



National Agromet Advisory Service Bulletin



Friday, 15th January 2016
(For the period 15th to 19th January 2016)

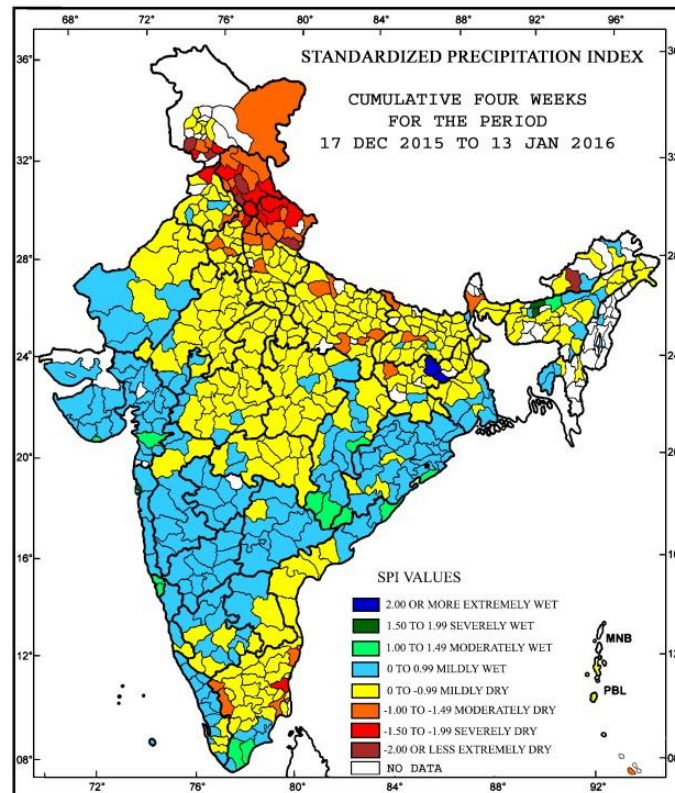


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National Agrometeorological Advisory Service Centre,
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Weblink For
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Standardised Precipitation Index Four Weekly for the Period 17th December 2015 to 13th January 2016

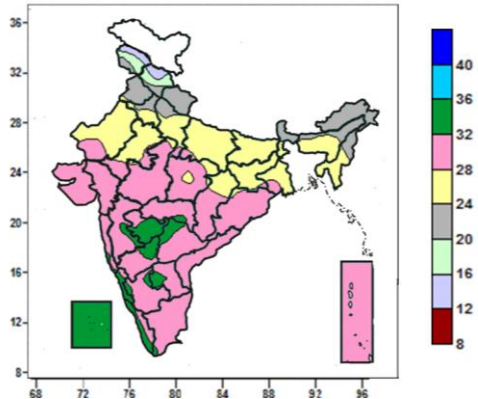
MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in Nalbari, Baksa districts of Assam; Dhanbad, Giridih districts of Jharkhand; Mumbai Suburban districts of Konkan & Goa; many districts of Himachal Pradesh.
- Extremely/Severely dry conditions experienced in many districts of Himachal Pradesh; few districts of Uttarakhand; Jammu & Kashmir; East Kameng districts of Arunachal Pradesh; Gurdaspur districts of Punjab; Cuddalore districts of TamilNadu & Puducherry.
- Moderately dry conditions experienced in many districts of Uttarakhand; few districts of Himachal Pradesh; Darjeeling district of West Bengal; Palamu district of Jharkhand; West Champaran, Patna districts of Bihar; Allahabad, Bahraich, Ghazipur, Sitapur, Varanasi, Bijnor, Bulandshahar, Muzaffarnagar, Saharanpur districts of Uttar Pradesh; Patiala, Ropar, Sangrur districts of Punjab; Ladakh (Leh), Reasi, Ramban, districts of Jammu & Kashmir.
- Rest of the country experienced moderately wet/ mildly wet / mildly dry conditions.

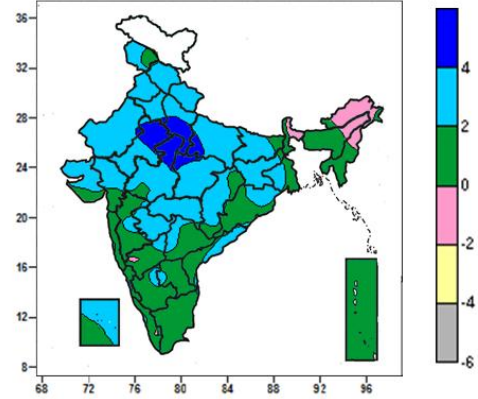
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 13.01.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 13.01.2016



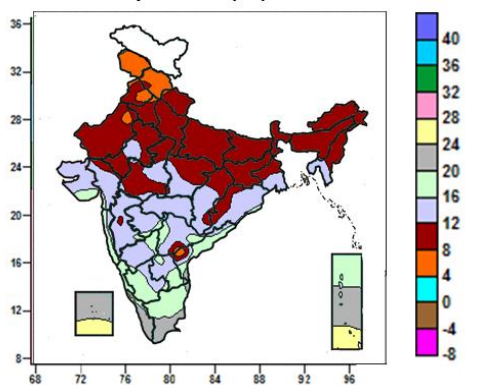
- Mean maximum temperature was between 32 to 36°C over Lakshadweep, many parts of Marathwada, some parts of Karnataka and isolated pockets of Vidarbha, Madhya Maharashtra, Rayalaseema and Telangana.
- Mean maximum temperature was between 24 to 32°C over rest of the country except Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Arunachal Pradesh, many parts of Sub-Himalayan West Bengal, Nagaland, some parts of Haryana, West Uttar Pradesh, Assam, Manipur where it was between 16 and 24°C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 13.01.2016



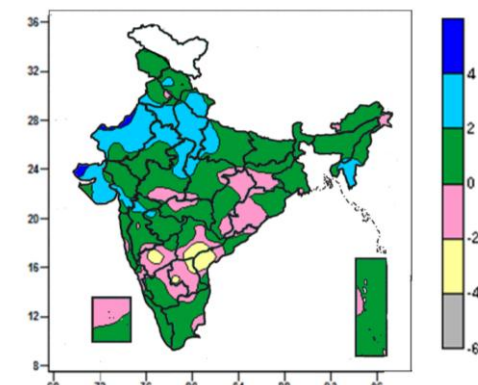
- Mean maximum temperature was above normal by 4 to 6°C over some parts of Uttar Pradesh, Rajasthan, West Madhya Pradesh and isolated pockets of East Madhya Pradesh.
- Mean maximum temperature was above normal by 2 to 4°C over rest of the country except North East India, Sub-Himalayan West Bengal & Sikkim Konkan & Goa, Coastal Karnataka, Tamil Nadu, Kerala, Andaman & Nicobar Islands, many parts of Odisha, Andhra Pradesh, Telangana, Madhya Maharashtra, Interior Karnataka, some parts of Jammu & Kashmir, Gangetic West Bengal, Gujarat region, Saurashtra, Chhattisgarh, Lakshadweep and isolated pockets of Bihar, West Madhya Maharashtra.
- It was normal to near normal in remaining parts of the Country.

Actual Mean Minimum Temperature (°C) in India for the week ending 13.01.2016



- Mean minimum temperature was between 4 to 8°C over Jammu & Kashmir, Himachal Pradesh, some parts of Punjab and isolated pockets of Haryana, West Rajasthan, Coastal Andhra Pradesh and Telangana.
- Mean minimum temperature was between 8 to 12°C over Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, many parts of Punjab,

Mean Minimum Temperature (°C) Anomaly in India for the week ending 13.01.2016



- Mean minimum temperature was above normal by 4 to 6°C over some parts of West Rajasthan and Kutch.
- Mean minimum temperature was above normal by 2 to 4°C over West Uttar Pradesh, many parts of Uttarakhand, Haryana, Delhi, Mizoram, West Rajasthan, Saurashtra & Kutch, some parts of East Uttar Pradesh, Punjab, Tripura, Madhya Pradesh, Gujarat region, East Rajasthan and isolated pockets of Himachal Pradesh, Madhya Maharashtra, Marathwada, Assam.

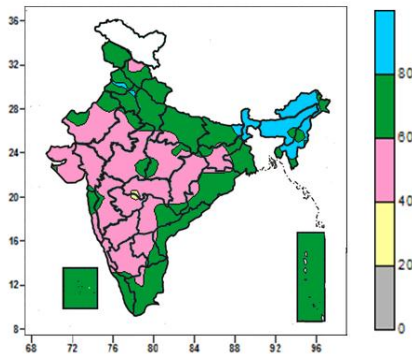
Haryana, Delhi, Rajasthan, Madhya Pradesh some parts of Chhattisgarh, Odisha and isolated pockets of Gujarat region, Madhya Maharashtra Telangana, Andhra Pradesh.

- Mean minimum temperature was between 12 to 20°C over rest of country except Lakshadweep, many parts of Kerala, Andaman & Nicobar Islands, some parts of Tamil Nadu and isolated pockets of Coastal Andhra Pradesh where it was 20 to 28°C.

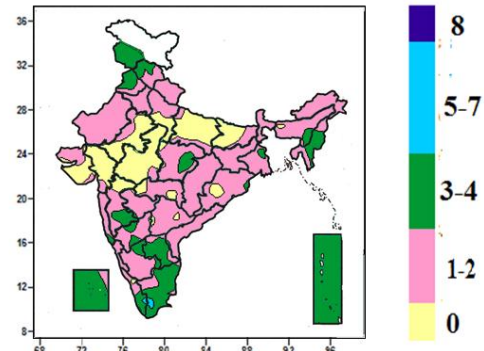
- Mean minimum temperature was below normal by 2 to 4°C over some parts of Andhra Pradesh, Telangana and isolated pockets of North Interior Karnataka.
- It was normal to near normal in remaining parts of the country.

Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 13.01.2016

Relative Humidity (%) over India for the week ending 13.01.2016



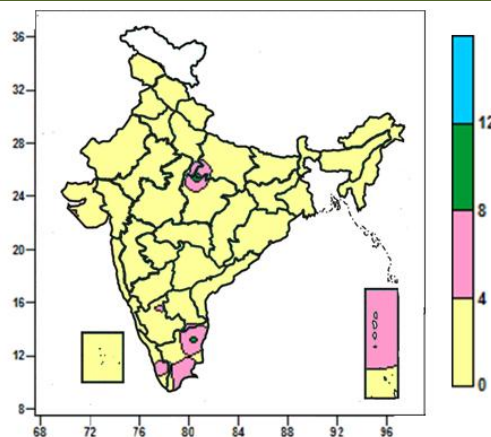
Cloud amount (okta) over India for the week ending 13.01.2016



- Mean Relative humidity was above 80% over Sub-Himalayan West Bengal & Sikkim, many parts of Arunachal Pradesh, Assam & Meghalaya, Nagaland, some parts of Manipur, Mizoram, Tripura and isolated pockets of Punjab, Haryana and Bihar.
- Mean Relative humidity was between 40 to 80% over rest of the country.

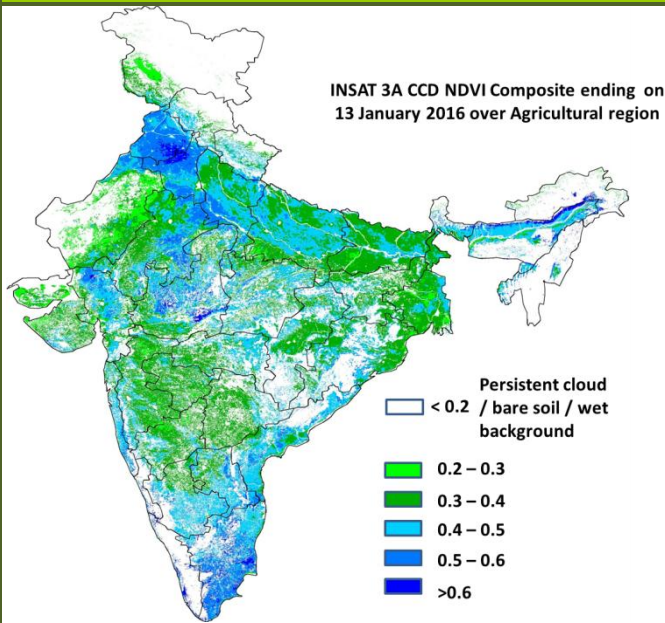
- Sky remained generally cloudy (5-7 okta) over isolated pockets of Kerala and Tamil Nadu
- Sky remained partly cloudy (3-4 okta) over Jammu & Kashmir, Mizoram, Andaman & Nicobar Islands, many parts of Punjab, Tamil Nadu, Kerala, Lakshadweep, some parts of Himachal Pradesh, East Madhya Pradesh, Madhya Maharashtra, Interior Karnataka and isolated pockets of Gangetic West Bengal, Assam.
- 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 13.01.2016



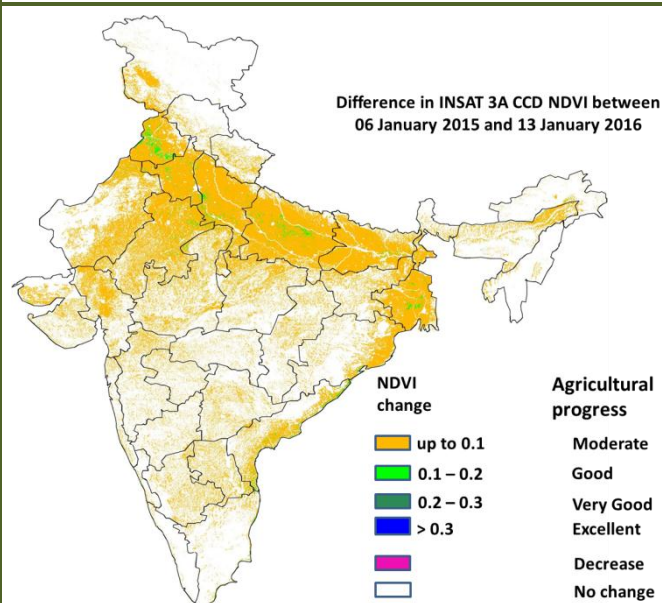
- Mean wind speed was 8 to 12 knots over isolated pockets of East Madhya Pradesh and Tamil Nadu.
- Mean wind speed was 4 to 8 knots many places over Tamil Nadu, Andaman & Nicobar Islands isolated pockets of East Uttar Pradesh, East Madhya Pradesh and Kerala.
- It was less than 4 knots over rest of the country.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 13th January 2016 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is good over Punjab, Haryana, Uttar Pradesh, Gujarat, east Rajasthan, Madhya Pradesh, Andhra Pradesh, Tamil Nadu, Kerala, Assam, Odisha, coastal Maharashtra, patches in Vidharbha 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, Bihar, West Bengal and Madhya Maharashtra.

Difference in INSAT 3A CCD NDVI between 06th to 13th January 2016



- Moderate progress in NDVI was observed in the States of Punjab, Haryana, Uttar Pradesh, Bihar, Rajasthan, east Madhya Pradesh, Gujarat, South Interior Karnataka, Coastal Andhra Pradesh, coastal Odisha, West Bengal and Gujarat. No change in NDVI was observed in central India, Madhya Maharashtra, Tamil Nadu, Kerala and North Interior Karnataka.

- INSAT 3A CCD NDVI composite maps for the week ending on 13th January 2016 for different States are given below in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 20th January 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Moderate to dense fog very likely at isolated pockets over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, north Rajasthan, Bihar, West Bengal, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 2 days.
- Maximum temperatures very likely to fall by 3-5°C over east India from 17th onwards.

5 Day Rainfall Forecast (MID DAY) 15th January 2016

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

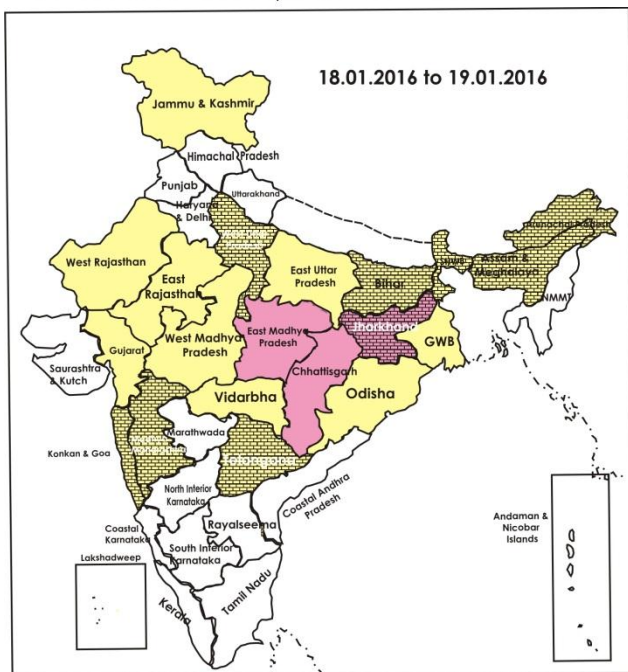
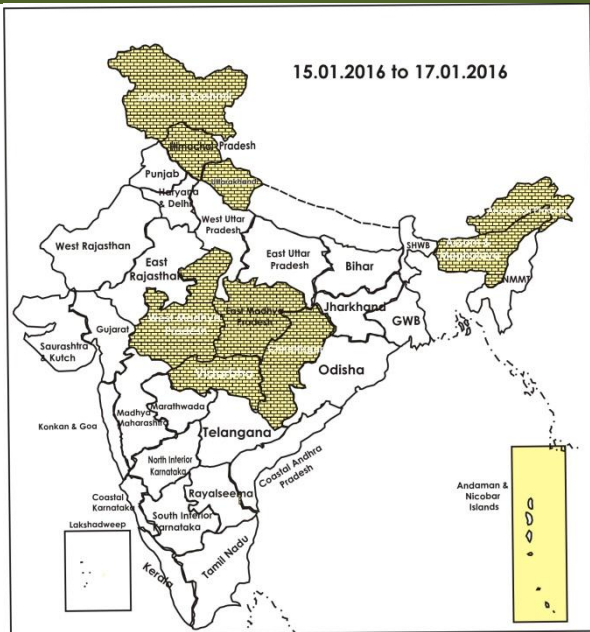
- **15 January (Day 1):** Dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, north Rajasthan, Bihar and West Bengal & Sikkim.
- **16 January (Day 2):** Dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, north Rajasthan, Bihar and West Bengal & Sikkim
- **17 January (Day 3):** Dense fog very likely at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and north Rajasthan.
- **18 January (Day 4):** Hailstorm likely at isolated places over East Madhya Pradesh, Vidarbha and Chhattisgarh.

- **19 January (Day 5):** Hailstorm likely at isolated places over Jharkhand, East Madhya Pradesh, Chhattisgarh and Telangana.

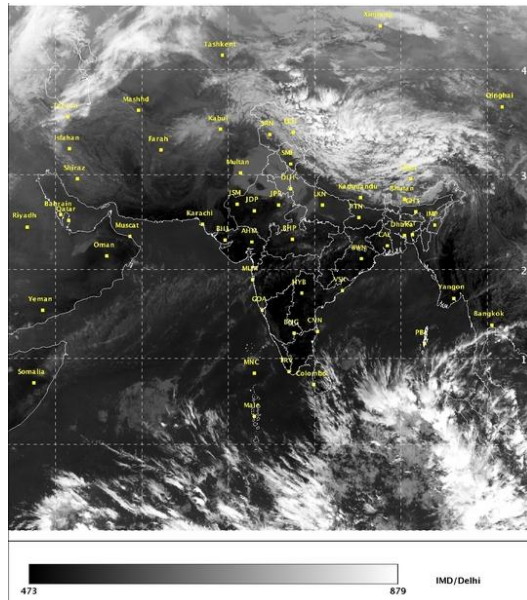
Weather Outlook for subsequent 2 days from 20th to 22nd January 2016

- Rain/thundershowers likely at isolated places over western Himalayan region and over Indo Gangetic plains.
- Rain/thundershowers is likely at isolated places over East & adjoining central India and northeastern states.

Weather Forecast Map (Valid upto 0830 hours of 20th January, 2016)



Satellite image dated, 15.01.2016 0600 UTC



Salient Advisories

- As hailstorm is likely to occur at isolated places over **East Madhya Pradesh** and **Chhattisgarh** on 18th & 19th and over **Telangana** on 19th January, it is advised to use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and vegetables. Undertake harvesting of matured chilli immediately in Northern Telangana.
- As hailstorm is likely at isolated places over **north Madhya Maharashtra** from 16th to 19th January, over **Marathawada** on 19th and over **Vidarbha** on 17th to 19th January, farmers are advised to make provision for skirting bag for banana to protect the crops from hailstorm. It is also advised to make provision for hailnets for grapes, sweetlime and orange to protect the crops from hailstorm. Harvest the matured fruits and redgram as early as possible and keep the harvested produce in safer places.
- As dense fog is very likely to occur at isolated places over **Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh** and **north Rajasthan** from 15th to 17th January and over **West Bengal and Bihar** on 15th & 16th January, moderate to dense fog at isolated pockets **over Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura** and **Odisha** during next 2 days, there is chance of incidence of early blight disease in potato, tomato and onion crops. Monitor the crops and if symptoms are noticed, undertake plant protection measures.
- In Western Zone of **Punjab**, in view of prevailing low minimum temperature, it is advised to provide polythene sheet/sarkanda/kahi rice straw mulching in the fields of tomato seedlings to protect the plants from cold injury.
- In the Southern **Telangana** Zone, prevailing low temperatures may cause cold injury in rice nurseries. To overcome cold injury and for better nursery growth, adopt the following measures: Cover the nursery beds with polythene sheet during night and remove in the morning, irrigate rice nursery bed every day in the evening and let out the water in the morning and apply 2 kg Urea for 200 sq. metre nursery 10-15 days after sowing.
- In **Assam**, continue transplanting of *boro* rice seedlings at 5-6 leaves stage or about 45 days old in the main fields.
- In Western Zone of **Haryana**, apply light irrigation in mustard and wheat crops as per requirement. In Eastern Zone, apply first irrigation to wheat crop at CRI stage, which are about 21-25 days old, as per requirement.
- In Western Plain Zone of **Punjab**, there is chance of occurrence of yellow rust in wheat fields due to humid condition. Monitor the crop and spray with Tilt/ Shine/ Bumper/ Compass/ Markzole @ 200 ml

in 200 litres of water/acre if symptoms are noticed.

- In Upper Bramhaputra Valley Zone, Central Bramhaputra Valley Zone, North Bank Plain Zone and Barak Valley Zone of **Assam**, humid weather is favorable for attack of aphid/saw fly in rapeseed/mustard. To control aphid spray Dimethoate 30 EC or Chloropyriphos 20 EC @ 0.5 litre per ha area .
- As dry weather is prevailing, apply irrigation to wheat in **Rajasthan, West Madhya Pradesh, Gujarat, Uttar Pradesh, Punjab** and **Uttarakhand**. In the Cauvery Delta Zone of **Tamil Nadu**, undertake harvesting of matured *Samba* rice.

Detailed Zonewise Agromet Advisories

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



Banana



Groundnut



Rice



Cotton

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Advisories:**
- **Tamil Nadu:**
 - In the Western Zone, continue land preparation for planting of early season sugarcane and harvesting of sorghum, groundnut and pulses. To increase grain setting percentage in rice, spray 2% DAP to rice.
 - In the Cauvery Delta Zone, undertake harvesting of matured *Samba* rice. Continue sowing of rice fallow pulses under waxy condition (ADT 3 black gram variety and ADT 3 green gram variety) under rice fallow condition in *Samba* rice fields in Nagapattinam, Thanjavur, Thiruvarur and Trichy districts.
 - In the High Altitude Hilly Zone, continue mulching in standing crops to prevent cold injury/frost damage due to low temperature. In tea gardens, available plant leaves like silk oak tree can be used to mulch the crop.
 - In the High Rainfall Zone, apply irrigation and maintain 5 cm water level in rice at Panicle initiation and flowering stage. Continue harvesting of cloves and pepper and tapping of rubber.
 - In the South Zone, incidence of yellow muranai mite and gall fly are noticed in chilli due to prevailing weather (light cloud cover and moderate humidity). Spray Ethion @ 2 ml/ litre of water based on the severity of the attack.
 - In the Western Zone, sooty mould diseases may occur in mango due to high relative humidity and low minimum temperature. Spray Phosphamidon @ 2ml/ litre of water + 5% Maida.
- **Andhra Pradesh:**
 - In the North Coastal Zone, continue planting of sugarcane after sett treatment with Propiconazol @ 1ml / litre of water for 15 minutes before planting and nursery sowing and transplanting of rabi rice in the High Altitude Tribal Zone.
 - Continue transplanting of rice in the Scarce Rainfall Zone.
 - In the Scarce Rainfall Zone, prevailing conditions are favourable for incidence of hoppers in mango crop. For controlling hoppers, spray Carbaryl @ 3.0 gm or Fenvalerate @ 0.02% or Phosphomidon @ 0.05%. First spray should be given at the early stage of panicle formation (bud burst stage). The second spray at full length of panicle but before full bloom and the third spray after fruits are set and

have attained pea and marble stage.

- In the Southern Zone, prevailing dry weather conditions are congenial for incidence of maruca spotted pod borer in black gram and green gram. To control, spray Thiodicarb @ 1 g. or Novaluron + Nuvan @ 1 ml./litre of water.

- **Telangana:**

- As hailstorm is likely to occur at isolated places over **Telangana** on 19th January, it is advised to use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and vegetables. Undertake harvesting of matured chilli immediately in Northern Telangana.
- In the Southern Telangana Zone, undertake sowing of sesamum crop and short duration groundnut cultivars (TAG 24, K6) after seed treatment with Tebuconazole @ 2 g per kg seed. Prevailing low temperatures may cause cold injury in rice nurseries. To overcome cold injury and for better nursery growth, adopt the following measures: Cover the nursery beds with polythene sheet during night and remove in the morning, irrigate rice nursery bed every day in the evening and let out the water in the morning and apply 2 kg Urea for 200 sq. metre nursery 10-15 days after sowing.
- In the Northern Telangana Zone, undertake nursery sowing of tomato (pusarubi, pusa early dwarf, marutham & Arka vikas) and bhendi (Purbani kranthi, Arka anamika & Arka abhaya). Cover rice nursery with polythene sheets in the night and remove in the morning to avoid the effect of cool temperatures on germination and better growth of nursery. Irrigate nurseries with fresh water in the morning to speed up nursery growth. Continue sowing of rice fallow maize under zero tillage.
- In the Northern Telangana Zone, stem borer incidence was noticed in rice (vegetative stage) and sigarrot incidence was noticed in bananas. To control stem borer, apply Carbofuran 3 G @ 10 kg or Cartap Hydrochloride 4 G @ 8 kg or Chlorantraniliprole 0.4 WG and spray Carbendizim 1 gr./litre of water to control sigarrot incidence.

- **Karnataka:**

- In the North East Transition Zone, as dry weather is prevailing, apply protective irrigation to wheat and rabi sorghum. Undertake harvesting of pigeon pea.
- Continue harvesting of pigeon pea, chickpea and chilli in the North Dry Zone.
- In the North Transition Zone, wheat crop sown during the month of October 1st week is at late Jointing to flowering stage, these stages are sensitive for any kind of stress. In view of the prevailing dry weather it is advised to give irrigation to wheat. Also apply irrigation in early sown sorghum.
- Continue sowing of pulses like black gram and green gram utilizing the residual moisture after harvesting of rice in the Southern Dry Zone and Hill Zone.
- In the Eastern Dry Zone, existing dry spell since the past few weeks is congenial for attack of leaf hopper and powdery mildew disease in mango which is more before flowering and immediately after fruit formation. Undertake spraying of Carbaryl, 50WP @ 4g/litre of water or Imidachlorprid @ 0.3ml/ litre of water for management of leaf hopper and Lamda Cyhalothrin 5EC @ 0.5 ml/ litre of water or Sulphur dust (SULTAF) 80 W @ 3g/litre of water to manage powdery mildew diseases.
- In the North Transition Zone, shoot weevil incidence has been observed in cotton. Undertake spraying of Profenophos @ 50 EC @ 2 ml/litre of water + Dichlorovos 100 EC @ 2.0 ml/litre of water.
- In the North East Dry and North Dry Zone, for control of sucking pest (aphids) in safflower, spray Dimethoate (Rogor) @ 1.75 ml/ litre of water.

- **Kerala:**

- In the Central Zone, undertake land preparation for sowing *puncha* rice, continue irrigation in coconut and arecanut and harvesting of ginger, turmeric and pepper.
- Undertake sowing of vegetable crops like amaranths, bitter gourd, cucumber, water melon, snake gourd, bottle gourd etc., nursery sowing of rice (short-medium duration varieties) and harvesting of coconut, arecanut, pepper, cardamom, ginger and coffee in the High Altitude Zone.
- Continue harvesting of vegetables and tapping of rubber in the Southern Zone.
- In the Problem Area Zone, present weather (dew condition) is congenial for incidence of diseases like blast and sheath blight in rice. Spray 2% Pseudomonas (20g/litre of water) or broadcast Pseudomonas 1 Kg + 20 kg of Cow Dung powder/ acre to control the incidence.
- In the Southern Zone, prevailing dry weather conditions are congenial for attack of leaf eating caterpillar in banana. As a control measure, spray Quinalphos (Ekalux) 25 E.C @ 1.5 ml in 1 litre of water.
- In the Central Zone, there is increase in incidence of sucking insects (aphids) in vegetables due to increase in temperature. Apply 2% Neem oil-Garlic-soap emulsion for control of aphids.

- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
 - Maintain the optimum room temperature in poultry houses in the North East Transition Zone of Karnataka.
 - In the Western Zone, due to low temperature, animals may avoid intake of water. Monitor and provide adequate amount of clean drinking water.
 - In the North Western Zone, due to decreased sunlight, increase vitamin D3 level in the poultry feed and ensure adequate brooding temperature to young chick's upto 10 days of age.

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



Mustard



Transplanting of Boro rice



Okra



Cabbage

- **Realised Rainfall:** Significant rainfall occur over Dibang Valley, Lower DIBang Valley, Papumpara and Upper siang district of Arunachal Pradesh; Baksa, Chirang, Jorhat, Nalbari, Sonitpur, and Udalguri Districts of Assam.

- **Advisories:**

- As moderate to dense fog would occur at isolated pockets over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 2 days, there is chance of incidence of late blight disease in potato, tomato and onion crops and other standing crops for incidence of pest and diseases. Monitor the crops and if symptoms are noticed, undertake plant protection measures.

- **Assam, Meghalaya & Arunachal Pradesh**

- In Assam, continue transplanting of *boro* rice seedlings at 5-6 leave stage or about 45 days in the main field.
- In Hill Zone undertake raising of coconut seedlings.
- In Lower Bramhaputra Valley Zone of Assam, continue sowing of okra.
- In Upper Bramhaputra Valley Zone of Assam, undertake land preparation for sowing of ridge gourd and okra.
- In Meghalaya, continue nursery preparation of *boro* rice and undertake nursery preparation of capsicum.
- In Hill Zone Assam, foggy and humid weather is favorable for attack of late blight in tomato and potato. Apply Ridomil MZ-72 (2g/litre) and Indofil M-45 @ 2.5g/litre against late blight in tomato and spray Mancozeb @2.5 gm per litre of water against late blight in potato.
- In Upper Bramhaputra Valley Zone, Central Bramhaputra Valley Zone, North Bank Plain Zone and Barak Valley Zone of Assam, humid weather is favorable for attack of aphid/saw fly in rapeseed/mustard To control aphid spray Dimethoate 30 EC or Chloropyriphos 20 EC @ 0.5 litre per ha area .
- In Central Bramhaputra Valley Zone of Assam, farmers are advised to drench the soil with Bavistin @ 1ml/litre of water to protect linseed, lentil and khesari from wilt at vegetative and flowering stages.
- In Barak Valley Zone of Assam, humid weather conditions are favourable for black spot disease in cole crops, leafy vegetables and blight in tomato. To manage the disease in leafy vegetables and cole crops, spray Mancozeb @ 2gm per litre of water. To manage the blight in tomato, apply Ridomil or Indofil @ 2 gm per liter of water.
- In Meghalaya, in the prevailing weather attack of aphids is observed in mustard and rapeseed, spray Chlorpyriphos 20 EC or Dimethoate 30 EC @2 ml/lit of water for control. Also prevailing weather is

congenial for incidence of attack of diamond black moth in cabbage and cauliflower and powdery mildew in pea. Spray Neem seed Kernel Extract@ 5% or Chlorpyrifos 20%EC @2ml/litre of water. Spray wettable Sulphur @ 2 g/litre of water or Dinocap @ 1 ml/litre of water or dust Sulphur @ 25 kg/ha against powdery mildew in pea.

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

- In Manipur, continue transplanting of onion, nursery raising and transplanting of tomato, cole crops. In horticulture crops, apply light irrigation during morning hours and mulching to conserve residual soil moisture as well as to maintain the soil temperature.
- In Mizoram, continue transplanting of brinjal and chilli. Continue sowing of pea and harvesting of banana, French bean, cowpea, ginger, turmeric, khasi mandarin and acid lime.
- In Nagaland, apply light irrigation in the evening to protect lentil, linseed, mustard, citrus, orchard crop and cole crops from cold / frost injury. Keep the fields weed free as the weeds blocks the sunlight and heating of the soil during daytime.
- In Tripura, provide light irrigation with mulching in mustard and lentil. Undertake land preparation for transplanting of *boro* rice. Weeding, thinning, watering may be done in rice nurseries. Nursery beds may be covered during the night to protect the seedlings from dew.
- In Mizoram, in banana, apply neem powder against corm weevil and stem weevil.
- In Tripura, due to foggy weather, there is chance of attack of early/late blight in potato, leaf blight in maize, mili bug attack in mango and blight in tomato. Spray Cymoxanil+ Mancozeb or Metalaxyl+ Mancozeb @ 1.5gm per litre of water against early /late blight in potato, spray Zineb @ 3gm per litre of water for control of leaf blight in maize, spray Monocrotophos @1.5 ml per liter of water may sprayed to manage mili bug attack and spray Ridomil or Indofil or Mancozeb @ 2 gm per litre of water against blight in tomato.
- Suitable varieties are given in Annexure III.

- **Animal Husbandry**

- In Assam, Tripura and Nagaland, cover poultry house with gunny bags/polythene sheet to prevent the expose of animal to cool night. Heating during night may also be given to chicks less than 21 days old chicks.
- Undertake regular immunization of cattle & buffaloes against Foot & Mouth disease, Haemorrhagic septicaemia & Black Quarter.
- In Arunachal Pradesh, Nagaland and Meghalaya, provide artificial heating through lighting of electric bulb @ 2 watt/chick in damp cold areas or during night time to protect the poultry birds (day old to 25 days old) from low temperature.

- **Fishery**

- In Assam, apply Potash @ 4-5 mg/litre of water, Sukrena WS @ 1 litre per bigha of water and lime in required doses to protect the fish population against various bacterial diseases prevalent in winter season.
- In Arunachal Pradesh, Nagaland and Meghalaya, provide artificial heating through lighting of electric bulb @ 2 watt/chick in damp cold areas or during night time to protect the poultry birds (day old to 25 days old) from low temperature.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Cotton



Sugarcane



Groundnut



Wheat

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

- **Advisories:**

- **Maharashtra**

- As hailstorm is likely at isolated places over north Madhya Maharashtra from 16th to 19th January, over Marathwada on 19th and over Vidarbha on 17th to 19th January, farmers are advised to make provision for skirting bag for banana to protect the crops from hailstorm. It is also advised to make provision for

hailnets for grapes, sweetlime and orange to protect the crops from hailstorm. Harvest the matured fruits and redgram as early as possible and keep the harvested produce in safer places.

- In Konkan, in *rabi* rice, maintain water level 3-5 cm. Apply light irrigation to groundnut and sunflower.
- In Madhya Maharashtra, apply irrigation to wheat, vegetables and orchards in South Madhya Maharashtra. Apply protective irrigation to *rabi* jowar and gram. Continue harvesting of old *adsali* and preseasonal sugarcane and keep the produce in safer place.
- In Marathwada, continue harvesting of old *adsali* and preseasonal sugarcane in clear weather. Apply micro irrigation through drip and sprinkler irrigation for orchard crops like pomegranate, sweet lime and orange.
- In Vidarbha, continue transplanting of summer rice in East Vidarbha. Continue harvesting of red gram in clear weather.
- Due to in decrease in minimum temperature in Marathawda region, there may be attack of aphids in late sown safflower; spray Dimethoate @ 15 ml or Acephate @ 16 g per 10 litres of water.

- **Gujarat**

- In Gujarat, apply light irrigation to wheat, mustard, castor, orchards and vegetable crops in North West Zone, in wheat, potato, mustard, castor, fruit and vegetable crops in North Gujarat Zone, to mustard, cotton (at 8-10 days interval) and castor crops during evening hours in Bhal and Coastal Zone, regular irrigation to sweet corn, gram, cabbage / cauliflower in South Gujarat Heavy Rainfall Zone; light irrigation to castor, Indian rapeseed, mustard and vegetable crops and regular irrigation in wheat (milking and grain filling stage) in Middle Gujarat Zone, in wheat (flowering) in North Saurashtra Zone and wheat (CRI) in South Saurashtra Zone.
- Carry out weeding in castor in Middle Gujarat Zone, in wheat, cumin, castor in North Gujarat Zone and wheat, cumin, castor in North West Zone, in castor in Bhal and Coastal Zone of Gujarat, in vegetable (brinjal, chilli, tomato, cabbage and cauliflower) and rice crops in South Gujarat Heavy Rainfall Zone.
- Undertake picking of matured cotton bolls in North Gujarat Zone, North West Zone and Bhal and Coastal Zone of Gujarat. Continue transplanting of onion in South Saurashtra Zone.
- Due to cold weather condition, there is chance of thrips and aphids in coriander in South Saurashtra Zone; spray Dimethoate @ 10 ml or Trizophos @ 10 ml in 10 litres of water at 15 days interval. Due to stem rot, yellowing of leaves in garlic is observed; drenching of Tebuconazole @ 10 ml/10 litres of water is advised.
- Due to partly cloudy weather, there may be incidence of attack of thrips on onion in South Saurashtra Zone; spray Phosphamidon @ 3 ml or Dimethoate @ 10 ml or Methyl-O-Demeton @ 10 ml in 10 litres of water at 10-12 days interval to control thrips.
- In North Saurashtra Zone, *alternaria blight* and purple blotch disease infestation is observed in garlic crop; it is advised to increase periods in between irrigations and apply two sprays of Mencozeb @ 27 g or Thiophanae Methyl @ 12 g/10 litres of water at 10 days interval for control.
- Due to present weather conditions, there is chance of blight in potato and fennel and powdery mildew in mango in North Gujarat Zone; spray Mencozeb @ 30 g with 25 ml of concentrated desi soap solution in 10 litres of water to control blight and spray Carbendazim @ 10 g /10 litres or Thiophanate Methyl 70% WP @ 5g/ 10 litres or Azoxystrobin @ 10 ml/10 litres water to control powdery mildew.
- Suitable varieties for sowing are given in Annexure III.
 - **Animal Husbandry**
- In Gujarat, spread the crop residue in animal sheds to protect the animals from cold. Provide dry fodder twice a day to cattle and luke warm water to lactating animals. Keep young calves indoors during night time to avoid cold stress.

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



Seed bed preparation of rice

Wheat

Gram

Mustard

• **Realised Rainfall:** Significant rainfall occurred over North Sikkim in Sikkim. Mainly dry weather prevailed over rest of the region.

• **Advisories**

➤ As dense fog would occur at isolated places over Bihar, West Bengal & Sikkim on 15th and 16th January and moderate fog to dense fog at isolated pockets over Odisha, there is chance of incidence of early blight disease in potato, tomato and onion crops and other standing crops for incidence of pest and diseases. Monitor the crops and if symptoms are noticed, undertake plant protection measures.

• **West Bengal:**

- In Old Alluvial Zone, continue sowing of bottle gourd in pits filled with organic matter and sow 2-3 seeds per pit.
- In Coastal Saline Zone, undertake transplanting of *Boro* rice in the main field.
- In Hill Zone, Undertake harvesting of fruits should be completed and undertake manuring of orchard should be started.
- In New Alluvial Zone and Old Alluvial Zone, continue nursery sowing of *boro* rice. Undertake land preparation of the main field for transplanting. To protect the rice seedlings from cold, cover the nursery bed with polythene or keep stagnant water in the nursery bed especially for the night time.
- In Laterite and Red Soil Zone, present weather conditions are favourable for attack of Yellow rust in wheat crop. Spray Mancozeb 75 WP @ 2ml/litre of water at regular intervals.
- In Hill Zone, due to foggy weather, there is chance of late blight disease in potato crops. For control, 1st spray with Copper Oxychloride 50% WP @ 4g/litre of water and 2nd spray with Mancozeb 75% WP (10 days after 1st spray) @ 2.5g/litre of water.
- In New Alluvial Zone, due to foggy weather condition, there may be attack of early blight may be severe in potato and aphid in tomato. To control early blight, apply Mancozeb @ 2.5 gm per litre of water and to control aphid apply Imidacloprid 17.8 SL @ 3 ml. /10 litre of water or Quinalphos 25 EC @ 2 ml./ litre of water..
- In Old Alluvial Zone, due to foggy weather condition, there is chance of attack of *Alternaria* leaf blight and aphids in mustard. To control *Alternaria* leaf blight, spray Mancozeb@2.5g/litre of water or Metalaxyl+Mancozeb @2.5g/litre of water. As a preventive measure against aphids, spray Neem oil 1% @ 3ml/litre water.

• **Andaman and Nicobar Islands:**

- In North, Middle & South Andaman, harvest the late sown rice (C14-8) after its maturity to avoid lodging and dry the seeds to safe moisture level of 10 % after threshing.
- In Nicobar, undertake sowing of cucurbits.
- In North, Middle & South Andaman, apply Imidacloprid @ 2 ml/litre of water to control sucking pests in cowpea and beans.

• **Odisha:**

- In North Central Plateau Zone, continue sowing of pea, lentil & toria under zero tillage in rice field.
- In Eastern Ghat High Land Zone, continue sowing of pea and lentil under zero tillage in rice field.
- In Western Undulating Zone, continue nursery preparation and sowing pre germinated seeds for rice raising seedlings.
- In East and South Eastern Coastal Plain Zone, undertake nursery raising of rice in low land areas. Undertake sowing of groundnut as prevailing temperature is favourable.
- In East and South Eastern Coastal Plain Zone, the prevailing cloudy weather may aggravate the infestation of aphids in pulses and powdery mildew in pulses and cole crops. Spray Imidachloprid @ 5 ml or Metacystox @ 20 ml per 10 litre of water to control aphids and spray Sulfex 50 g per 10 litre water to control powdery mildew.

- In Western Undulating Zone, due to cloudy weather condition there may be chances of aphids in mustard crops, to control spray Imidacloprid @ 0.25ml/litre of water or Thiomethaxome @ 0.40/litre of water.
- In East and South Eastern Coastal Plain Zone, the current temperature is favourable for the infestation of Downey mildew in mustard. Spray Redomil-MZ@ 2 g in 1 litre water.
- In North Eastern Coastal Plain Zone, cloudy weather during last week is favourable for spread of powdery mildew disease in Green gram and Black gram. To control it, spray Sulfex@5g / litre of water.

- **Bihar:**

- In South Alluvial Plain Zone, irrigate wheat crop at tillering and Crown Root Initiation stage as per requirement.
- In North West Alluvial Plain Zone, continue transplanting of onion. Continue weeding in vegetable crops such as brinjal, cauliflower, tomato, pea and cabbage. Apply irrigation in wheat, maize & potato crops. Undertake land preparation for sowing of spring sugarcane and early cucurbits, melons, bitter gourd, ridge gourd and lady's finger.
- In North West Alluvial and South East Alluvial Plain Zone, present weather is conducive for attack of powdery mildew disease in pea. Apply Karathen @ 1litre/1000 litres of water per ha.
- In North East Alluvial Plain Zone, present weather is conducive for attack of aphids in mustard. If insect population above economic threshold level then spraying of Rogar or Quinalphos @ 2.0 ml\litre of water is recommended.

- **Jharkhand:**

- In South Eastern Plateau Zone, because of foggy weather during morning 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 South Eastern Plateau Zone, those areas remain dry with cool and lower temperature, there is chance of attack of various leaf eating and sucking pests on pigeon pea crop, spray Monochrotophos @ 1 ml per liter of water at flowering stage and Indoxacarb @ 0.5 – 1 ml per liter of water at pod formation stage.
- In Western Plateau Zone, the existing weather conditions are favourable for the attack of aphids in different crops like mustard, pea, bean etc. Spray Monocrotophos or Metasystox or Emidachlorpryd @ 1 ml per litre of water to control the aphid.
- In Western Plateau Zone, there may be attacked by powdery mildew disease the green pea crop. Spray Karathen @ 1 ml per litre of water or Sulfex @ 3 gm per litre of water to control the disease.
- Suitable varieties for sowing are given in Annexure III.

- **Animal Husbandry:**

- In Sub-Himalayan West Bengal & Bihar, low temperature condition may adversely affect the milk production and performance of domestic animals. Farmers are advised to give protein enriched feed to the animals & do not keep the animal in the open during night hours.
- In Coastal Saline Zone of West Bengal, protect poultry birds from cold by using electric bulb (300watt for 100sq feet) to prevent Coryza disease.
- In Terai Zone of West Bengal, provide artificial heat to new born animal or chick to protect from chill especially at night.
- In Bihar, provide heat by lighting 100W filament bulb @ 1 bulb per 20 newly born chicks and vaccinate the birds as per the recommended age.

CENTRAL INDIA [M.P., CHHATTISGARH]



Cauliflower



Gram



Okra



Wheat

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

➤ As hailstorm is likely to occur at isolated places over **East Madhya Pradesh** and **Chhattisgarh** on 18th & 19th January, it is advised to use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and vegetables.

● **Madhya Pradesh**

- In West Madhya Pradesh, in view of prevailing dry weather condition, apply irrigation in wheat at tillering stage by sprinkler method in Malwa Plateau Zone and at flowering stage in Vindya Plateau Zone. Also top dressing of urea after irrigation is recommended.
- In Satpura Plateau Zone, undertake sowing of carrot for seed purpose; complete sowing of spinach, coriander, fenugreek under assured irrigation. Apply light irrigation in gram mustard and vegetable crops.
- In Malwa Plateau Zone, continue nursery preparation of vegetables like tomato, brinjal, chilli etc. Apply irrigation in potato, coriander (flowering).
- In Central Narmada Valley Zone, carry out hand weeding in wide spaced crops and vegetable pea fields. Apply mild irrigation in the chickpea field to avoid stress if dry root or collar root is seen.
- In Jhabua Hill Zone, apply irrigation in gram (pod formation), mustard (pod formation) and vegetables (tomato, chilli, brinjal, okra and early cauliflower) and continue picking up of matured vegetables.
- In Bundelkhand Zone, damage in wheat crop is reported due to root aphids; apply Phorate 10 g @ 4 kg / acre mixed with sand after irrigation to control aphids. Also due to humid weather there are chances of leaf blight disease in tomato, spray Methyl Dematon 25 E.C. @ 2.0 g per litre of water on a non rainy day.
- In Malwa Plateau Zone, use Pheromone Traps @ 20 Nos/ha to control attack of fruit borer in brinjal, tomato and bhindi.
- In Vindya Plateau Zone, due to clody weather there are chances of attack of fruit and stem borer in vegetables, spray Triazophos 40 EC @ 80 ml per hectare.
- There is attack of Diamond back in cauliflower and cabbage crops in Bundelkhand Zone; spray Malathion 50 E.C. @ 2ml/litre of water for control on a non rainy day.

● **Chhattisgarh**

- In Bastar Plateau Zone, undertake intercultural operation in vegetable and flower crops. Apply sprinkler irrigation in pulse crops like chickpea and garden pea etc. at flowering stage. Spray 2% urea after nipping in gram crop for better branching and yield.
- In Chhattisgarh Plain Zone, considering the increased temperature, maintain coolness near crop canopy by using sprinkler irrigation in wheat and gram. Undertake field preparation for sowing of maize and sunflower. Continue preparation of seedlings of cucurbitaceous vegetables in polythene bags.
- Due to warm weather condition, white rust is noticed in mustard in Bastar Plateau Zone; for control, spray Mancozeb+ Metalycsil @ 2.5 g/ litre of water or any Copper fungicide @ 2.5 g/litre of water on a non rainy day.
- In North Hill Zone of Chhattisgarh, pigeon pea crops are susceptible to attack of pod borer insects at grain filling/pod formation stage; to control these insects, spray insecticide Monocrotophos @ 1 ml / litre of water.
- Due to continuous cloudy weather, there is chance of aphid attack in oilseed, pulses and vegetables in North Hill Zone and Chhattisgarh Plain Zone; continuous monitoring and spraying of neem based pesticides at initial outbreak is advised. If infestation is more apply Methyle Demeton @1.5 ml/acre in 200 litres of water.
- Suitable varieties are given in Annexure III.

● **Animal Husbandry**

- In prevailing temperature, provide green fodder, feed mixed with minerals etc. and fresh water to milch animals. Keep animals in shed and provide light in poultry farms in Madhya Pradesh.
- Hang gunny bags if windows are not installed in the cattle and poultry house to prevent cold air in Chhattisgarh. Feed the cattle dried fodder chaff cutting mixed with legume fodder such as berseem, lucerne etc.

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



Wheat



Sugarcane



Cauliflower



Mustard

• **Realised Rainfall:** Significant rainfall occurred over Una district in Himachal Pradesh. Mainly dry weather prevailed over rest of the region.

• **Advisories**

➤ As dense fog is very likely to occur at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and north Rajasthan from 15th to 17th January, there is chance of incidence of early blight disease in potato, tomato and onion crops and other standing crops for incidence of pest and diseases. Monitor the crops and if symptoms are noticed, undertake plant protection measures.

• **Jammu & Kashmir:**

- In Sub Tropical Zone, continue nursery sowing of tomato in polybags under protected conditions. As dry weather is prevailing, apply irrigation in wheat crop.
- In Valley Temperate Zone, in high frost conditions, continue mulching in Knol-khol, cabbage & root crops. Maintain drainage channels in the fields.
- In Sub Tropical Zone, due to low temperature attack of cabbage butterfly and aphids is observed in cole Crops (cabbage, cauliflower); spray Malathion @ 2ml/litre of water to control cabbage butterfly and to control aphid spray Imidacloprid @ 0.5ml/litre.
- In Intermediate Zone, due to humid weather, there may be incidence of early and late blight in potato and tomato crop, to control apply Mancozeb @ 2.5 g/liter of water and Ridomil MZ @ 2.5 g/liter of water alternately as curative measure.

• **Uttarakhand**

- In Hill Zone, continue hoeing and weeding operation in irrigated wheat. Apply light and frequent irrigation/sprinkler irrigation in garlic and onion and undertake mulching in potato and cabbage crops. Undertake transplanting of cabbage and round radish for seed production.
- In Sub humid Sub tropic Zone, apply irrigation in wheat crops at active tillering stage.
- In Hill Zone, in the present weather, there may be incidence of leaf eating caterpillar in cole crops, to control apply Sipnosad @ 1ml per 3 litre of water. Due to cool and humid weather there is a chance of infestation of blight in potato, spray Diethane M-45 @20 -25 g in 10 litres of water; repeat after 10-12 days. Also there is a chance of infestation of mahu pest in toria at maturity stage and mahu/ thrips in garlic and onion, spray Metacystacus/ Roger @2ml per liter of water in toria and spray Imidacloprid @6-8 ml in 10 litres of water in garlic and onion.
- In Sub humid Sub tropic Zone, due to cool and humid weather there is a chance of infestation of blight in potato and of mildew in pea, undertake compatible protection measures to control both.

• **Himachal Pradesh**

- In Sub-Montane and Low Hills Sub-Tropical Zone, continue transplanting of onion and planting of potato. Complete training, skiffing and cleaning work in tea and apply irrigation in nursery of tea plants. Continue measures to protect vegetable crops from frost.
- In Mid Hills sub-Humid Zone, continue harvesting of ginger. Continue transplanting of onion.
- In Sub-Montane and Low Hills Sub-Tropical Zone, under prevailing weather conditions, there are chances of attack of downy mildew in cruciferous vegetables, spray Redomil M-Z @ 25 g per litre of water at 15 days interval.
- In High Hill Temperate Dry zone, maintain desired temperature inside poly houses of seedlings of Chinese cabbage, spinach and coriander.

• **Rajasthan**

- Apply irrigation in standing rabi crops like wheat, gram, mustard, barley and garlic at critical growth stages in Arid Western Plain Zone, Sub Humid Southern Plain, Aravali Hill Zone, and Semi-Arid Eastern Plain Zone
- Apply irrigation in maize with top dressing of nitrogen at knee high stage in Southern Humid Plain Zone. In South-eastern Humid Plain Zone, apply sprinkler irrigation in wheat to protect against

prevailing rise in temperature.

- Continue harvesting of matured kinnow fruits and continue measures to protect kinnow trees from cold. Undertake harvesting of sugarcane and stop irrigation before 15 days of cutting in Irrigated North western Plain Zone.
 - In Flood Prone Eastern Plain Zone and in Semi- Arid Eastern Plain Zone, due to dry weather, there is a chance of incidence of termite in wheat and barley, apply Chloropyriphos 25 EC @ 4 litre per hectare with irrigation water.
 - In Flood Prone Eastern Plain Zone, weather is conducive for white rust in mustard crop, spray Mancozeb or Ridomil MZ 72 WP @ 2.0 Kg in 800 litre water/ha.
 - In Semi Arid Eastern Plain Zone, due to warm weather, there is a chance of attack of aphids on mustard and barley, dust Methyl parathion 2% @ 25 kg /ha; to control pod borer in pea, spray Malathion 50 EC @ 1.0 ml per litre of water, harvesting should be done 3 days after spray.
 - In Arid Western plain zone, due to warm weather, there is a chance of alternaria blight in cumin and white rust in mustard, apply Ridomil MZ @ 2 g/l or Trichdarma diffused@ 5ml/l to control white rust and spray Mancozeb @ 1 kg per hectare for blight.
 - In Irrigated North western Plain Zone, due to prevailing weather, there is a chance of attack of pod borer in gram, apply Quinalphos @ 1.5 per cent dust 24 kg/ha.
 - In Southern Humid Plain Zone, due to prevailing weather there is a chance of attack of pod borer in gram, stem borer in maize, aphids in mustard and termite in wheat, spray Acephate 75 SP@ 650 g/ha in gram before flowering for control of pod borer; whorl application of Phorate 10 G for stem borer; apply Chlorpyriphos 20 EC @ 600ml/ha for aphids and apply Chlorpyriphos 20 EC @ 4 litre/ha with irrigation water for termite.
- **Punjab, Haryana and Delhi**
 - In Western Zone of Punjab, in view of the prevailing low minimum temperature, it is advised to provide polythene sheet/sarkanda/kahi rice straw mulching in the fields of tomato seedlings to protect plants from cold/frost injury. Dwarf varieties can be saved from frost injury with 100 gauze thick white plastic bags of 35 X 25 cm size.
 - 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 all vegetable crops as per their requirement.
 - In Central Plain Zone of Punjab, apply irrigation in sugarcane.
 - In Western Zone of Haryana, apply light irrigation for conserving the moisture in mustard and apply light irrigation in wheat crop as per requirement.
 - In Eastern Zone of Haryana, apply first irrigation to wheat crop at CRI stage, which are about 21-25 days old, as per requirement.
 - 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. Apply irrigation to late sown wheat crop, which are about 21-25 days old.
 - In Western Zone and Undulating Plain Zone of Punjab, due to foggy weather condition, there may be chances of attack of late blight in potato crop and in Undulating Plain Zone of Punjab rust in pea may appear for control, spray Indofil-M-45 / Kavach / Antracol @ 500-700 gm per acre or Blitox @ 750-1000 g per acre in 250-350 litres of water per acre at weekly interval.
 - In Western and Undulating Plain Zone of Punjab, there is chance of occurrence of yellow rust in wheat fields, due to humid conditions. Monitor the crop and spray with Tilt/ Shine/ Bumper/ Compass/ Markzole @ 200 ml in 200 litres of water/acre if symptoms are noticed.
 - In Undulating Plain Zone of Punjab, there may be chances of aphids in mustard crop due to above normal maximum temperature; to control spray Imidacloprid @ 0.25ml/litre of water or Thiomethaxome @ 0.4ml/litre of water.
 - In Central and Undulating Plain Zone of Punjab, due to humid weather condition, there may be chances of attack of pink stem borer in wheat, for control, spray Quinalphos 25 EC @ 800 ml in 100 litres of water per acre.
 - Due to high humidity in Western Zone of Haryana, infection of early blight may occur in potato and tomato. Monitor the crop and apply light irrigation to vegetable and young fruit plants to protect from cold weather.
 - Due to low temperature in Sub-Montane Undulating Zone of Punjab, monitor wheat fields for incidence of yellow rust in wheat. Spray Tilt 25 EC or Shine 25 EC or Bumper 25 EC or Compas 25 EC or Stilt 25 EC or Markzole 25 EC @ 200ml in 200 litres of water per acre.

- **Uttar Pradesh**

- In Central Plain Zone, continue transplanting of onion; Undertake harvesting of sugarcane, potato and riped citrus fruits. Apply irrigation in papaya orchard. Undertake cultivation of summer chilli in nursery (variety- Pant C-1, Jwala and Sadabahar etc)
- In Eastern Plain Zone, continue hoeing, weeding operations in pea, gram, lentil.
- In Western Plain Zone, continue planting of autumn sugarcane. Irrigate wheat crop at 21 days after sowing and standing crops of sugarcane at 15 days interval.
- In Bundelkhand Zone, apply irrigation in linseed, flaxseed, mustard, gram, palak, coriander, carrots, vegetable pea, pea, lentil, jou crops as per requirement. Apply first Irrigate in timely sown wheat crop after sowing of 21 days. Continue thinning operation in mustard crop. Continue planting of garlic and transplanting of onion, cabbage, cauliflower, tomato, brinjal and chilli.
- In North Eastern Plain Zone, continue sowing of gram, rabi maize, potato, linseed and lentil under assured irrigation.
- In Central Plain Zone in varanasi district, undertake nipping in Bengal gram, gram, chick pea, pea at 35 days after sowing, Undertake weeding and light irrigation in standing crop of mustard.
- In Central Plain Zone in varanasi district, due to prevailing weather condition, there may be chances of attack of late blight in potato crop, spray Indofil-M-45/Kavach /Antracol @ 500-700 g per acre or Blitox @ 750-1000 g per acre in 250-350 litres of water per acre at weekly interval 2-3 times.
- In Eastern Plain Zone, under prevailing weather condition, there may be chances of attack of downy mildew in pea, for control, spray Mencozeb 75% @ 2 kg in 800 litres of water per hectare.

- Suitable varieties are given in Annexure III.

- **Horticulture**

- In Central Plain Zone of Uttar Pradesh, for control of fruit drop in ber, spray Superfix Hormone @ 1 ml per 4.5 litres of water.
- Continue preparation of tree basins for apple in High Hill Temperate Dry zone, for apple, stone fruits and pomegranate in Mild Hills Sub Humid Zone of Himachal Pradesh, for apple and stone fruits in Mid Hills sub-Humid Zone.
- In Mid Hills sub-Humid Zone of Himachal Pradesh, continue mulching of tree basins to protect from frost. Continue planting of new varieties of apple, pear, stone fruits, walnut, pecanut and grapes.
- In Sub-Montane and Low Hills Sub-Tropical Zone, weather condition is also conducive for cleaning and preparation of basins in the orchards.
- In Intermediate Zone, protect young plants of mango, litchi., papaya, guava, citrus etc from frost by covering them with suitable thatching material.

- **Floriculture**

- In Sub Montane and Low Hills Sub Humid Zone of Himachal Pradesh, continue interculture in the winter flowers. As there is a chance of attack of aphids, spray Malathion @0.05% for the control.

- **Animal Husbandry**

- In Undulating Plain Zone of Punjab, protect animals from low night temperature. Spread straw / gunny bags on the floor during night time.
- In High Hill Temperate Dry Zone and in Sub-Montane and Low Hills Sub-Tropical Zone of Himachal Pradesh, give daily 40-50g Minerals mixture to a cow and protect animals from cold since cold wave has gripped the area of Sub-Montane and Low Hills Sub-Tropical Zone .
- In Valley temperate zone and in Intermediate Zone of Kashmir, protect the animals from low temperatures by covering the windows and doors of animal sheds with gunny bags particularly during night hours to avoid stress to the animals.
- In Central Plan Zone of Uttar Pradesh, continue field preparation for cultivation of Watermelon and other cucurbits through seeding in polythene bags.
- In Bundelkhand Zone of Uttar Pradesh, protect animals from low night temperature.

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

Week by week Rainfall Distribution

Sub-Divisions	30.12.15		06.01.16		13.01.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						

Anjaw	**	**	**	**	**	**
Changlang	0.0	-100	0.0	-100	2.5	-83
Dibang Valley	**	**	**	**	38.0	233.0
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.0	-100	0.0	-100	11.7	113
Kurung Kumey	**	**	**	**	**	**
Lohit	0.0	-100	0.0	-100	14.6	77
Lower Dibang Valley	0.0	-100	0.0	-100	32.6	186
Lower Subansari	**	**	**	**	**	**
Papumpare	0.0	-100	0.0	-100	28.1	126
Tawang	0.0	-100	0.0	-100	9.0	2
Tirap	0.0	-100	0.0	-100	11.2	23
Upper Siang	0.0	-100	0.0	-100	39.8	310
Upper Subansari	0.0	-100	0.0	-100	1.6	-63
West Kameng	0.0	-100	0.0	-100	4.2	-52
West Siang	**	**	**	**	14.0	192.0
Assam&Meghalaya						
Assam						
Baksa	0.0	-100	0.0	-100	44.5	2518
Barpeta	0.0	-100	0.0	-100	4.4	156
Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	0.0	-100	0.0	-100	3.0	-32
Chirang	0.0	-100	0.0	-100	22.6	4420
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	0.0	-100	12.0	88
Dhubri	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	0.0	-100	0.0	-100	9.5	47
Goalpara	0.0	-100	0.0	-100	0.0	-100
Golghat	0.0	-100	0.0	-100	17.4	255
Hailakandi	0.0	-100	0.0	-100	8.7	1630
Jorhat	0.0	-100	0.0	-100	24.8	464
Kamrup(Rural)	0.0	-100	0.0	-100	0.2	-95
Kamrup(Metro)	0.0	-100	0.0	-100	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	5.8	15
Karimganj	0.0	-100	0.0	-100	8.8	86
Kokrajhar	0.0	-100	0.0	-100	3.0	-19
Lakhimpur	0.0	-100	0.0	-100	17.2	169
Morigaon	0.0	-100	0.0	-100	1.6	-68
N.C.Hills	0.0	-100	0.0	-100	4.2	0
Nowgong	0.0	-100	0.0	-100	4.9	37
Nalbari	0.0	-100	0.0	-100	43.0	1003
Sonitpur	0.0	-100	0.0	-100	20.5	413
Sibsagar	0.0	-100	0.0	-100	11.6	107
Tinsukia	0.0	-100	0.0	-100	7.6	36
Udalgiri	0.0	-100	0.0	-100	21.1	559
Meghalaya						
East Garo Hills	0.0	-100	0.0	-100	0.0	-100
East Khasi Hills	0.0	-100	0.0	-100	0.6	-91
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100

Ribhoi	0.0	-100	0.0	-100	1.7	-76
South Garo Hills	**	**	**	**	0.0	-100
West Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100
NMMT						
Mizoram						
Aizwal	0.0	-100	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	**	**	**	**	**	**
Serchhip	**	**	**	**	**	**
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	0.0	-100	0.0	-100	6.5	33
Imphal west	0.0	-100	0.0	-100	0.3	-97
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	0.0	-100	0.0	-100	10.6	21
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	0.0	-100	6.8	134
Longleng	**	**	**	**	**	**
Mokokchung	0.0	-100	0.0	-100	4.0	-43
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	**	**	**	**	**	**
Tuensang	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	6.0	3
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	0.0	-100	0.0	-100
North Tripura	0.0	-100	0.0	-100	0.9	-75
South Tripura	0.0	-100	0.0	-100	0.0	-100
West Tripura	0.0	-100	0.0	-100	2.2	-34
Himachal Pradesh						
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Chamba	0.5	-98	10.1	-40	3.4	-88
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Kangra	0.0	-100	0.0	-100	0.9	-95
Kinnaur	0.5	-98	3.1	-83	2.0	-92
Kullu	0.2	-99	2.7	-81	8.1	-53
Lahaul and Spiti	0.3	-99	18.0	-9	2.2	-93

Mandi	0.4	-97	0.0	-99	1.1	-92
Shimla	0.9	-92	1.3	-88	3.2	-77
Sirmaur	0.0	-100	0.0	-100	0.0	-100
Solan	0.0	-100	0.0	-100	0.0	-100
Una	0.0	-100	0.0	-100	95.0	-95
Punjab						
Amritsar	0.0	-100	0.0	-100	6.9	1
Barnala	0.0	-100	0.0	-100	2.0	-9
Bhatinda	0.0	-100	0.0	-100	0.7	-72
Faridkot	0.0	-100	0.0	-100	0.5	-77
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.4	-87
Gurdaspur	0.0	-100	0.5	-92	0.9	-93
Hoshiarpur	0.0	-100	0.0	-100	6.5	-32
Jalandhar	0.0	-100	0.0	-100	6.3	1
Kapurthala	0.0	-100	0.0	-100	4.0	-23
Ludhiana	0.0	-100	0.0	-100	15.5	204
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	2.8	-47
Muktesar	0.0	-100	0.0	-100	5.0	213
Nawashahar	0.0	-100	0.0	-100	15.4	93
Patiala	0.0	-100	0.0	-100	0.4	-90
Ropar	0.0	-100	0.0	-100	3.5	-58
Sangrur	0.0	-100	0.0	-100	0.3	-93
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	0.0	-100	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	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	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100
Katihah	0.0	-100	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.3	-96
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	0.0	-100	0.2	-96
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	0.0	-100

Yamunanagar	0.0	-100	0.0	-100	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	0.0	-100
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	0.8	-96	15.0	11	7.3	-49
Badgam	0.0	-100	16.1	222	3.6	-55
Bandipore	**	**	**	**	**	**
Baramula	0.0	-100	39.5	148	5.5	-76
Doda	0.0	-100	8.0	-70	6.8	-75
Ganderbal	0.0	-100	16.2	84	12.8	28
Jammu	0.0	-100	0.4	-96	0.1	-99
Kargil	**	**	**	**	**	**
Kathua	0.0	-100	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	0.1	-99	11.6	-14	3.2	-78
Kupwara	0.0	-100	42.2	151	14.1	12
Ladakh(Leh)	1.8	20	0.5	-71	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	0.0	-100	5.8	-1	1.9	-77
Rajouri	0.0	-100	1.8	-89	1.2	-94
Ramban	0.3	-99	9.5	-64	4.3	-84
Reasi	0.0	-100	1.4	-94	1.1	-95
Samba	0.0	-100	0.0	-100	0.0	-100
Shopian	**	**	**	**	**	**
Srinagar	0.0	-100	14.7	67	3.9	-61
Udhampur	0.0	-100	0.6	-98	2.0	-90
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100

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	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100
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	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.9	-69
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	0.5	-82
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	0.1	-96
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	0.1	-91
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	0.0	-100
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	0.2	-63	0.0	-100	0.0	-100
Rajandgaon	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100
East Uttar Pradesh						
Allahabad	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100	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	0.3	-93
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	0.0	-100	0.0	-100
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	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	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	0.0	-100
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	0.0	-100
RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	**	**	**	**	**	**
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100

Sultanpur	0.0	-100	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	0.0	-100	0.0	-100
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	0.0	-100	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Bulandsahar	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100
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	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.0	-100	0.0	-100
Moradabad	0.0	-100	0.0	-100	0.0	-100
Muzzaffarnagar	0.0	-100	0.0	-100	0.0	-100
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	0.0	-100	0.0	-100
Uttarakhand						
Almora	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	0.0	-100	3.6	-58
Champawat	0.0	-100	0.0	-100	0.0	-100
Dehradun	0.0	-100	0.0	-100	0.5	-95
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.2	-98
Haridwar	0.0	-100	0.0	-100	0.0	-100
Nainital	0.0	-100	0.0	-100	0.0	-100
Pithorgarh	0.0	-100	0.0	-100	3.0	-68
Rudraprayag	0.0	-100	0.0	-100	2.5	-86
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	1.9	-89

Bihar						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	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	0.0	-100	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	0.0	-100	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	0.0	-100	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	0.0	-100	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
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	0.0	-100	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	0.0	-100	0.0	-100
Dhanbad	199.9	6794	0.0	-100	0.0	-100
Dumka	0.0	-100	0.0	-100	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	200.0	15284	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100

Gumla	**	**	0.0	-100	**	**
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	**	**	0.0	-100	**	**
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderrna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	**	**	0.0	-100	**	**
Ranchi	0.0	-100	0.0	-100	0.0	-100
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 Singhum	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	-100
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	0.1	-97
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	1.3	-33
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	**	**	0.0	-100	0.0	-100
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	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	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	**	**	**	**	0.0	-100
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	0.0	-100
Balasore	0.2	-91	0.0	-100	0.0	-100
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.5	21	0.0	-100	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	2.3	134	0.0	-100	0.0	-100
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	0.0	-100	0.0	-100
Jharsuguda	0.6	-76	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.3	-48	0.0	-100	0.0	-100
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	2.3	33	0.0	-100	0.0	-100






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	0.2	-76	0.0	-100	0.0	-100
Rayagada	0.0	-100	0.0	-100	0.0	-100
Sambalpur	0.4	-69	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	1.4	-17	0.0	-100	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	10.3	-74	799.9	-10	0.0	-100
North & Middle Andaman	0.9	-95	405.8	-29	0.0	-100
South Andaman	4.0	-78	736.5	4	0.0	-100
GWB						
Bankura	0.0	-100	12.9	-90	0.0	-100
Birbhum	0.0	-100	25.5	-80	0.0	-100
Burdwan	0.0	-100	34.8	-70	0.0	-100
East Midnapore	1.0	-35	82.2	-66	0.0	-100
Hooghly	0.0	-100	29.1	-77	0.0	-100
Howrah	0.0	-100	29.7	-79	0.0	-100
Kolkata	0.0	-100	101.4	-46	0.0	-100
Murshidabad	0.0	-100	58.7	-59	0.0	-100
Nadia	0.0	-100	51.3	-57	0.0	-100
24 Pargana (N)	0.0	-100	53.5	-66	0.0	-100
Purulia	0.2	-96	23.7	-79	0.0	-100
24 Pargana (S)	0.0	-100	33.0	-89	0.0	-100
West Midnapore	0.0	-99	36.7	-72	0.0	-100
SHWB & Sikkim						
Cooch Behar	0.0	-100	50.8	-69	0.0	-100
Darjeeling	0.0	-100	59.5	-59	0.0	-99
East Sikkim	0.0	-100	156.4	-19	3.5	17
Jalpaiguri	0.0	-100	104.2	-44	2.1	0
Malda	0.0	-100	17.2	-86	0.0	-100
North Dinajpur	**	**	2.6	-98	0.0	-100
North Sikkim	0.0	-100	199.3	-40	21.8	103
South Dinajpur	0.0	-100	42.0	-68	0.0	-100
South Sikkim	0.0	-100	116.5	-39	2.0	-35
West Sikkim	0.0	-100	59.5	-82	1.5	-86
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
S I 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	0.0	-100
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	0.0	-100
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	0.0	-100
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	0.2	-97	0.0	-100	0.0	-100
Kannur	0.0	-100	0.0	-100	0.0	-100
Ernakulam	0.0	-99	0.0	-100	0.0	-100
Idukki	0.2	-96	0.0	-100	0.0	-100
Kasaragod	0.0	-100	0.0	-100	0.0	-100
Kollam	2.0	-78	0.0	-100	0.0	-100
Kottayam	0.0	-100	0.0	-100	0.0	-100
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	0.1	-99	0.0	-100	0.0	-100
Thiruvananthapuram	0.3	-96	0.0	-100	0.0	-100
Thrissur	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100
Cuddalore	0.0	-99	0.0	-100	0.0	-100
Dharmapuri	0.0	-100	0.0	-100	0.0	-100
Dindigul	0.0	-99	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	0.9	-89	0.5	-89	0.0	-100

Karikal	3.8	-92	0.0	-100	0.0	-100
Karur	0.0	-100	0.0	-100	0.0	-100
Krishnagiri	0.0	-100	0.0	-100	0.2	-90
Madurai	0.1	-99	0.0	-100	0.0	-100
Nagapattinam	0.0	-99	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	43.8	124	0.0	-100	0.1	-99
Salem	0.0	-100	0.0	-100	0.0	-100
Sivaganga	1.4	-92	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	29.2	75	0.0	-100	0.0	-100
Tirupur	0.0	-100	0.0	-100	0.0	-100
Tiruvallur	0.2	-98	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	14.5	5	0.0	-100	0.0	-100
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	2.2	-80	0.0	-100	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	1.1	42	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	8.9	1688	0.0	-100	0.0	-100
Visakhapatnam	0.4	-33	0.0	-100	0.0	-100
Vizianagram	0.1	-91	0.0	-100	0.0	-100
West Godavari	0.2	-89	0.0	-100	0.0	-100
Rayalaseema						
Anantapur	0.0	-100	0.0	-100	0.0	-100
Chittoor	0.0	-99	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

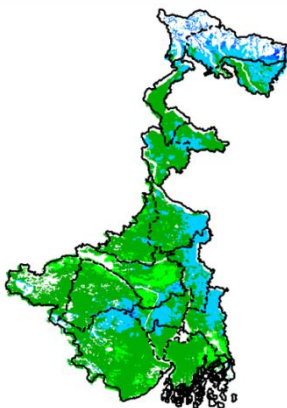
Legends

	(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

Annexure II

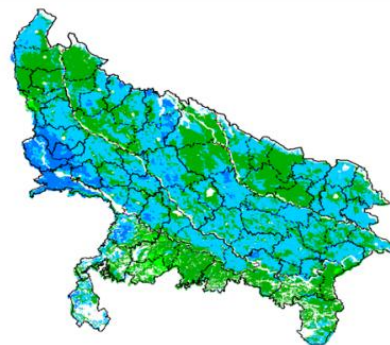
INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON 13th January 2016 FOR DIFFERENT STATES

West Bengal



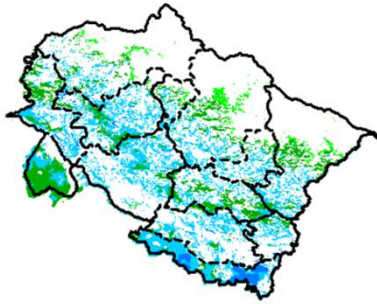
Agricultural vigour is good in South-eastern and Northern part of West Bengal where NDVI is varying from 0.4-0.6, whereas rest of the state shows moderate NDVI (0.2-0.4).

Uttar Pradesh



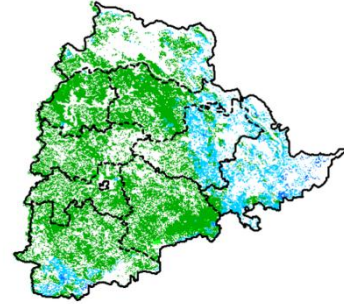
Agricultural vigour is moderate over the entire state of Uttar Pradesh where NDVI value varies from 0.2 -0.4. whereas few patches in north-western part shows higher values of NDVI (0.4-0.5)

Uttarakhand



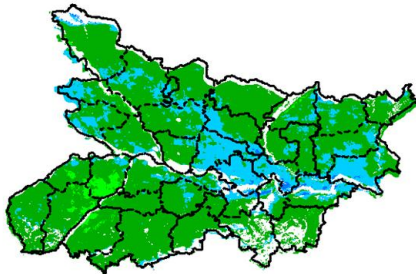
Agriculture vigour is good over entire state of Uttarakhand where NDVI is varying from 0.3-0.4, whereas few patches in south and southwest shows good values of NDVI (0.4-0.6).

Telangana



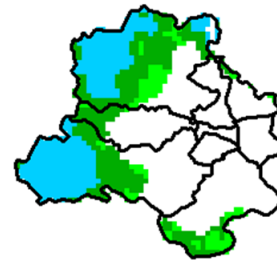
Agriculture vigour is good over South and Eastern parts of Telangana (NDVI 0.4-0.5). Rest of the region shows moderate values of NDVI (0.3-0.4)

Bihar



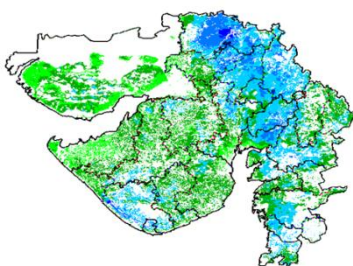
Agriculture vigour is Moderate all over Bihar where NDVI value lies between 0.2-0.4. Except very few patches in eastern parts of state vary from 0.4-0.5.

Delhi



Agriculture vigour is moderate all over Delhi where NDVI value lies between 0.2-0.3, whereas few patches over west shows good values of NDVI (0.4 – 0.5).

Gujarat



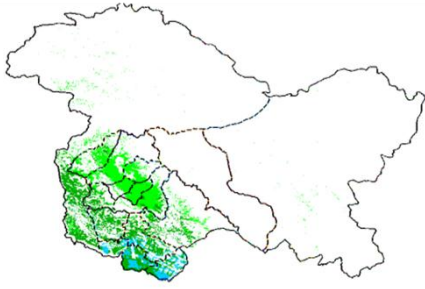
Agriculture vigour is moderate in Kutch and Saurashtra whereas, good agricultural vigour is observed over Gujarat region where NDVI values lies between 0.4-0.6. .

Himachal Pradesh



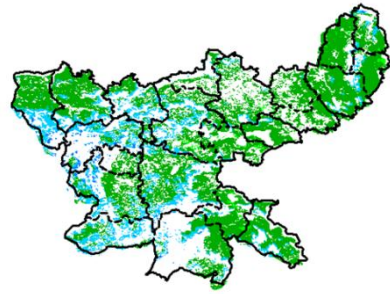
Agriculture vigour is good over western and southern part of Himachal Pradesh where NDVI values are 0.4 – 0.5, whereas rest of the state shows moderate values of NDVI.

Jammu & Kashmir



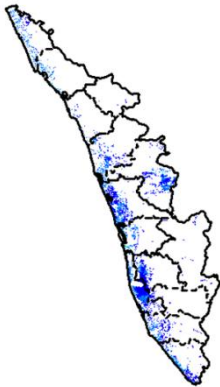
Agriculture vigour is Normal over entire state of Jammu & Kashmir where NDVI values are 0.2 – 0.4.

Jharkhand



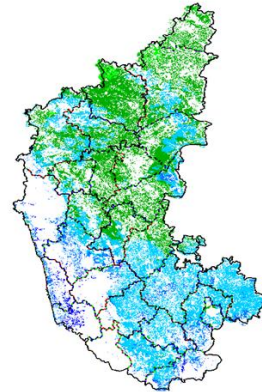
Agriculture vigour is good over western part of the Jharkhand where NDVI values vary from 0.4 - 0.5. , whereas rest of the state shows moderate values of NDVI (0.3-0.4).

Kerala



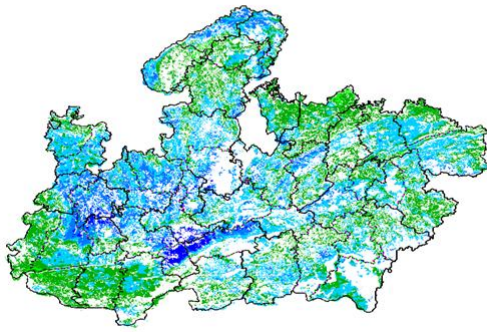
Agriculture vigour is good over entire state of Kerala where NDVI value lies between 0.5-0.6.

Karnataka



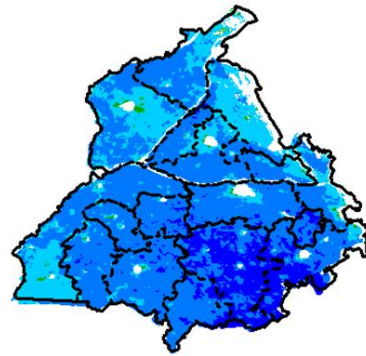
Agriculture vigour is good over entire state of Karnataka where NDVI value lies between 0.4-0.6 except few patches in northern part shows moderate values of NDVI (0.2 -0.4).

Madhya Pradesh



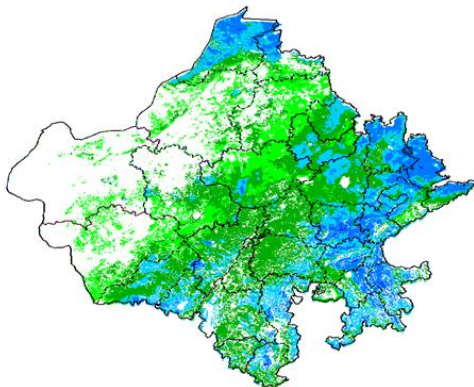
Agriculture vigour is good over western and central part of Madhya Pradesh where NDVI varies from 0.4-0.6 and rest of the part shows moderate values of NDVI (0.2 – 0.4).

Punjab



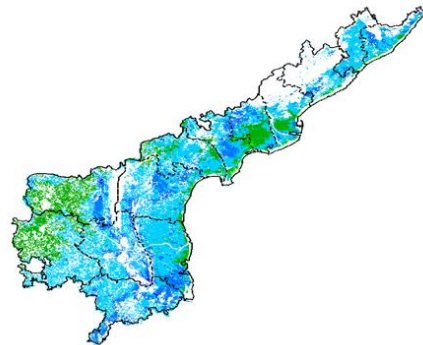
Agricultural vigour is very good over central, eastern and southern part of Punjab where NDVI value lies between 0.4-0.6.

Rajasthan



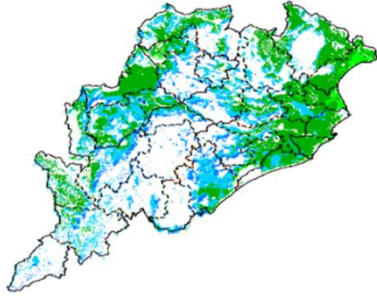
Agriculture vigour is moderate (0.2-0.4) in some patches over southern and central part of Rajasthan whereas good values of NDVI are observed over eastern and northern parts of state (0.4-0.6).

Andhra Pradesh



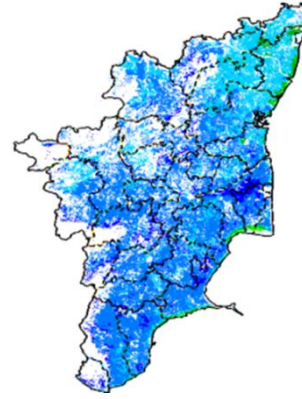
Agriculture vigour is good over entire state of Andhra Pradesh where NDVI vary between 0.4-0.6. except eastern coastal and western parts which shows normal values of NDVI (0.2-0.3).

Odisha



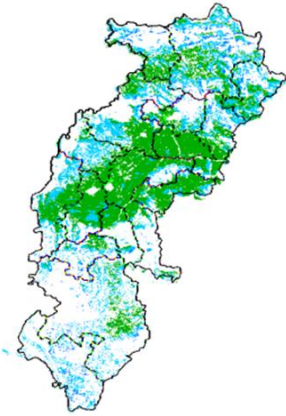
Agricultural vigour is good over central and southern part of Odisha with NDVI value ranging between 0.4 – 0.6 . North eastern part shows moderate values of NDVI (0.3-0.4).

Tamil Nadu



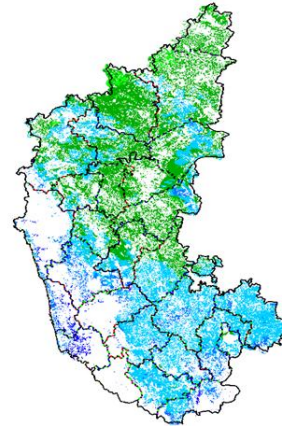
Agricultural vigour is very good over entire state of Tamilnadu where NDVI values lies between 0.5-0.6, whereas few patches in northern part shows good values of NDVI (0.4-0.5).

Chhattisgarh



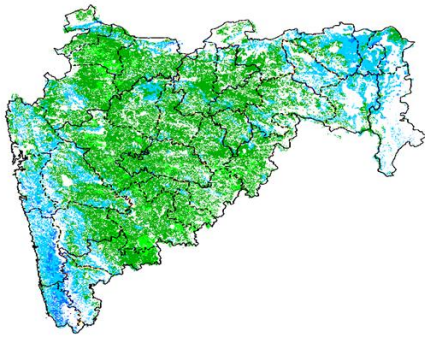
Agriculture vigour is good in northern and southern parts of Chhattisgarh where NDVI values are between 0.4-0.5 except central part which shows moderate values of NDVI.

Karnataka



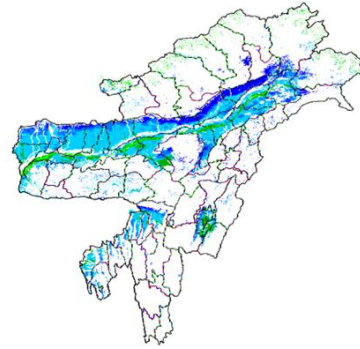
Agriculture vigour is good over entire state of Karnataka where NDVI value lies between 0.4-0.6 except few patches in northern part shows moderate values of NDVI (0.2 -0.4).

Maharashtra



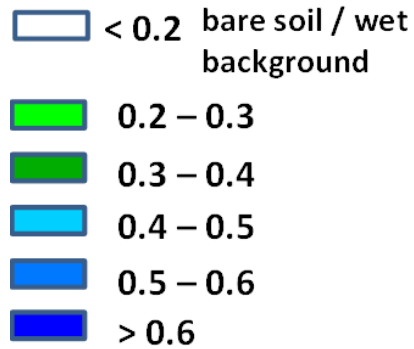
Agricultural vigour is good over Coastal Maharashtra and Vidarbha region with NDVI values from 0.4-0.6, whereas Moderate values of NDVI are observed over Madhya Maharashtra and Marathwada region (0.2-0.4).

North East Region



Agriculture vigour is good over entire states of North-East region where NDVI varies from 0.4-0.6.

Persistent cloud /



Annexure III List of varieties

Assam

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

Okra : Pusa Sawani, Arka Anamika, Parbhdani Kranti

Meghalaya

Toria: M27, TS 36, TS 46; Lentil- DPL 15, DPL-62.

Pea : Prakash, Vikash.

Manipur

Onion : Nasik Red

Odisha

Mango: Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar,, Langra, Dusheri, Amrapalli, Mallika, Ratna, Ramkella, Alphanso and Keshar, etc.

Cashewnut: Vengrulla-1.4, BPP-4, Bhubaneswar-1, VRI-2, Hybrid 2-17

Pulses

Green gram: K 851, PDM 11, PDM 54, OUM 115

Black gram: T 9, PU 11, PU 19 and PU 30

Horse gram : Urmi

Sunflower: DRSF- 108, DRSF- 113, TNAUSUF-7, Modern

Toria- M27, TS 36, TS 46;

Lentil- DPL 15, DPL-62;

Pea - Prakash, Vikash.

Bihar

Potato: KufriJyoti.Kufri Ashoka,Pukharaj

Pulses: K-75,PL77,KLS-218

Lentil: BR-25,Pant L 406,Malika,Arun

Kidney Pea: PDR-14,IIDR 96-4,IIPR 98-5

Peas: Ratna,Apnahaarbajan Malbai mater15

Garlic: Jamuna Safed-2(G-50),Jamuna safed-3(G-282) Jamuna-4(G-323)

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

West Bengal:

Mango: Himsagar, Mallicka, Langra

Guava: Safeda, L-49

Coconut: Eastcoastal, Hazari

Banana :- Mortoman, Chapa, Kathali, Singapuri,

Mustard:- Varuna, Sita and Bhagirathi

Jammu & Kashmir

Cabbage: Golden Acre, Pride of India and PusaMukta.

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

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

Chickpea : K-468, Gourav);

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

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

Mustard :Pusa Bold, RSPR-01, RSPR-03, Kranti.

Uttarakhand:

Vegetable pea(sowing), toria(sowing),tomato(nursery sowing), potato(planting).

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

Barley :Jyoti, Vijaya, or Jagrati

Oat : UPO-50, UPO-212, JHO-822, Kent Etc

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

Maize: P.M.H.-3, Dakkan-105, Shaktiman-1, X-1382(3054), K.H.-5981, K.H.-5991, Dhawal, Sharadmani, Shakti-1;

Lobia: Russian Joint , UPC-5286, UPC-5287, NP-3, Bundhel lobia-2, UPC-9202 and UPC-4200

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.

Cauliflower: pusaDipali.

Pearl Millet: Raj WCC-75, ICMB-155, Pusa-322,23, ICMH-451.

Seasame: T-4,78, Shekhar, Pragati, Tarun.

Pigeon Pea:Bahar, Narendra Arhar-1, Azad, Pusa-9.

Jute: Jute Reshma, NDC (2007), NDC-2028, NDC-9102.

Okra:PusaSawani, VarsaUphar, Azad kranti.

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

Guava:Sardar(Lucknow-49).

Kabuli gram:chamatkar, Puse-1003, Subhra, H.K.-94-134,

Gram: Ta-3, Radhe K-850, Pant, Kabuli, Avarodhi, Pusa-256, K.W.R.-108, D.C.P.92-3, Adhar(R.S.G.-936), W.C.G.-1, W.C.G.-2, K.G.D.-1168;

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

Toria: TA-9, Bhawani, PT-30 and PT-507

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

Mustard:Narendraageti rai-4,Varuna (T-59), basti (pili), maya, narendrs suvarna-rai-8(pili), narendrarai (N.D,R,-8501), Aashirwaad, Vardan, Vaibhav, Maya, rohini, Kanti, Krushna.

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

West Uttar Pradesh

Ladies finger:VRO-6, VRO-5.

Pigeon pea:T-21, UPAS 120.

Cotton: H777, Dhanalakshami, HD107.

fodderJowar: JS 120, Lobia 88.

Gram: P.D.G.-3, G.P.F.-2, C-235, Gaurav,KGD-1168, J.G.-16, Avrodhi, pusa-256, K.W.R.-108, D.P.C.-92-3, K-850

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.

Mustard:Narendraageti rai-4,Varuna (T-59), basti (pili), maya, narendrs suvarna-rai-8(pili), narendrarai (N.D,R,-8501), Aashirwaad, Vardan, Vaibhav, Maya, rohini, Kanti, Krushna.

Jou: Manjula, Jagruti, Gitanjali.

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

Lentil: KLB-320, K-75, DPL-62.

Linseed: Padmini, Sharda, Laxmi, mau, Azad-, K-2, L.C.-2023, L.C.-74

Punjab

Wheat: PBW 621, DBW 17, PBW 550, PBW 502, PBW 343, WH 542, PDW 291, PDW 274 and PDW

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.

Pea: Punjab 89 and MithiPhali, Matar Ageta-7, Arkel and Matar Ageta-6.

Kabuli gram (L 552, L 550 & BG-1053)

Mustard: PBR 357, RLC-1, PBR-210, RLM-619, PBR-91, PBR-97, RLC-1, PBR 210 and PBR 91, Gobhisarson GSC-7, GSC-6, GSL-1, GSL-2, Hyola (PAC-401), African sarson PC-5.

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: Pusa Masoor -5 (L-4594).

Sarso: Pusa Saag-1; Bathua- Pusa Bathua-1;

Radish: Japani White, Hill queen, French Radish;

Spinach: Pusa Bharti.

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, Pusa Bharti;

Fenugreek: Pusa Kasuri;

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: (Pusa Rashmi).

Carrot: Pusa Keshar

East Rajasthan

Radish: Pusa Chetki, Japanese white & hill queen.

Carrot: Pusa Keshar

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 Pusa Jiant

Barley : RD-2552, RD-2052, RD-2035, RD-2503, RD-2715, RD-2660 and Jyoti.

Madhya Pradesh:

Lentil: RVL 31, JL 2.

Mustard: RVM 2, RGN 73, Pusa Jai Kisan.

Chhattisgarh:

Linseed: R.L.C. 92 (Indira Alsi), Dipika (R.L.C.-78), Indira Alsi (R.L.C.-81), Kartika (R.L.C.-76), Jawahar 552 (R.L.C.-552), Kiran (R.L.C.-6).

Safflower: J.S.F.-1, J.S.I-7, J.S.H.-129.