100	5.9	102	0.3	-95
Karimganj	0.0	-100	5.1	-23	8.9	22
Kokrajhar	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	4.4	-66	11.6	3	5.8	-50
Morigaon	0.0	-100	0.0	-100	0.0	-100
N.C.Hills	0.0	-100	10.0	25	3.1	-55
Nowgong	1.7	-51	2.1	-72	0.0	-100
Nalbari	0.0	-100	2.8	-49	0.0	-100
Sonitpur	0.0	-100	14.8	135	0.0	-100
Sibsagar	0.0	-100	14.2	92	3.6	-51
Tinsukia	0.4	-98	18.5	71	17.9	41
Udalgiri	0.6	-88	3.9	-42	0.0	-100
Meghalaya						
East Garo Hills	0.0	-100	0.0	-100	0.0	-100
East Khasi Hills	0.6	-87	3.4	-37	0.7	-82
Jaintia Hills	0.0	-100	1.0	-89	0.0	-100
Ribhoi	3.6	-8	0.0	-100	0.0	-100
South Garo Hills	0.0	-100	**	**	**	**
West Garo Hills	0.0	-100	0.2	-90	0.0	-100
West Khasi Hills	1.0	-83	1.0	-57	0.0	-100
NMMT						
Mizoram						
Aizwal	0.0	-100	0.4	-92	4.7	-20
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**

Saiha	0.0	-100	0.0	-100	0.0	-100
Serchhip	**	**	**	**	**	**
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	0.0	-100	0.5	-93	7.0	-26
Imphal west	0.0	-100	0.0	-100	9.0	210
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	2.0	-38	1.3	333	1.7	-15
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	6.4	14	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	0.0	-100	4.0	60	2.0	-86
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	**	**	**	**	**	**
Tuensang	**	**	**	**	**	**
Wokha	0.0	-100	16.0	122	8.0	10
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	1.6	-81	18.3	215
NorthTripura	0.0	-100	0.0	-100	19.6	367
SouthTripura	0.0	-100	0.2	-96	17.2	420
West Tripura	0.0	-100	1.1	-80	0.9	-77
Himachal Pradesh						
Bilaspur	11.1	-58	12.8	28	0.0	-100
Chamba	10.3	-71	20.1	-11	17.4	-37
Hamirpur	11.2	-56	14.6	35	0.0	-100
Kangra	6.6	-71	23.2	54	0.6	-98
Kinnaur	9.5	-71	12.1	-48	3.5	-88
Kullu	32.8	31	24.6	44	3.0	-89
Lahaul and Spiti	6.2	-83	6.9	-76	5.7	-84
Mandi	12.2	-47	24.5	129	0.6	-97
Shimla	17.8	-13	22.5	67	5.4	-71
Sirmaur	1.2	-93	23.6	105	0.1	-99
Solan	6.4	-74	14.2	28	1.0	-95
Una	10.2	-43	9.8	40	0.0	-100
Punjab						
Amritsar	12.3	39	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	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100
Ferozpur	1.6	-67	0.0	-100	0.0	-100

Gurdaspur	2.3	-88	0.0	-100	0.1	-99
Hoshiarpur	4.9	-60	0.0	-100	0.0	-100
Jalandhar	4.3	-52	0.0	-100	0.0	-100
Kapurthala	3.4	-62	0.0	-100	0.0	-100
Ludhiana	1.1	-88	0.6	-87	0.0	-100
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	1.0	-86	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	2.8	-82	7.5	27	0.0	-100
Patiala	0.0	-100	0.4	-91	0.3	-94
Ropar	6.7	-33	3.4	-53	0.0	-100
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	15.0	134	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	0.0	-100	0.8	-89	0.2	-97
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.2	-97	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.1	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	1.0	-97
Katihah	0.0	-100	0.5	-90	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	1.8	-74	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	0.0	-100	0.6	-93	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	0.0	-100	0.0	-100	0.0	-100
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	0.2	-94
Yamunanagar	0.0	-100	1.8	-82	0.0	-100
Delhi						
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	0.0	-100
North Delhi	0.0	-100	0.0	-100	0.0	-100
North East Delhi	0.0	-100	0.0	-100	0.0	-100
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.1	-98
South West Delhi	0.0	-100	0.0	-100	0.0	-100
West Delhi	0.0	-100	0.0	-100	0.0	-100
Jammu & Kashmir						

Anantnag	9.6	-59	0.0	-100	37.9	61
Badgam	7.4	-54	0.0	-100	22.2	24
Bandipore	**	**	**	**	**	**
Baramula	37.8	-20	0.0	-100	29.1	-15
Doda	9.6	-75	21.4	-34	22.6	-48
Ganderbal	22.2	21	0.0	-100	23.0	30
Jammu	10.8	-39	0.0	-100	4.3	-74
Kargil	**	**	**	**	**	**
Kathua	5.4	-72	1.2	-90	1.2	-80
Kistwar	**	**	**	**	**	**
Kulgam	15.6	-34	0.2	-99	28.8	22
Kupwara	32.4	36	0.0	-100	30.2	-6
Ladakh(Leh)	0.6	-68	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	3.5	-72	0.0	-100	22.8	33
Rajouri	18.2	*	0.0	-100	19.2	86
Ramban	22.5	-42	9.3	-71	35.2	-19
Reasi	13.3	-58	0.0	-100	7.0	-71
Samba	10.6	-40	0.0	-100	0.6	-96
Shopian	**	**	**	**	**	**
Srinagar	7.0	-62	0.0	-100	19.7	11
Udhampur	8.4	-73	3.1	-86	4.6	-81
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.2	-95
Chhatarpur	0.0	-100	0.0	-100	3.2	-15
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	1.0	-82
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.1	96
Satna	0.0	-100	0.0	-100	0.0	-100
Seoni	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	2.0	33
Umariya	0.0	-100	0.0	-100	0.2	-97
West Madhya Pradesh						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	1.8	-24
Badwani	0.0	-100	0.0	-100	0.0	-100

Betul	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.4	-33
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.3	-87
Chhattisgarh						
Bastar	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	1.2	-69
Dantewara	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-99
Rajandgaon	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.4	-90
East Uttar Pradesh						
Allahabad	0.0	-100	0.0	-100	0.8	-56
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100

Azamgarh	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	2.5	-57	0.0	-100
Ballia	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	7.9	163
Barabanki	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	1.5	-67	0.6	-69
Farrukhabad	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	0.0	-100	0.9	-53
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.6	-86	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	1.0	-5
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100
Kushi nagar	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100
Maharajganj	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	2.0	18
RaiBareilly	0.0	-100	0.3	-90	1.0	-11
Sahuji Maharajnagar	0.0	-100	0.0	-100	5.0	285
Sant Kabirnagar	0.0	-100	6.0	3	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	4.0	-2
Shrawasti	**	**	**	**	**	**
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	1.1	-65	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.2	-94	2.7	90
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	0.0	-100	3.7	-18
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.3	-91	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.5	-90	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	5.9	22	0.8	-91
Bulandsahar	0.0	-100	0.3	-79	1.7	-58

Etah	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	1.0	0
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.0	-100
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	0.0	-100	1.0	-67
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	2.2	38
Mainpuri	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.6	-87	0.3	-95
Moradabad	0.2	-96	0.0	-100	0.0	-100
Muzzaffarnagar	1.0	-80	0.4	-92	1.2	-78
Pilibhit	0.7	-85	0.0	-100	0.0	-100
Rampur	0.8	-78	0.4	-93	0.0	-100
Saharanpur	0.0	-100	2.3	-65	2.7	-66
Shahjahanpur	0.0	-100	0.0	-100	0.0	-100
Uttarakhand						
Almora	0.0	-100	8.4	-25	0.0	-100
Bageshwar	0.0	-100	6.0	-46	0.0	-100
Chamoli	4.8	-74	8.7	-42	0.5	-98
Champawat	0.0	-100	7.0	-29	0.0	-100
Dehradun	0.5	-97	14.5	35	7.6	-46
Garhwal Pauri	0.0	-100	12.3	34	0.0	-100
Garhwal Tehri	0.4	-97	27.6	126	15.5	2
Haridwar	0.0	-100	6.5	-24	1.5	-86
Nainital	0.7	-95	7.5	-13	0.0	-100
Pithoragarh	5.1	-68	18.2	82	0.0	-100
Rudraprayag	0.5	-98	15.3	-2	0.0	-100
Udham Sing Nagar	0.1	-99	1.6	-66	0.0	-100
Uttarkashi	6.6	-54	41.9	157	8.5	-67
Bihar						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	2.3	-45	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	0.0	-100
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	1.8	-16	0.0	-100
East Champaran	0.0	-100	0.4	-84	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100

Gopalganj	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100
Kishanganj	0.0	-100	0.3	-72	0.0	-100
Lakhisarai	0.0	-100	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100
Monghyar	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.6	-82	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	1.2	-8	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	0.0	-100
Saran	0.0	-100	0.5	-82	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	2.1	-47	0.0	-100
Jharkhand						
Bokaro	0.0	-100	0.0	-100	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	10.3	114	0.0	-100
Dhanbad	0.0	-100	0.0	-99	0.0	-99
Dumka	0.0	-100	5.2	-22	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.3	-90	0.8	-73
Godda	0.0	-100	3.4	31	0.0	-100
Gumla	0.0	-100	0.0	-100	6.4	35
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	**	**	0.0	-100	0.0	-100
Khunti	0.0	-100	0.0	-100	**	**
Koderrna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	2.8	-28
Lohardagga	0.0	-100	0.0	-100	0.6	-84
Pakur	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	**	**	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	4.4	-40
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikela	0.0	-100	0.0	-100	0.0	-100

Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.0	-98
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
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	-100
Gujarat Region						
Ahmedabad	0.0	-100	0.0	-100	0.0	-100
Anand	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100
DNH	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	**	**
Dangs	0.0	-100	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100

Mehsana	0.0	-100	0.0	-100	0.0	-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	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100
S K & Diu region						
Amreli	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.0	-100	0.0	-100	0.0	-100
Diu	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
Maharashtra						
Konkan & Goa						
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
Madhya Maharashtra						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	0.0	-100	**	**
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	0.0	-100
Nandurbar	0.0	-100	0.0	-100	**	**
Nasik	0.0	-100	0.0	-100	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100
Sangli	0.0	-100	0.0	-100	0.0	-100
Satara	0.0	-100	0.0	-100	0.0	-100
Solapur	0.0	-100	0.0	-100	0.0	-100
Marathwada						
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.0	-100
Hingoli	**	**	**	**	**	**
Jalna	0.0	-100	0.0	-100	0.0	-100
Latur	0.0	-100	0.0	-100	0.0	-100
Nanded	0.0	-100	0.0	-100	0.0	-100
Usmanabad	0.0	-100	0.0	-100	0.0	-100

Parbhani	0.0	-100	0.0	-100	0.0	-100
Vidarbha						
Akola	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100
Nagpur	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100
Odisha						
Angul	0.0	-100	0.0	-100	0.4	-92
Balasore	0.0	-100	0.5	-95	1.5	-85
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.9	-89	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-100	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100
Gajapati	0.0	-100	0.0	-100	0.0	-100
Ganjam	0.0	-100	0.1	-98	0.0	-100
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	1.9	-71	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.1	-99
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	0.1	-99	0.6	-93
Khurda	0.0	-100	0.0	-100	0.0	-100
Koraput	0.0	-100	0.0	-100	0.0	-100
Malkangiri	0.0	-100	0.0	-100	0.0	-100
Mayurbhanj	0.0	-100	0.4	-94	12.1	147
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	0.0	-100
Puri	0.0	-100	0.0	-100	0.0	-100
Rayagada	0.0	-100	0.0	-100	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	72.9	228	15.0	-16	50.8	265
North & Middle Andaman	1.2	-59	0.0	-100	0.0	-100

South Andaman	16.7	70	0.0	-100	0.0	-100
GWB						
Bankura	0.0	-100	6.8	34	0.0	-100
Birbhum	0.0	-100	10.9	60	0.0	-100
Burdwan	0.0	-100	4.6	-45	0.0	-100
East Midnapore	0.0	-100	0.2	-95	0.4	-90
Hooghly	0.0	-100	0.0	-100	0.0	-100
Howrah	0.0	-100	2.7	-60	0.0	-100
Kolkata	0.0	-100	3.0	-56	0.0	-100
Murshidabad	0.0	-100	7.5	79	0.0	-100
Nadia	0.0	-100	4.6	-43	0.0	-100
24 Pargana (N)	0.0	-100	9.8	112	0.2	-94
Purulia	0.0	-100	6.2	5	0.0	-100
24 Pargana (S)	3.5	-4	2.9	-60	0.0	-100
West Midnapore	0.0	-100	7.0	29	0.0	-100
SHWB & Sikkim						
Cooch Behar	0.0	-100	0.1	-97	0.0	-100
Darjeeling	0.9	-94	1.9	-70	0.0	-100
East Sikkim	1.9	-87	4.6	-71	0.3	-98
Jalpaiguri	0.0	-100	2.0	-66	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	**	**	**	**	**	**
North Sikkim	0.0	-100	13.2	-48	5.4	-74
South Dinajpur	0.0	-100	**	**	0.0	-100
South Sikkim	3.3	-77	0.0	-100	0.0	-100
West Sikkim	1.2	-95	2.5	-90	0.0	-100
Karnataka						
Coastal Karnataka						
Dakshina Kannada	0.0	-100	0.0	-100	0.0	-100
Udupi	0.0	-100	0.0	-100	0.0	-100
Uttara Kannada	0.0	-100	0.0	-100	0.0	-100
NI Karnataka						
Bagalkote	0.0	-100	0.0	-100	0.0	-100
Belagavi	0.0	-100	0.0	-100	0.0	-100
Bidar	0.0	-100	0.0	-100	0.0	-100
Dharwad	0.0	-100	0.0	-100	0.0	-100
Gadag	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.0	-100	0.0	-100
Kalaburgi	0.0	-100	0.0	-100	0.0	-100
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100
Vijayapura	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.0	-100	0.0	-100	0.0	-100
SI Karnataka						
Ballari	0.0	-100	0.0	-100	0.0	-100
Bangalore Rural	0.0	-100	0.0	-100	0.0	-100
Bangalore Urban	0.0	-100	0.0	-100	0.0	-100
Chamarajanagar	0.0	-100	0.0	-100	0.9	8
Chikaballapur	0.0	-100	0.0	-100	0.0	-100

Chikkamagaluru	0.0	-100	0.0	-100	0.0	-100
Chitradurga	0.0	-100	0.0	-100	0.0	-100
Davangere	0.0	-100	0.0	-100	0.0	-100
Hassan	0.0	-100	0.0	-100	2.5	514
Kodagu	0.0	-100	0.0	-100	0.0	-100
Kolar	0.0	-100	0.0	-100	0.0	-100
Mandya	0.0	-100	0.0	-100	0.1	-91
Mysuru	0.0	-100	0.0	-100	0.0	-100
Ramanagara	0.0	-100	0.0	-100	0.0	-100
Shivamogga	0.0	-100	0.0	-100	0.0	-100
Tumakuru	0.0	-100	0.0	-100	0.0	-100
Kerala						
Alappuzha	0.0	-100	3.5	-60	31.2	428
Kannur	0.0	-100	0.0	-100	0.0	-100
Ernakulam	0.0	-100	0.0	-100	48.5	1177
Idukki	0.0	-100	1.3	-64	0.4	-88
Kasaragod	0.0	-100	0.0	-100	0.0	-100
Kollam	0.0	-100	22.5	208	7.4	1
Kottayam	0.0	-100	1.0	-77	21.8	137
Kozhikode	0.0	-100	0.0	-100	0.0	-100
Malappuram	0.0	-100	0.0	-100	0.0	-100
Palakkad	0.0	-100	0.0	-100	0.0	-100
Pathanamthitta	0.0	-81	1.4	-86	0.0	-100
Thiruvananthapuram	0.0	-100	3.2	-44	0.4	-91
Thrissur	0.0	-100	0.0	-100	4.0	303
Wayanad	0.0	-100	0.0	-100	0.0	-100
Tamil Nadu						
Ariyalur	0.0	-100	0.0	-100	0.0	-100
Chennai	0.0	-100	0.0	-100	0.0	-100
Coimbatore	0.0	-100	0.0	-100	0.2	-93
Cuddalore	0.0	-100	0.0	-100	0.0	-100
Dharmapuri	0.0	-100	0.0	-100	0.0	-100
Dindigul	0.0	-100	0.0	-100	0.0	-100
Erode	0.0	-100	0.0	-100	0.0	-100
Kanchipuram	0.0	-100	0.0	-100	0.0	-100
Kanyakumari	0.0	-100	0.0	-92	12.2	122
Karikal	0.0	-100	0.0	-100	0.0	-100
Karur	0.0	-100	0.0	-100	0.0	-100
Krishnagiri	0.0	-100	0.0	-100	0.0	-100
Madurai	0.0	-100	0.0	-100	0.0	-100
Nagapattinam	0.0	-100	0.0	-100	0.0	-100
Namakkal	0.0	-100	0.0	-100	0.0	-100
Nilgiris	0.0	-100	0.0	-100	0.0	-100
Perambalur	0.0	-100	0.0	-100	0.0	-100
Puducherry	0.0	-100	0.0	-100	0.0	-100
Pudukottai	0.0	-100	0.0	-100	0.0	-100
Ramanathapuram	0.0	-100	0.0	-100	0.0	-100
Salem	0.0	-100	0.0	-100	0.0	-100
Sivaganga	0.0	-100	0.0	-100	0.0	-100

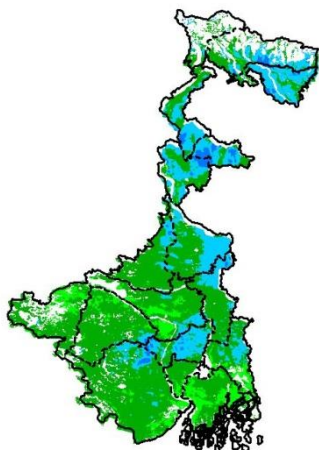
Thanjavur	0.0	-100	0.0	-100	0.0	-100
Theni	0.0	-100	0.0	-100	0.0	-100
Tirunelveli	0.0	-100	0.0	-100	0.0	-100
Tirupur	0.0	-100	0.0	-100	0.0	-100
Tiruvallur	0.0	-100	0.0	-100	0.0	-100
Tiruvannamalai	0.0	-100	0.0	-100	0.0	-100
Tiruvarur	0.0	-100	0.0	-100	0.0	-100
Toothukudi	0.0	-100	0.0	-100	0.1	-96
Trichy	0.0	-100	0.0	-100	0.0	-100
Vellore	0.0	-100	0.0	-100	0.0	-100
Villupuram	0.0	-100	0.0	-100	0.0	-100
Virudhunagar	0.0	-100	0.0	-100	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	0.0	-100	0.0	-100
Guntur	0.0	-100	0.0	-100	0.0	-100
Krishna	0.0	-100	0.0	-100	0.0	-100
Nellore	0.0	-100	0.0	-100	0.0	-100
Prakasam	0.0	-100	0.0	-100	0.0	-100
Sirkakulam	0.0	-100	0.0	-100	0.0	-100
Visakhapatnam	0.0	-100	0.0	-100	0.0	-100
Vizianagram	0.0	-100	0.0	-100	0.0	-100
West Godavari	0.0	-100	0.0	-100	0.0	-100
Rayalaseema						
Anantapur	0.0	-100	0.0	-100	0.0	-100
Chittoor	0.0	-100	0.0	-100	0.0	-100
Cuddapah	0.0	-100	0.0	-100	0.0	-100
Kurnool	0.0	-100	0.0	-100	0.0	-100
Telangana						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	0.0	-100
Karimnagar	0.0	-100	0.0	-100	0.0	-100
Khammam	0.0	-100	0.0	-100	0.0	-100
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	0.0	-100	0.0	-100	0.0	-100
Nizamabad	0.0	-100	0.0	-100	0.0	-100
Rangareddy	0.0	-100	0.0	-100	0.0	-100
Warangal	0.0	-100	0.0	-100	0.0	-100

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

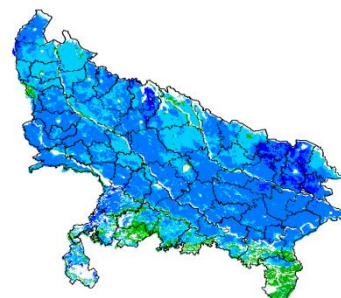
**INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON
17th February 2016 FOR DIFFERENT STATES**

West Bengal



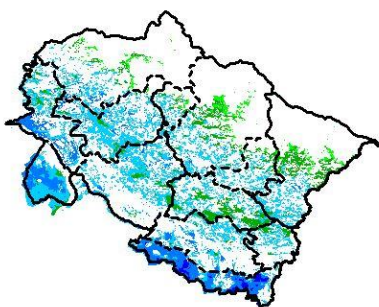
Agricultural vigour is good in central and Northern part of West Bengal, whereas rest of the state shows moderate NDVI.

Uttar Pradesh



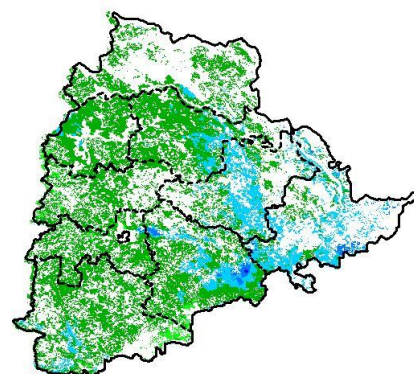
Agricultural vigour is very good in major part of Uttar Pradesh. whereas few patches in southern part shows moderate values of NDVI.

Uttarakhand



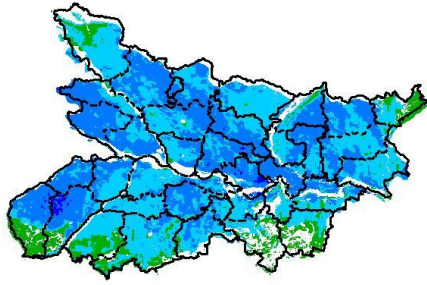
Agricultural vigour is moderate over entire state of Uttarakhand, whereas few patches in south and west part shows very good values of NDVI.

Telangana



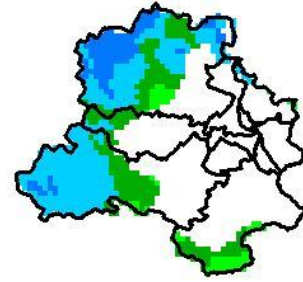
Agriculture vigour is good over Eastern parts of Telangana. Rest of the state shows moderate values of NDVI.

Bihar



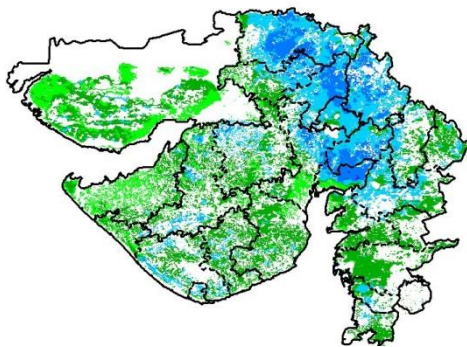
Agriculture vigour is very good over major parts of Bihar whereas south western part shows patches of moderate NDVI values.

Delhi



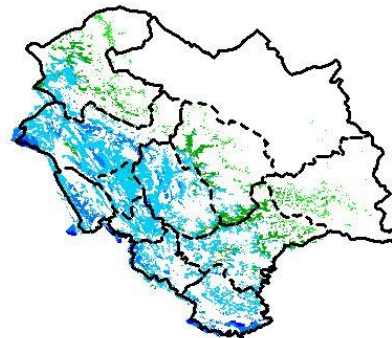
Agriculture vigour is moderate all over Delhi, whereas few patches over west show good vigour of NDVI.

Gujarat



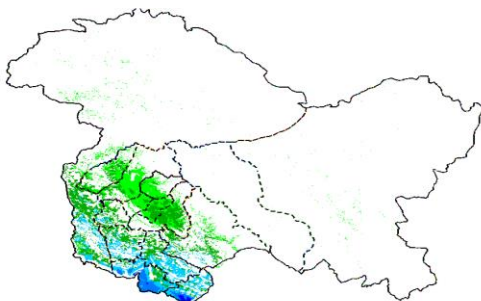
Agriculture vigour is moderate in Kutch and Saurashtra whereas, good agricultural vigour is observed over Gujarat region.

Himachal Pradesh



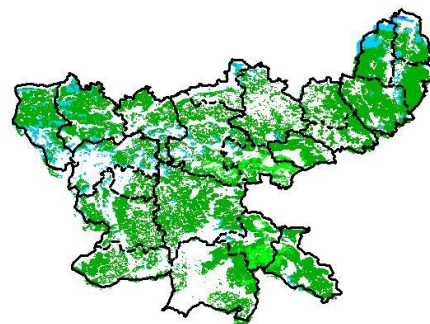
Agriculture vigour is good over western and southern parts of Himachal Pradesh, whereas rest of the state shows moderate values of NDVI.

Jammu & Kashmir



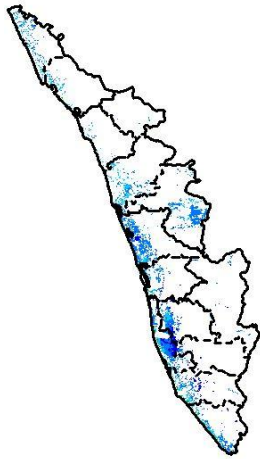
Agriculture vigour is moderate over entire state of Jammu & Kashmir.

Jharkhand



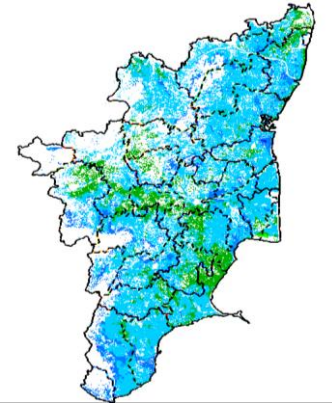
Agriculture vigour is moderate over entire state of Jharkhand.

Kerala



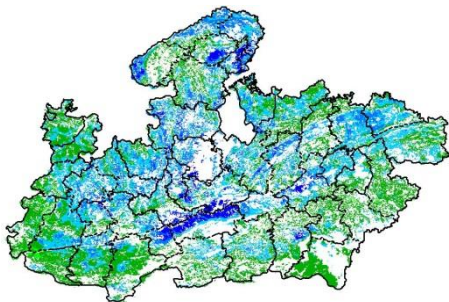
Agriculture vigour is good over entire state of Kerala.

Tamil Nadu



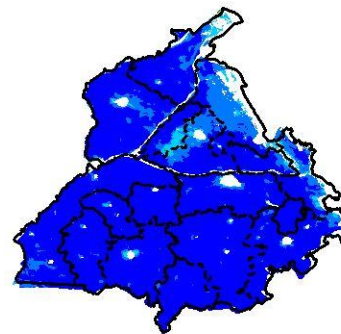
Agricultural vigour is good over major part of Tamilnadu.

Madhya Pradesh



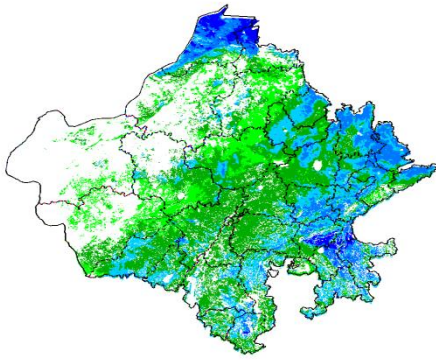
Agriculture vigour shows very good values over northern and central part of Madhya Pradesh in patches and rest of the state shows moderate values of NDVI.

Punjab



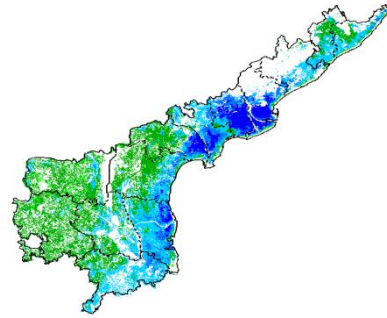
Agricultural vigour is very good over entire state of Punjab.

Rajasth



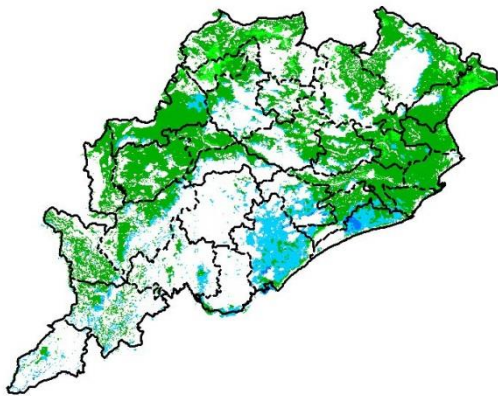
Agriculture vigour is moderate in central part , good agricultural vigour is observed over eastern region and very good in northern parts of Rajasthan.

Andhra Pradesh



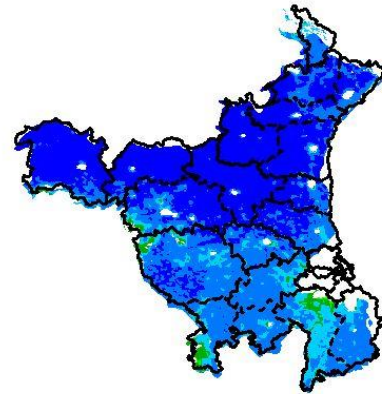
Agriculture vigour is very good over north-eastern part of Andhra Pradesh whereas western parts shows moderate values.

Odisha



Agricultural vigour is good in central parts of Odisha where North eastern part shows moderate values of NDVI.

Haryana



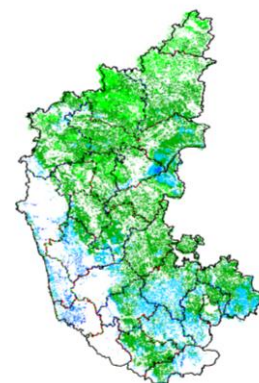
Agriculture vigour is very good over northern parts of Haryana and good values are observed in southern parts of state.

Chhattisgarh



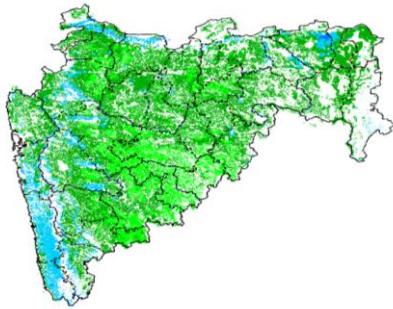
Agriculture vigour is good in patches of southern parts of state whereas agriculture vigour is moderate in major parts of Chhattisgarh.

Karnataka



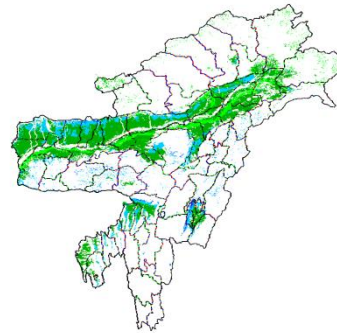
Agriculture vigour is good over southern part of Karnataka state. Rest of the state shows moderate values of NDVI.

Maharashtra

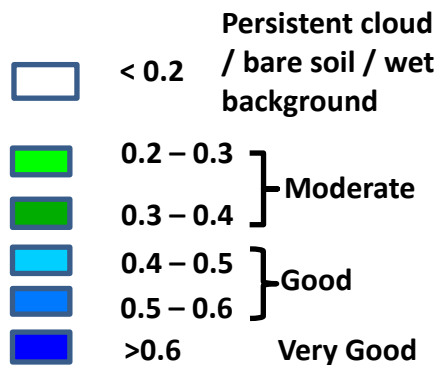


Agricultural vigour is good over Coastal Maharashtra with patches in Vidarbha region, whereas Moderate values of NDVI are observed over Madhya Maharashtra and Marathwada region.

North East Region



Agriculture vigour is moderate over entire states of North-East region.



Annexure III

List of varieties

Assam

Boro rice : Mahsuri, IR-50, Dinanath, Bishnuprasad, Jyotiprasad, Kanaklata and Dinanath.

Early *ahu* rice : semi dwarf *ahu* rice varieties like Luit, Kopilee, Cauvery, Culture -1, Rasi, Banglami, Puthichapali, Nilajee, Hasakumra.

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.

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.

Odisha

Sugarcane: Nilamadhaba, 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

Field Pea: Rachna, DDR-23, Swarnrekha

Onion : N-53, Pusa red, Arka nicketan, Arka kalian

Gram: KAK-2, ICC-2, Pusa 256, Pusa-372

Jammu & Kashmir

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

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

Pea : AP-1, Bonnevillea, Rachna and Arkel);

Lentil: L-4147, L-9/12, PL-406)

Wheat(late sown) : PBW-175, PBW-396, RSP-81(Jitto)

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.

Pea: Rachna, Pantmatar-5, Aparna, Malviya Matar-2, Malviya Matar-15, Shikha and Sapna(K.P.M.R.-144-1), Ta-163, Jay(K.P.M.R.522), Hariyal, Pant P-42, Aman 2009;

Cabbage: Japani, PusaDieepali, PusaKartiki

Potato: KufriChandramukhi, KufriSadabahar, KufriAshoka, kufrijawahar, kufirilalima, kufribahar, kufribadshah, kufrisatlaj, kufrianand, kufri chipsona-1, kufri chipsona-3, kufrisinduri, kufrisurya.

Lentil: Ta-8, Pant L-406, and 234.

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

Mung: k-851 and JM-721.

West Uttar Pradesh

Ladies finger: VRO-6, VRO-5.

Pigeon pea: T-21, UPAS 120.

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.

Vegetable Pea: Azad P-3, arkil, Jai, Indra, Prakash.

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.

Punjab

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

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

Onion: Punjab Naroya, Punjab White and PRO 6.

Radish: Punjab Pasand and Japanese white.

Turnip: L-1.

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

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

Delhi

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

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

Lentil: PusaMasoor -5 (L-4594).

Radish: Japani White, Hill queen, French Radish;
Spinach: PusaBharti.
Amaranths: PusalalChaulai, PusaKiran.
Ladyfinger: Pusa A-4.
Pea: Azad Matar-1, Pant Matar-3 and Bournville.
Carrot: PusaMridula, Japanese White and PusaHimani,
Radish: Japani White, Hill queen, French Radish;
Spinach: All Green, PusaBharti;
Fenugreek: PusaKasuri;
Coriander: PantHaritama, Hybrids;
Turnip: Pusa Swati, Local Red variety

West Rajasthan

Isabgol : RI 89 & GI-2
Fenugreek : RMt 1 & RMt 305
Barley: RD 2052, RD 2035 (suitable for saline and alkali soils) and RD 2715 (dual purpose), RD2058, 2503, 103, NDB1173.
cumin: GC 4, RZ -19, RZ 223, RZ19, 209, 223 and GC4b.
Cowpea: RC-19, RC-101, RCP-27.
Oat : OS 6, OS 9
Berseem: BL 10, BL 22
Cauliflower: Pusa snow ball K-1, Hisar-1, Dania and Selection-7
Radish: (PusaRashmi).
Carrot: PusaKeshar

East Rajasthan

Radish: PusaChetki, Japanese white & hill queen.
Carrot: PusaKeshar
Cowpea: Short durC-152, RS-9, FS-68, RC-19 and RC-101, C-152, RS-9.
Gram: RSG-888, 895 (Anubhav), CSJD-884 (Aakash), RSG-44, Pusa-209, C-235, H-208, Pratap raj chana, RSG-888, Dahod yellow, ICCV-10 and Pratap Chana-1.
Cauliflower: Pusa snow ball K-1, Hisar-1, Dania and Selection-7
Onion: Punjab safed goal, Udaipur 102, nasik red.
Lucerne : Anand-2, LLC-3, RL-88 & Type-9
Berseem: Muskavivardan and PusaJiant
Barley : RD-2552, RD-2052, RD-2035, RD-2503, RD-2715, RD-2660 and Jyoti.
Summer groundnut: T.A.G.24, T.G.37A, G.G.2, D.H.86.

Gujarat

Summer Groundnut: GG 2, GG 4 and GG 20.
Summer Sesame: G.Til-1, G.Til-2, G.Til-3.
Brinjal: Junagadh oblong, Junagadh long, Guj. Bringle-2.
Lady's finger: Guj. Hy.-1 & 2.
Ridge gourd: Pusa nasdar, Jaipuri.
Bottle gourd: Junagadh tender long, Pusa summer prolific long.
Sponge gourd: Pusa chikni.
Bitter gourd: Priya, Pusa domosmi.
Cluster bean: Pusa sadabahar, Pusa navbahar, IC-11388.
Water melon: Sugar baby, Arka jyoti.

Madhya Pradesh

Okra: Pusa Makhamali, Pusa Sawani, A-4, Parbhani Kranti.