



National Agromet Advisory Service Bulletin



Friday 24th February 2017

(For the period 24th to 28th February 2017)



Issued by

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

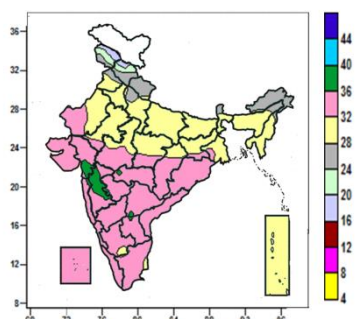
Weblink For

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

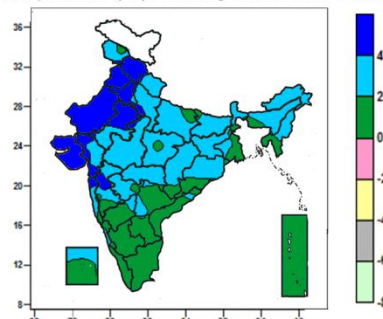
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 22.02.2017

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 22.02.2017



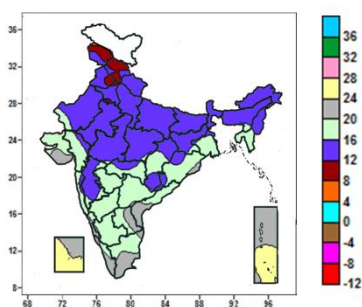
Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 22.02.2017



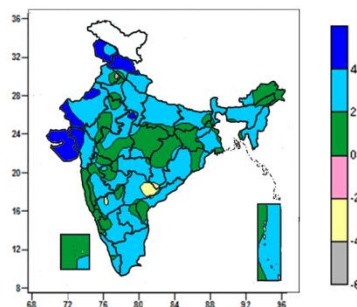
- Mean maximum temperature was between 36 to 40 $^{\circ}\text{C}$ over some parts of Gujarat Region, Madhya Maharashtra and isolated pockets of Konkan, Vidarbha, Marathwada, Telangana and Rayalaseema.
- Mean maximum temperature was between 32 to 36 $^{\circ}\text{C}$ over Saurashtra & Kutch, Odisha, Goa, North Interior Karnataka, Coastal Karnataka, Coastal Andhra Pradesh, Kerala, Lakshadweep, many parts of Gujarat Region, West Madhya Pradesh, Maharashtra, Chhattisgarh, Telangana, South Interior Karnataka, Rayalaseema, Tamil Nadu, some parts of Rajasthan, East Madhya Pradesh, Jharkhand and Gangetic West Bengal.
- Mean maximum temperature was between 24 to 32 $^{\circ}\text{C}$ over rest of the Country except many parts of Jammu & Kashmir and some parts of Himachal Pradesh where it was between 16 to 24 $^{\circ}\text{C}$.

- Mean maximum temperature was above normal by 4 to 6 $^{\circ}\text{C}$ over Himachal Pradesh, Punjab, Saurashtra & Kutch, many parts of Haryana & Delhi, Rajasthan, some parts of Gujarat Region, Madhya Maharashtra, Konkan and isolated pockets of Uttarakhand, West Uttar Pradesh and West Madhya Pradesh.
- Mean maximum temperature was above normal by 2 to 4 $^{\circ}\text{C}$ over Arunachal Pradesh, Nagaland, Manipur, Sikkim, many parts of Jammu & Kashmir, Uttarakhand, Uttar Pradesh, Bihar, Sub Himalayan West Bengal, Assam & Meghalaya, Gujarat region, Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Jharkhand, Odisha, some parts of Mizoram, Konkan & Goa, North Interior Karnataka, Telangana, Coastal Karnataka, Lakshadweep and isolated pockets of Coastal Karnataka.
- It was normal to near normal over rest of the country.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 22.02.2017



Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 22.02.2017



- Mean minimum temperature was between 4 to 8 $^{\circ}\text{C}$ at isolated pocket of Jammu & Kashmir.
- Mean minimum temperature was between 8 to 12 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, Himachal Pradesh, some parts of Punjab and isolated pockets of Haryana & Delhi and East Rajasthan.
- Mean minimum temperature was between 12 to 20 $^{\circ}\text{C}$ over rest of the Country except over Andaman & Nicobar Islands, Lakshadweep, many parts of Coastal Karnataka, Kerala, some parts of Saurashtra & Kutch, Coastal Andhra

- Mean minimum temperature was above normal by 4 to 6 $^{\circ}\text{C}$ over Saurashtra & Kutch, many parts of Jammu & Kashmir, Himachal Pradesh, some parts of West Rajasthan, Gujarat Region and isolated pockets of Uttarakhand, East Rajasthan, and West Madhya Pradesh.
- Mean minimum temperature was above normal by 2 to 4 $^{\circ}\text{C}$ over West Uttar Pradesh, Sikkim, Meghalaya, Nagaland, Manipur, Mizoram, Tamil Nadu, many parts of Uttarakhand, Punjab, Haryana & Delhi, East Uttar

Pradesh, Rayalaseema, Tamil Nadu and isolated pockets of Gujarat region, Telangana, Odisha, South Interior Karnataka where it was between 20 to 28⁰C.

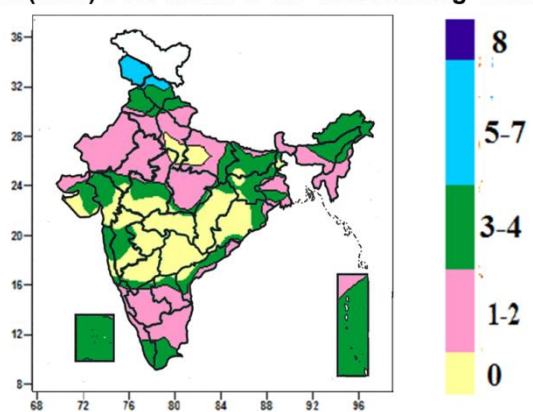
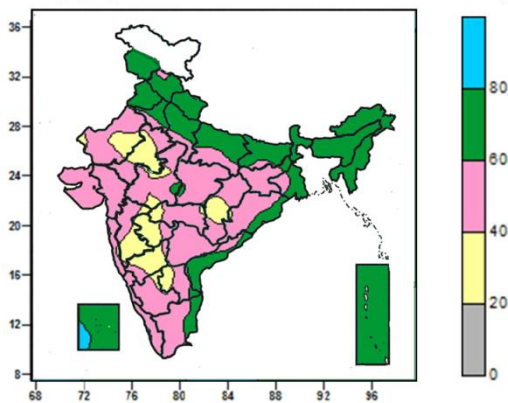
Pradesh, Bihar, Sub Himalayan West Bengal, Assam, Tripura, Rajasthan, Gujarat Region, Gangetic West Bengal, Madhya Maharashtra, Marathwada, Vidarbha, Odisha, Coastal Andhra Pradesh, Telangana, Interior Karnataka, Rayalaseema, Kearala, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh, Madhya Pradesh, Jharkhand, Chhattisgarh and isolated pockets of Konkan and Lakshadweep.

- Mean minimum temperature was normal to near normal over rest of the country except some parts of Telangana and isolated pockets of Chhattisgarh, Coastal Andhra Pradesh and North Interior Karnataka where it was below normal by 2 to 4⁰C.

Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 22.02.2017

Relative Humidity (%) over India for the week ending 22.02.2017

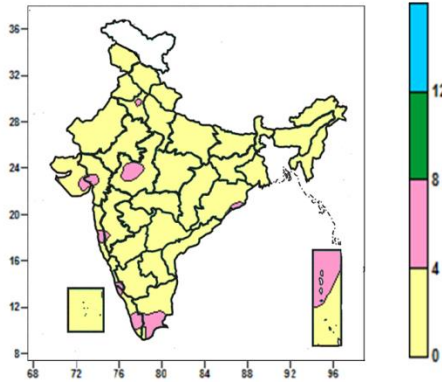
Cloud amount (okta) over India for the week ending 22.02.2017



- Mean Relative Humidity was above 80% at isolated pockets of Lakshadweep.
- Mean Relative Humidity was between 60 to 80% over Jammu & Kashmir, Uttarakhand, Punjab, Sub Himalayan West Bengal & Sikkim, North East India, Andaman & Nicobar Islands, many parts of Himachal Pradesh, Haryana & Delhi, Uttar Pradesh, Bihar, Gangetic West Bengal, Coastal Andhra Pradesh, Lakshadweep, some parts of Odisha, Tamil Nadu and isolated pockets of Jharkhand, Madhya Pradesh and Rayalaseema.
- Mean Relative Humidity was between 40 to 60% over rest of the Country except many parts of Madhya Maharashtra, Marathwada, North Interior Karnataka, some parts of Rajasthan, Vidarbha, Chhattisgarh, Rayalaseema and isolated pockets of Madhya Pradesh, Odisha, Konkan and South Interior Karnataka where it was between 20 to 40%.

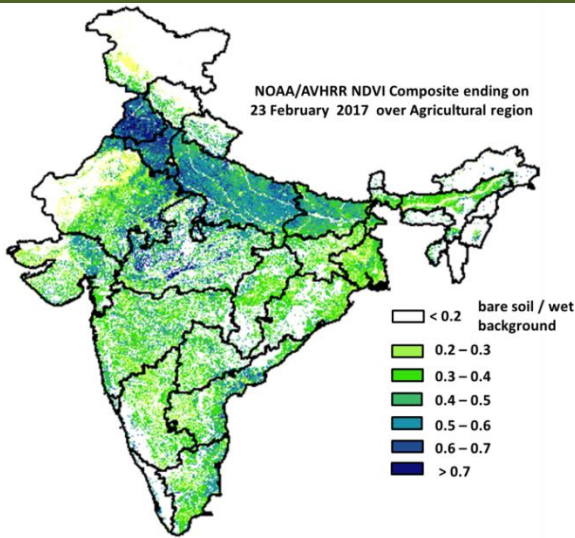
- Sky remained cloudy (5-7 okta) over Jammu & Kashmir and some parts of Himachal Pradesh.
- Sky remained partly cloudy (3-4 okta) over Arunachal Pradesh, many parts of Himachal Pradesh, Punjab, Assam, Nagaland, Bihar, Jharkhand, Gujarat Region, Konkan & Goa, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Uttarakhand, Haryana & Delhi, Manipur, East Uttar Pradesh, Gangetic West Bengal, Saurashtra & Kutch, East Rajasthan, West Madhya Pradesh, Odisha, Madhya Maharashtra, Rayalaseema, Tamil Nadu and isolated pockets of West Uttar Pradesh, Sub Himalayan West Bengal, East Madhya Pradesh, Chhattisgarh South Interior Karnataka, and Coastal Karnataka.
- Sky remained mainly clear/clear sky (1-2 okta/0 okta) over rest of the country.

Wind speed (knots) over India for the week ending 22.02.2017



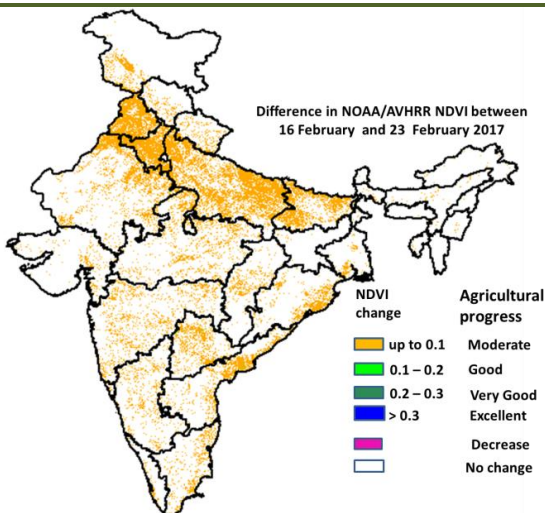
- Mean wind speed was between 0 to 4 knots over the country except some parts of Konkan, Kerala, Tamil Nadu, Andaman & Nicobar Islands, and isolated pockets of Haryana & Delhi, Gujarat, West Madhya Pradesh, Odisha, Madhya Maharashtra and Coastal Karnataka where it was between 4 to 8 knots.

NOAA/AVHRR NDVI composite ending on 23rd February 2017 over Agricultural region of India



- Agricultural vigour is good to very good in Haryana & Delhi, Punjab, patches in Madhya Pradesh, Uttar Pradesh, Bihar, Gujarat, Central Tamil Nadu, Coastal Andhra Pradesh, Kerala, Maharashtra, south-east Rajasthan, North-East Region and southern part of West Bengal, where NDVI value varies from 0.5 to 0.7. NDVI is moderate in west Rajasthan, East Madhya Pradesh, Uttar Pradesh, Bihar, North-East Region, Madhya Maharashtra, southern region of Andhra Pradesh, Telangana and Tamil Nadu (NDVI 0.2 to 0.5).

Difference in NOAA/AVHRR NDVI between 16th and 23rd February 2017

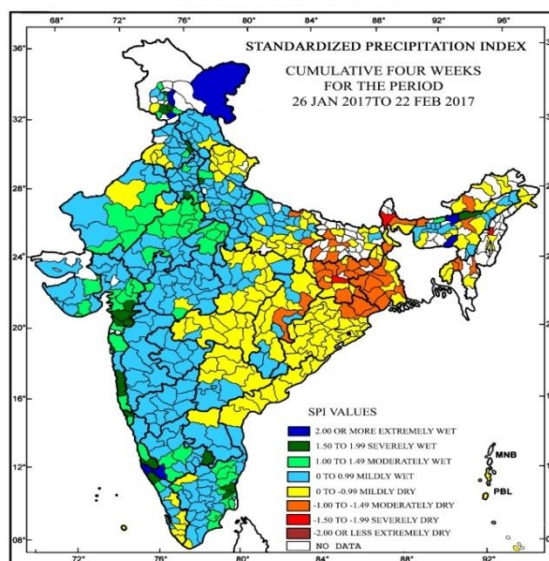


- Moderate progress in NDVI was observed in Punjab, Haryana & Delhi, Madhya Pradesh, Rajasthan, Uttar Pradesh, Bihar, and patches in Maharashtra, Gujarat, Karnataka, Kerala, Tamil Nadu, Telangana, Andhra Pradesh, North-East Region, Jharkhand, West Bengal and Chhattisgarh. Good progress was observed in few patches of Punjab and Rajasthan.

- NOAA/AVHRR NDVI composite maps for the week ending on 23rd February 2017 for different States are given in Annexure II.

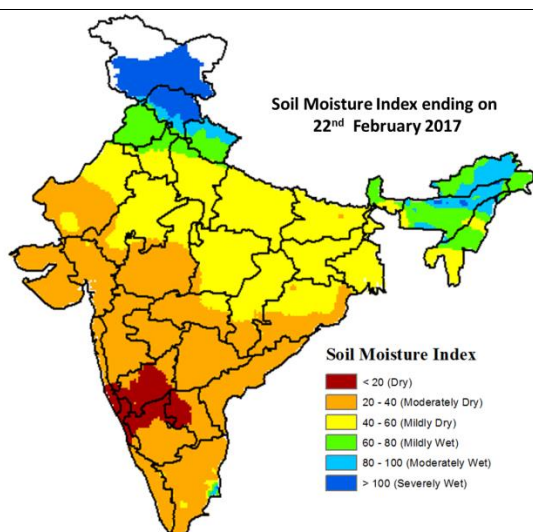
Standardised Precipitation Index Four Weekly for the period 26th January to 22nd February 2017

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INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in few districts of Jammu & Kashmir; Gujarat Region; Konkan & Goa, Shonitpur, Udalguri, districts of Assam; East Khasi Hills, districts of Meghalaya; Baghpata, districts of Uttar Pradesh; Rewari, districts of Haryana; Sas Nagar Mohali, districts of Punjab; Cuddalore, Ariyalur, districts of TamilNadu & Puducherry; Dakshin Kannada, Kodagu, Kolar, districts of Karnataka; Cannur, Kasargod, districts of Kerala;
- Extremely/Severely dry conditions experienced in Darjeeling, districts of West Bengal; Ranchi, districts of Jharkhand;
- Moderately dry conditions experienced in many districts of Tripura; West Bengal; Jharkhand; East Kameng, districts of Arunachal Pradesh; Nagaon, Kokrajhar, districts of Assam; Aizwal, districts of Mizoram; Balasore, Keonjhar, Mayurbhanj, districts of Odisha; Gaya, Patna, Rohtas, Saran, districts of Bihar; Ghazipur, Siddharth Nagar, districts of Uttar Pradesh; Raigarh, Raipur, districts of Chhattisgarh;
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

Soil Moisture Index for the week ending on 22nd February 2017



- Soil moisture index indicates severely and moderately wet condition in many parts of Jammu & Kashmir, Himachal Pradesh, and some parts of Uttarakhand, Tamil Nadu and North-East Region. Mild wet condition in many parts of North-East Region, Punjab and some parts of Uttar Pradesh, Haryana, Uttarakhand and Tamil Nadu. Rest of the country shows Moderate and Mild dry condition.

Weather Forecast for next 5 days valid upto 0830 hours of 1st March 2017

- **Meteorological sub-division wise detailed 5 day rainfall forecast is given below.**
- Maximum temperatures very likely to rise by 2-4°C over northwest India during next 3 days; rise by 2-3°C over northeast India on 25th; remain above normal by 2-4°C over west and central India during next 4-5 days and no significant change in maximum temperatures over rest parts of the country.
- Minimum temperatures likely to fall by 1-2°C over Bihar, Jharkhand and Gangetic West Bengal during next 24 hours and no significant change thereafter; remain normal over west India except Madhya Maharashtra where it is likely to be above normal by 2-3°C during next 4-5 days and no significant change in minimum temperatures over rest parts of the country.
- Occasionally strong winds, speed reaching about 10-20KMPH likely to prevail over Haryana, Chandigarh & Delhi and Uttar Pradesh during next 2 days.

5 Day Rainfall Forecast (Mid day) 24th February 2017

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

% 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		

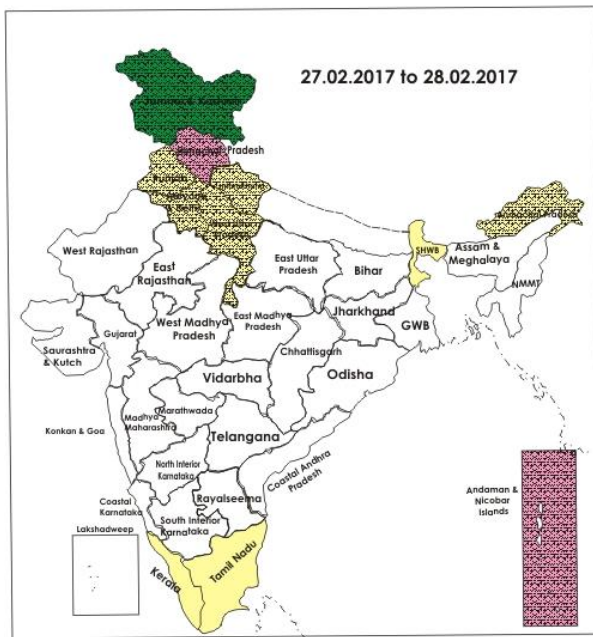
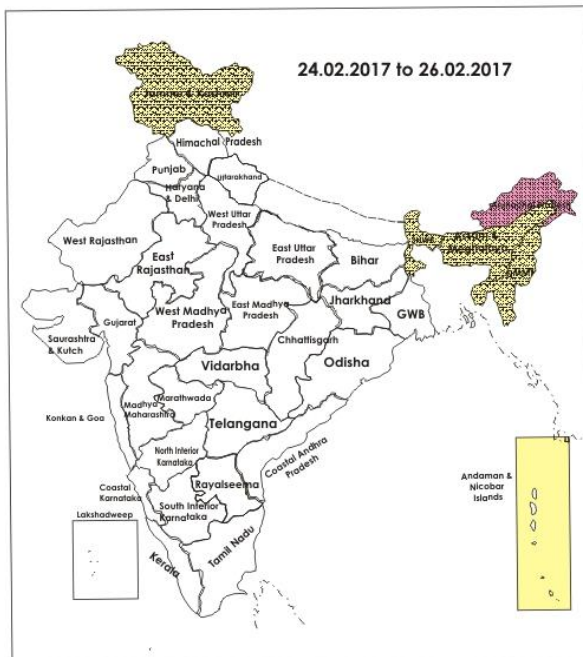
Weather Warning during next 5 days

- **24 February (Day 1):** Ground frost conditions likely at isolated places over Uttarakhand.
- **25 February (Day 2):** No weather warning.
- **26 February (Day 3):** No weather warning.
- **27 February (Day 4):** No weather warning.
- **28 February (Day 5):** No weather warning.

Weather Outlook for subsequent 2 days from 1st to 3rd March 2017

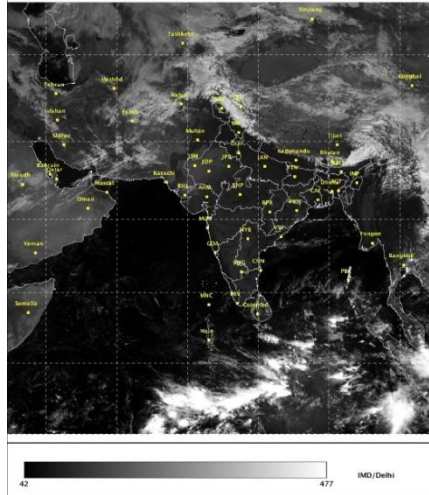
- Rain/snow at isolated places likely over Jammu & Kashmir, Himachal Pradesh and Uttarakhand.
- Rain/thundershower at isolated places likely over Andaman & Nicobar Islands.

Weather Forecast Map (valid upto 0830 hours of 1st March 2017)



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

Satellite image dated 24.02.2017, 0600 UTC



Salient Advisories

- As occasionally strong winds speed reaching about 10-20 KMPH likely to prevail over **Haryana, Chandigarh&Delhi** and **Uttar Pradesh** during next 2 days, postpone irrigation, application of fertilizer and plant protection measures in standing crops. Undertake propping up in sugarcane/staking of vegetables to prevent the crops from lodging due to strong winds.
- As ground frost conditions likely at isolated places over **Uttarakhand** on 24th February, apply light and frequent irrigation /sprinkler irrigation in the evening hours and cover young fruit plants with straw/polythene sheets/gunny bags to protect the crops from frost / cold injury.
- As rain/snow very likely at many places over Jammu & Kashmiron 28th February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- Under present hot weather conditions, apply irrigation to rabi jowar at flowering to grain formation stage, provide light irrigation to rice fallow green gram and black gram if crops are at pre flowering /pod formation stage in the Krishna Godavari Zone of **Andhra Pradesh**. In the Southern Zone of **Tamil Nadu**, apply mulch of coconut husks with convex surface facing upwards or dried coconut leaves or coir pith up to a height of 10 cm in the cocnut basin to prevent water evaporation and to conserve soil moisture. In mango orchards, spray NAA @ 20 ppm at flowering stage to increase the fruit retention.
- In **Konkan**, as dry weather is prevailing apply irrigation to summer groundnut (at 10–12 days interval) and vegetables. In transplanted *rabi* rice, maintain water level up to 5 cm. In south Konkan region, provide shade arrangement to protect the mango grafts from bright sunshine. Due to prevailing dry weather conditions and rise in maximum temperature, apply 150-200 litres of water per mango tree at 15 days interval. Mulching with grass should be done to avoid the water loss in mango orchards in lateritic soils. In **Madhya Maharashtra**, as day temperature is likely to remain above normal during next 4-5 days; apply irrigation and mulch with crop residue or plastic sheet to vegetables and orchards like pomegranate and banana. Apply irrigation to onion crop at an interval of 6-8 days. Due to prevailing dry weather conditions and rise in maximum temperature, apply 150-200 litres of water per mango tree at 15 days interval. Provide shade arrangement, to protect the mango saplings from bright sunshine.
- In **Marathwada**, as day temperature is likely to remain above normal during next 4-5 days; apply irrigation to

wheat, vegetable crops and orchards. Due to prevailing dry weather conditions and rise in maximum temperature, apply 150-200 litres of water per mango tree at 15 days interval. To protect banana from bright sunshine, cover the bunches with plastic sheet or dry leaves.

- Due to congenial weather, farmers are advised to monitor the wheat crop for occurrence of yellow rust in Central and Western Plain Zone of **Punjab**. If its symptoms are noticed, spray the crop with Tilt/Shine/Bumper/Compass/Markzole @ 200 ml in 200 litres of water/acre. Repeat the spray at 15 days interval.
- In Sub-Montane and Low Hills Sub-Tropical Zone of **Himachal Pradesh**, present weather is conducive for attack of blight in potato and tomato crops, for control, spray Carbendazim @ 1 gm per litre of water or Dithane-M-45 @ 2 gm per litre of water a non rainy day.
- In Coastal Plain Zone of **Odisha**, prevailing weather favours incidence of powdery mildew in pulses, for control, spray Sulfex @ 5g per litre of water.

Detailed Zonewise Agromet Advisories

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



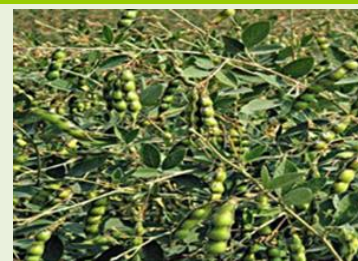
Banana



Rice



Sugarcane



Red gram

- **Realised Rainfall:** Weather remained dry over the region.
- **Realised Temperatures:** Maximum temperatures were appreciably above normal (3.1°C to 5.0°C) at many places over Telangana, Rayalaseema and interior Karnataka; at a few places over Tamilnadu. They were above normal (1.6°C to 3.0°C) at many places over Coastal Andhra Pradesh; at a few places over Coastal Karnataka, Kerala, rest Tamilnadu and near normal over rest of the region. Minimum temperatures are appreciably below normal (3.1°C to 5.0°C) at isolated places over Tamilnadu & Puducherry; They are appreciably above normal (3.0°C to 5.0°C) at isolated places over Coastal Andhra Pradesh; above normal (1.6°C to 3.0°C) at most places over Coastal Karnataka; at a few places over rest Coastal Andhra Pradesh, Interior Karnataka & Kerala and near normal over rest of the region.
- **Advisories:**
 - **Andhra Pradesh:**
 - In the Krishna Godavari Zone, under present hot weather conditions, apply irrigation to rabi jowar at flowering to grain formation stage as moisture stress causes hardening of grains. Continue providing light irrigation to rice fallow green gram and black gram, sugarcane and Bengal gram crops as per requirement.
 - In the North Coastal Zone, continue planting of sugarcane.
 - In the Krishna Godavari Zone, prevailing dry weather conditions are congenial for pod fly emergence in red gram. If the intensity is more, spray Dimethioate @ 2 ml/litre of water for control.
 - In the North Coastal Zone, prevailing weather conditions (increase in temperature and humidity) is congenial for incidence of early shoot borer in sugarcane. To control, undertake trash mulching with sugarcane trash @ 1.25 t/ac within 3 days after planting and immediately after stubble shaving in ratoon crop. Due to humid weather, mango hopper incidence may increase in mangoes. To control, spray Imidacloprid @ 0.3 ml + Carbendazim @ 1 g/litre of water.
 - In the High Altitude Zone, increase in temperatures favours the incidence of fungal diseases like blast and brown spots in rabi rice (active tillering stage). To control, spray Tricaclozole @ 0.6g/litre of water.
 - **Telangana:**
 - In North Telangana Zone, as dry weather would prevail, provide one irrigation to maize crop at tasseling stage and continue harvesting of groundnut. Leaf blast incidence was noticed in rice (tillering to maximum tillering stage). To control, spray Tricyclazole @ 0.6 g/litre of water.
 - In South Telangana Zone, prevailing dry weather condition is congenial for incidence of sucking pests in vegetables. To control, spray Dimethoate @ 2 ml or Acephate @ 1.5 g per litre of water.

▪ **Tamil Nadu:**

- In the Cauvery Delta Zone, as dry weather would prevail, continue harvesting of matured late samba/thaladi rice and nursery preparation for summer rice.
- In the Western Zone, considering the dry weather, if mango tree doesn't have flowers, spray either 0.5% urea (5g/litre) or 1% Potassium nitrate (10g/litre) to induce flowering under sufficient soil moisture. If mango has flowers, to increase fruit set, spray 2% Potassium nitrate, when sufficient soil moisture is available. apply 91Kg N + 37Kg K₂O per hectare as top dressing followed by irrigation for early season planted sugarcane more than 60 days and mid-season planted sugarcane more than 30 days.
- In the Southern Zone, apply coconut husks with convex surface facing upwards (100 Nos.) or dried coconut leaves (15 Nos) or coir pith up to a height of 10 cm in the basin of 1.8 m radius around the palms as mulch to prevent water evaporation and soil moisture conservation particularly during summer season. In mango cultivation, spray NAA @ 20 ppm at flowering stage to increase the fruit retention. During February 0.5% Urea (5 g/litre of water) or 1% Potassium Nitrate (10g/litre of water) may be sprayed to induce flowering, if trees do not flower by that time.
- In the High Rainfall Zone, irrigate pepper plants by hose irrigation or daily by drip irrigation and use transparent polythene sleeves 4% ventilation to cover banana bunches immediately after opening of the last hand.
- In the Western Zone, due to rise in temperature (both maximum and minimum), sucking pest may appear in transplanted Navarai season rice. To control, spray Phosphamidon 40SL @ 1000 ml / ha.
- In Karaikal, prevailing night temperature and high relative humidity with high dew fall during the past few days favours blast incidence in rice. To control, apply Carbendazim 50WP @ 1g/litre of water.
- In the South Zone, fruit rot disease was observed in chilli. For controlling the disease, spray Mancozeb 2 g/ litre of water three times at 15 days interval.

▪ **Kerala:**

- In the High Altitude Zone, undertake land preparation for dry ginger cultivation. In view of prevailing mainly dry weather conditions, provide heavy irrigation to cardamom once in a fortnight, apply mulch and provide irrigation in banana crop fields. Provide irrigation in vegetable crop fields once in 3-4 days and undertake pruning of coffee immediately after completion of harvest. In the Problem Area Zone, for moisture conservation, continue mulching with crop residues/organic materials in nutmeg and pepper gardens to protect plants from sun scorching.
- In the Northern Zone, for protecting coconuts from dry spell, apply coir pith/coir pith compost in the basins to increase water holding capacity, mulch the basins with dried leaves, adopt drip irrigation for improved irrigation efficiency, smear the trunks (upto 2m height from bottom) with white lime solution and protect the newly planted young seedlings from direct sunlight falling on it by providing good shades.
- In the Central Zone, undertake land preparation for puncha rice cultivation. Soak seed for 30 minutes in a solution of Pseudomonas culture @ 10g/litre of water per kg of seed to control sheath blight, sheath root, leaf spot disease etc.
- In Thiruvananthapuram of the Southern Zone, continue sowing of *puncha* rice in areas. Take necessary steps to keep moisture in the rice field. Continue irrigating vegetables and banana plants @ 40 litres/plant in 2-3 days interval to prevent formation of weak bunches and mulching in coconut and banana fields.
- In the Central Zone, high temperature is congenial for cigar end disease in banana bunches. To control the disease, spray Copper oxychloride @ 2.5 g/litre of water.
- In the Problem Area Zone, prevailing dry weather condition is congenial for incidences of blast and brown spot in rice. To control, spray 2% Pseudomonas @ 20g/litre of water.

▪ **Karnataka:**

- In Southern Transition Zone, undertake first hand weeding in already transplanted rice. Apply irrigation in ginger and turmeric once in a week; cover the partially opened rhizomes in the bed by mulches or soil in order to avoid rotting of rhizomes. Continue harvesting of matured coconut and rhizomes of ginger, turmeric.
- In view of prevailing dry weather, provide irrigation to the dry land horticultural crops and other field crops depending on soil and crop condition in Southern Dry Zone. Wherever the farmers are intending to take up paddy and sugarcane in next season, it is advised to grow green manure crop insitu and incorporate in the soil.
- In North Transition Zone, carry out harvesting of Bengal gram during early morning hours to avoid shedding of the seeds. Complete new planting of sugarcane by end of February. Continue the deep ploughing of the field.
- Due to dry weather, fruit dropping in mango is noticed in Eastern Dry Zone; to manage this, provide adequate quantity of irrigation water; adopt drip irrigation wherever it is possible.
- In North East Dry Zone, continue transplanting of paddy in the main field under irrigation. As dry weather is prevailing, provide irrigation to wheat and mango (fruit setting stage). Continue harvesting of Bengal gram, rabi sorghum and safflower.
- In Bidar district of North East Transition Zone, complete harvesting of Bengal gram, safflower pigeon pea and niger. Provide irrigation to wheat (dough stage), rabi sorghum (grain filling stage) and sugarcane.
- Prevailing dry spell condition in Southern Dry Zone is favorable for infestation of leaf hopper, thrips and powdery mildew diseases in mango; take up spraying of 4% wettable Sulphur in one liter of water for control of powdery

mildew. Hopper & thrips menace is also noticed in some of the orchards; to manage this, spray Imidacloprid @ 5.0 ml per 15 litres of water.

- Severe incidence of shoot and fruit borer is observed in brinjal in North East Dry Zone; spray Malathion @ 2 ml or Rynaxpir @ 0.3 ml per litre of water for control.
- In Southern Transition Zone, prevailing weather (cloudy condition and high humidity) is congenial for powdery mildew disease in mango; spray Sulphur @ 3 g or Tridemefon 50 W P @1 g or Carbendizim 50 WP @ 1 g or Hexaconazole 5 EC @ 1 ml per litre of water before flowering and at the time of fruit setting and repeat the spray if the incidence is more.

➤ Suitable varieties for sowing are given in Annexure III.

● **Animal Husbandry**

- In the Scarce Rainfall Zone of Andhra Pradesh, in poultry, in view of the increase in temperatures, cover water tank and lines with gunny bags to provide cool water, ensure that cool drinking water is available throughout the day, use foggers and sprinklers to reduce temperature, cover roof with coconut tree leaves or grass, white wash roof and water tank to reduce heat absorption, ensure proper cross ventilation to avoid ammonia accumulation, use pedestrian fans to increase air flow and distribute feed in cooler parts of the day (early morning or late evening).
- In the Western Zone of Tamil Nadu, considering the increase in temperature, mix 50 grams of TANUVAS smart mineral mixture per animal per day with animal feed. Provide adequate drinking water. Considering the rise in maximum temperature and high morning relative humidity, it is advised to give Foot and Mouth disease vaccination to all cattle.
- In the Northern Zone of Kerala, in view of the increase in maximum temperature, provide ad libitum pure drinking water to the dairy cattle (45 to 60 litres of water), grazing them during the cooler parts of the day, provide shade and thatched roofing of minimum 9 ft height especially for dark coloured animals, housing with ample ventilation, providing fans, misting and fogging arrangement within cattle sheds and ensuring feeding of high phosphorous containing mineral supplements along with adequate feed.

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



Mustard



Rice



Cauliflower



Wheat

- **Realised Rainfall:** Rainfall occurred in Changlang, Dibang Valley, East Siang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Upper Subansari and West Siang districts of Arunachal Pradesh; Baksa, Barpeta, Bongaigaon, Cachar, Chirang, Dhemaji, Dibrugarh, Goalpara, Golghat, Hailakandi, Jorhat, Kamrup(Rural), Karimganj, Lakhimpur, N.C.Hills, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam and East Khasi Hills district of Meghalaya. Mainly dry weather prevailed over rest of the region.
- **Realised Temperatures:** Maximum temperatures were appreciably above normal (3.1°C to 5.0°C) at a few places over Arunachal Pradesh. They were above normal (1.6°C to 3.0°C) at a few places over Assam & Meghalaya and near normal over rest of the region. Minimum temperatures are **below normal (1.6°C to 3.0°C)** at isolated places over Assam & Meghalaya. They are **markedly above normal (5.0°C or more)** at isolated places over Manipur and near normal over rest of the region.
- **Advisories:**
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Upper Brahmaputra Valley Zone of Assam, continue land preparation and sowing of direct seeded and nursery sowing of early *ahu* rice.
 - In Dhemaji, Lakhimpur, Sonitpur, Dibrugarh, Golghat, Jorhat and Sibsagar districts of North Bank Plain Zone of Assam, as temperature condition are favorable, continue sowing of summer green gram and black gram and sowing of okra, ridge gourd and sponge gourd. Undertake land preparation and sowing of directed seeded *ahu* rice.
 - In Hill Zone and North Bank Plain Zone of Assam, continue land preparation for sowing of early *ahu* (direct seeded).
 - In Central Brahmaputra Valley Zone of Assam, continue sowing of summer green gram and black gram. Continue harvesting of rapeseed and mustard and land preparation for sowing of summer vegetables and Capsularis jute.
 - In Barpeta, Bongaigaon, Dhubri and Goalpara districts of Lower Brahmaputra Valley Zone of Assam, continue nursery bed preparation for summer rice.

- In Arunachal Pradesh, continue harvesting of potato in clear weather. Continue sowing of local/early maize, cowpea and pre summer vegetables.
- In Meghalaya, continue nursery raising of brinjal and transplanting of tomato. Undertake harvesting of rapeseed, mustard, pea, chick pea, lentil and cabbage/ cauliflower.
- In North Bank Plain Zone of Assam, weather conditions are favourable for attack of blast disease in *boro* rice at maximum tillering stage. Spray Mancozeb 0.2% @ 2g/litre or Carbendazim 0.1% @ 1g/litre of water on a non rainy day for control. Also spray Chloropyriphos 20EC @ 1ml/litre against potato tuber moth in potato crop.
- In Central Brahmaputra Valley Zone of Assam, spray 2 gm Bavistin /litre of water against blast disease in wheat at vegetative/ear head emergence and flowering stage.
- In Upper Brahmaputra Valley Zone of Assam, soil and air temperatures are becoming favourable for the outbreak of stem borer in *boro* rice. Spray Dursban at recommended dose against stem borer.
- In Barak Valley Zone of Assam, there is chance of attack of stem borer in *boro* rice. To control the pest spray Chlorpyriphos 50 EC @ 2 ml per litre of water.
- In Hill Zone, due increasing temperature conditions, farmers are advised to monitor vegetable and mustard crops against attack of aphids. If infestation of aphid/ saw fly is noticed in mustard crop, spray Malathion 50EC @ 2ml/ litre.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Nagaland, soil moisture conservation techniques like mulching with crop residue is recommended in toria, rabi maize, pea and vegetables. Continue harvesting of black pepper and ginger.
- In Manipur, continue harvesting of pulses, rapeseed/ mustard in clear weather and earthing up in maize. Continue nursery sowing and transplanting of pre-*kharif* rice. Undertake harvesting of potato.
- In Mizoram, continue transplanting of onion and capsicum.
- In Tripura, transplant the young seedlings of summer brinjal & tomato to the main field and give light irrigation. Continue harvesting of mustard, lentil, banana and potato in clear weather.
- In Manipur, to control the infestation of stem borer in rabi maize at vegetative stage, apply few granules of Carbofuran 3G at maize whorl.
- In Nagaland, to kill the trunk borer grubs in Mandarin tree, clean the bored holes of the infested trunk with iron wire and insert a cotton swab soaked in the mixture of kerosene and water (1:1) and plug with mud. Also spray Bordeaux mixture @ 1% or neem oil @ 10ml in 1 litre of water against Scab and canker in Mandarin.
- In Tripura, due to cloudy weather condition, there is chance of attack of stock rot in *rabi* maize. Spray Mancozeb 2ml per litre of water. Also spray Fipronil @ 2g per liter of water against attack of Yellow Stem Borer in *boro* rice.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Meghalaya, undertake regular immunization of cattle & buffaloes against Foot & Mouth disease, Hemorrhagic Septicemia & Black Quarter.
- In Hill Zone of Assam, all pigs should be vaccinated against swine fever at the age of 2-4 weeks. Adequate clean water should be made available for livestock. Keep the vicinity of the farms clean to control parasitic infestation.
- In Barak Valley Zone of Assam, during this time goat may be attack by Blister disease in facial/ nasal area. Wash with Potassium permanganate and consult nearby Veterinary Dispensary for anti biotic cream and further treatment.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Mustard



Sugarcane



Wheat

- **Realised Rainfall:** Weather remained dry over the region.
- **Realised Temperatures:** Maximum temperatures were appreciably above normal (3.1°C to 5.0°C) at most places over Marathwada; at many places over Madhya Maharashtra; at a few places over Saurashtra & Kutch, Vidarbha; above normal (1.6°C to 3.0°C) at a few places over rest Vidarbha, Konkan & Goa; at isolated places over Gujarat region and near normal over rest of the region. Minimum temperatures are **appreciably above normal (3.0°C to 5.0°C)** at isolated places over Madhya Maharashtra and Gujarat. They are **above normal (1.6°C to 3.0°C)** at isolated places over Konkan & Goa and near normal over rest of the region.
- **Advisories:**

➤ **Maharashtra:**

- In Konkan, as dry weather is prevailing apply irrigation to summer groundnut (at 10–12 days interval) and vegetables. In transplanted *rabi* rice, maintain water level up to 5 cm. In south Konkan region, provide shade arrangement to protect the mango grafts from bright sunshine (maximum temperature above 32°C). Due to prevailing dry weather conditions and rise in maximum temperature, apply 150-200 litres of water per mango tree at 15 days interval. Mulching with grass should be done to avoid the water loss in mango orchards in lateritic soil.
- In Madhya Maharashtra as day temperature is likely to remain above normal during next 4-5 days; apply irrigation and mulch with crop residue or plastic sheet to vegetables and orchards like pomegranate and banana. Apply irrigation to onion crop at an interval of 6-8 days. Due to prevailing dry weather conditions and rise in maximum temperature, apply 150-200 litres of water per mango tree at 15 days interval. Provide shade arrangement, to protect the mango saplings from bright sunshine (maximum temperature above 32°C). Continue harvesting of jowar, safflower, red gram and early sown wheat. Harvesting should be done during morning hours.
- In Marathwada, as day temperature is likely to remain above normal during next 4-5 days; apply irrigation to wheat, vegetable crops and orchards. Due to prevailing dry weather conditions and rise in maximum temperature, apply 150-200 litres of water per mango tree at 15 days interval. To protect banana from bright sunshine, cover the bunches with plastic sheet or dry leaves. Continue harvesting of jowar, safflower, red gram and early sown wheat. Harvesting should be done during morning hours. Continue sowing of fodder crops like napier, maize, jowar and bajra with assured irrigation.
- In Vidarbha, continue sowing of summer sesame. Continue sowing of fodder crops like napier, maize, bajra and jowar. Apply irrigation to summer groundnut and wheat crops. Maintain water level of 3-5 cm in summer rice field in East Vidarbha. As day temperature is likely to remain above normal during next 4-5 days; apply irrigation to vegetable crops and orchards crops like orange and sweet lime in Central Vidarbha region. Also apply mulch of crop residue to the orchards.
- Due to diurnal variation in Madhya Maharashtra, Marathwada and Vidarbha, there may be attack of white fly in vegetable crops like cabbage, cauliflower, pea and fruit crops like pomegranate; spray Verticillium @ 40 g or Imidachloprid @ 5ml per 10 litres of water.
- Due to rise in maximum temperature in Marathwada region, spider mites may be observed in wheat; spray Sulphur 80 WP @ 2 g or Dimethoate @ 1.5 ml or Dicofol @ 1 ml per litre of water.

➤ **Gujarat:**

- Undertake land preparation for sowing of sesame, sowing of summer groundnut, okra, cluster bean and cowpea for summer season vegetables in North West Zone of Gujarat. Apply irrigation in wheat.
- In South Saurashtra Zone, continue harvesting of wheat, chickpea, cumin and coriander. Procure good quality seeds of sesame; carry out sowing of summer sesame. Apply irrigation in vegetable crops at an interval of 6-8 days.
- In North Saurashtra Zone, complete harvesting of wheat, chick pea, cumin and coriander. Continue sowing of summer groundnut and undertake sowing of sesame in time. Continue transplanting of brinjal, sowing of bottle gourd, bitter gourd, sponge gourd, ridge gourd, cluster bean and water melon.
- As temperature conditions are favourable, undertake land preparation for sowing of groundnut, sesame, pearl millet, undertake sowing of okra, cluster bean and cowpea for summer season vegetables in North Gujarat Zone. Continue transplanting of brinjal seedlings. Carry out weeding and earthing up operations in papaya and apply the irrigation as per requirement. Plan for sowing of summer fodder crops viz., sorghum and maize.
- In South Gujarat Zone, apply irrigation in vegetable crops at an interval of 3-4 days and in mango crop at an interval of 15 days.
- In South Gujarat Heavy Rainfall Zone, continue land preparation for sowing of groundnut and pulses, continue transplanting of rice, tomato and cole crops. Complete planting of sugarcane by end of February.
- In North West Zone and Middle Gujarat Zone of Gujarat, continue harvesting of matured spikes of castor. Continue land preparation for sowing of summer crops.
- Due to favorable weather condition there is a chance of blight disease in tomato crop in North West Zone and North Gujarat Zone; spray 0.25% Mencozeb @ 30 g in 10 litres of water with 10 g desi soap solution to manage the disease.
- Due to partly cloudy weather there is possibility of occurrence of pod borer in gram in North Gujarat Zone; if infestation is above ETL, spray Quinalphos @ 20 ml in 10 litres of water.
- Under increasing temperature condition, there is chance of aphid infestation in mustard and cumin in North West Zone of Gujarat and in cumin, mustard and fennel in North Gujarat Zone; for effective control of aphid, spray Dimethoate @ 10 ml/10 litres of water.
- In present weather conditions attack of thrips in garlic has been reported in North Saurashtra Zone; alternative sprays of Imidachloprid 30.5 SC @ 3 ml and Profenofos @ 20 ml in 10 litres of water at 10 days interval is recommended. Alternaria blight and purple blotch disease infestation is observed in garlic crop; increase periods between irrigations; provide two sprays of Mencozeb @ 27 g or Thiophanae Methyl @ 12 g/10 litres of water at 10 days interval.
- Suitable varieties for sowing are given in Annexure III.

- **Animal Husbandry**
- In Gujarat, provide adlib water to lactating animals. Udder of milking animals must be properly cleaned with Zinc Oxide or Boric powder. Spray Deltamethrin or Amitraz @ 2 ml/litre of water for the control of tick and for prevention of foot & mouth disease in animals, do vaccination with FMD vaccine.

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



Rice



Okra



Maize



Wheat

- **Realised Rainfall:** Weather remained mainly dry/dry over the region.
- **Realised Temperatures:** Maximum temperatures were appreciably above normal (3.1°C to 5.0°C) at many places over Odisha; at a few places over Sub Himalayan West Bengal & Sikkim. They were above normal (1.6°C to 3.0°C) at a few places over Gangetic West Bengal, Lakshadweep and near normal over rest of the region. Minimum temperatures are **below normal (1.6°C to 3.0°C)** at isolated places over Jharkhand. They are **appreciably above normal (3.0°C to 5.0°C)** at isolated places over Odisha, Andaman & Nicobar Islands and near normal over rest of the region.
- **Advisories:**
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, as temperature conditions are favourable, complete sowing of summer groundnut and sunflower. Continue harvesting of sugarcane. Complete transplanting of rice. Keep a thin film of water while transplanting.
 - In Deogarh and Sundargarh districts of North Eastern Plateau Zone, complete sowing of mung, Biri and Peas. Continue transplanting of rice.
 - In North Eastern Coastal Plain Zone, due to sunny weather and rise in temperature, apply irrigation in the maize crop immediately after fertilization and in sunflower.
 - In North Eastern Ghat Zone, complete transplanting of rice seedlings and sowing of cowpea, sunflower.
 - In Mid Central Table Land Zone, due to temperature fluctuation, infestation of Tobacco caterpillar will aggravate in cole crops. To control it, spray Flubendiamide @ 5g/15 litres of water.
 - In Mid Central Table Land Zone, the rise in temperature coupled with sunny weather favours attack of powdery mildew in pulses. To control spray Sulfex @ 5g/litre of water above ETL.
 - In Western Undulating Zone, irrigate the mango orchards once in a week as dry weather is forecasted during this period. To control mango thrips infestation at this stage leading to shedding of flowers and fruits, spray Imidacloprid 17.8 SL or Thiomethaxome 25% WG 0.3ml/litre of water for its control. Spray planofix 0.2ml/lit water after one month of flowering or at fruit initiation stage.
 - In East and South Eastern Coastal Plain Zone, cloudy weather favours the infestation of aphids and powdery mildew in pulses. Spray 50 ml Imidacloprid or 400 ml Dimethoate or Metasystox in 200 litre water per acre to control aphid and spray 5 g Sulfex in 1 litre water to control powdery mildew.
 - In East and South Eastern Coastal Plain Zone, current moderate temperature favours thrips infestation in groundnut. Spray 400 ml Dimethoate or 50 ml Imidachloprid in 200 litre water per acre. Tika disease and white ant attack have occurred. Spray 500 g Blitox - 50 in 200 litre water per acre for Tika and spray 2 ml Chloropyriphos in 1 litre water for controlling white ant attack. Bacterial wilt has been found in summer groundnut. Spray 1 g Streptocycline/10 litre water thoroughly to the root zone to control it.
 - In North Eastern Coastal Plain Zone, due to rise in temperature, attack of stem borer may be aggravated in rice field. Install Scirpo lure pheromone trap @ 15 no./ha to monitor its population. If the damage is above ETL, apply Chlorantraniliprole 0.4% GR @ 10 kg/ha.
 - **West Bengal:**
 - In Burdwan, Murshidabad, Nadia, North 24 Parganas districts of New Alluvial Zone, undertake weeding and top-dressing in boro rice at tillering stage after 21 days after transplanting. Also apply irrigation in potato and mustard as per requirement.
 - In Purba Mednipur and North 24 Parganas district of Coastal Saline Zone, continue land preparation for sowing of green gram and sesame. Give one light irrigation where sowing is completed one week before.
 - In Hill Zone, undertake sowing of maize and continue harvesting of mustard, tomato as per maturity.

- In Bankura, Birbhum and Purulia districts of Laterite & Red Soil Zone, at tillering stage of boro rice, farmer are advised to maintain the water level up to 2 cm in the fields. If weeds are noticed in the field, remove the weeds by hand weeding and keep the bunds clean.
- In Malda & Dakshin Dinajpur districts of Old Alluvial Zone of West Bengal, prevailing weather is congenial for attack of stem borer in maize and tikka disease in groundnut. Apply Phorate 10G @ 4 kg/ acre at the time of second earthing up in maize , to control Tikka disease of groundnut, spray Carbendazim @ 1gm/liter of water.
- In New Alluvial Zone, in the prevailing weather condition, root-rot disease is may be prevalent in sunflower. To control, apply @ 1gm Brassicol per litre of water.
- In Coastal Saline Zone, blast attack may be found in boro rice due to dense morning fog, low night and high day temperature. Apply Tricyclozole @5-6g/10litre of water at 10 days interval.
- **Andaman and Nicobar Islands:**
- In North, Middle and South Andaman, spray DAP @ 2 % (20 g/lit) in pulses during flowering stage for uniform flowering. Start Micro irrigation system in the plantation crops of arecanut and coconut during peak dry season.
- In Nicobar, collect the dropped coconuts from the community garden and dry it for copra production.
- **Bihar:**
- In Araria, Katihar, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, undertake land preparation for sowing of *Sada Jute*. Complete the transplanting of *boro* rice and use 20-25 days old seedling of *boro* rice and planting of spring sugarcane. Maintain minimum water (3-5 cm) in the fields.Undertake preparation of seedling of early cucurbitaceous crop, chilli, tomato and brinjal should be done in small polythene bags in poly house.
- In South Bihar Alluvial Zone of Bihar, in present weather condition, complete the transplanting of young seedlings of tomato, chilli and cole crop. Farmers are advised to maintain optimum moisture for proper development of grains of mustard crop is in grain filling stage and provide light irrigation in standing crops and vegetables as per requirement.
- In Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, undertake sowing of summer maize, summer crop, sunflower, folder crop and summer vegetables such as okra, pumpkin, cucumber, sponge gourd ridge guard, bitter guard. Provide irrigation in standing vegetables.
- In North West Alluvial Zone, in prevailing weather condition, aphid infestation may be found in mustard. If insect population is observed above ETL, spraying of Dimethoate 30EC @ 1ml/litre of water. To control thrips infestation in onion, spraying of Profenofos@1ml/litre of water or Imidacloprid @1ml/4 litre of water.
- In North East Alluvial Zone, in present weather condition, constant monitoring of aphids is advised in mustard crop. If insect population is above ETL, spraying of Rogar or Quinalphos @ 2 ml/litre of water is recommended. In present weather condition, powdery mildew disease is likely to be more prominent in pea. Spray of Kairathen@1ml or Sulfex @ 3ml/litre of water should be done to prevent it from further spreading.
- **Jharkhand:**
- In Central and North Eastern Plateau Zone, continue nursery sowing of summer rice and prepare field for sowing of vegetable like long gourd, round gourd, bitter gourd, sponge gourd, cucumber, water melon and musk melon. Continue nursery sowing of onion.
- In South Eastern Plateau Zone, go for irrigation to wheat crop depending on moisture content. High humidity favours the occurrence/spread of loose smut disease hence, at this stage if loose smut is seen on earhead try to uproot and bury the plants very carefully inside the soil.
- In South Eastern Plateau Zone , humidity as well as fluctuation in day and night temperature coupled with cool, humid and foggy in morning and later on clear sunny weather favours the occurrence of apihds on mustard crop, spraying of Metalaxil (Methyl dematone) or Roger (Dimethoate) @ 1ml per liter mixed with teepol @ 5 ml per liter is recommended.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Terai Zone of West Bengal, vaccination is the principal way to protect animals from Black Quarter (BQ) and Foot and Mouth Disease (FMD). Vaccinate to poultry bird against Fowl pox and Ranikhet/ ND disease.

CENTRAL INDIA [M.P., CHHATTISGARH]



Gram



Cabbage



Mustard



Wheat

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Realised Temperatures:** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at many places over Chhattisgarh. They were **above normal (1.6°C to 3.0°C)** at a few places over Madhya Pradesh and near normal over rest of the region. Minimum temperatures are **appreciably below normal (3.1°C to 5.0°C)** at isolated places over East Madhya Pradesh; **below normal (1.6°C to 3.0°C)** at a few places over rest East Madhya Pradesh. They are **above normal (1.6°C to 3.0°C)** at isolated places over Madhya Pradesh and near normal over rest of the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - In Betul and Chhindwara districts of Satpura Plateau Zone, undertake land preparation and sowing of moong and groundnut at the earliest. Apply irrigation to wheat at milk/ grain filling stage and in gram.
 - In Malwa Plateau Zone, apply irrigation in wheat at milk/ grain filling stage as per requirement. Continue nursery preparation of summer vegetables like tomato, chilli, brinjal etc and sowing of cucurbits and okra.
 - In Kymore Plateau and Satpura Hill Zone, apply irrigation at heading stage in wheat. Undertake harvesting of pea and potato.
 - In Jhabua, Alirajpur and Dhar districts of Jhabua Hills Zone, apply irrigation in wheat at milky and dough stage. Continue nursery preparation for cucurbitaceous crops and tomato, brinjal, cauliflower, cabbage etc. Continue harvesting of pre sown semi irrigated/early maturing variety of wheat crop, early sown gram and mustard.
 - In Nimar Valley Zone, continue land preparation and sowing of summer moong and vegetables.
 - In Gwalior, Bhind, Morena, Guna, Ashoknagar and Shivpuri districts of Gird Zone, continue sowing of cucurbitaceous crops in the polythene bags and nursery preparation for summer vegetables.
 - In Vindhya Plateau Zone, undertake harvesting of gram, wheat and other matured *rabi* crops.
 - In Bundel khand Zone, continue sowing of vegetables like pumpkin, bitter gourd etc.
 - In Nimar Valley Zone, spray Neem oil @ 1ml/litre of water to control sucking pests in onion.
 - In Bundel khand Zone, due to rise in temperature there are chances of attack of pod borer in chickpea crop, spray Flubendiamide 39.35% S.C. @ 100g per hectare.
 - In Malwa Plateau Zone, due to humid weather there are chances of pod borer in gram, spray Quinolphos 25 EC @ 2 ml/litre of water.
 - **Chhattisgarh:**
 - In North Hill Zone, in view of prevailing dry weather, apply irrigation in wheat at heading stage. Undertake sowing of summer moong (green gram) and planting of spring sugarcane. Continue sowing of cucurbitaceous crop. Continue harvesting of matured potato and matured mustard.
 - In Bastar Plateau Zone, apply irrigation in chickpea, oilseeds, pulses, wheat, pea and linseed. As temperature conditions are favourable, undertake sowing of summer moong, til, summer vegetables like okra, sponge guard, cucumber, ridge guard watermelon, muskmelon and bitter gourd. Continue planting of summer sweet potato and harvesting of mustard.
 - In Chhattisgarh Plain Zone, undertake sowing of summer green gram. Apply irrigation in wheat and gram. Continue sowing of vegetables like pumpkin, bitter gourd, bottle gourd, okra etc.
 - In North Hill Zone and Chhattisgarh Plain Zone, in summer paddy, farmers are advised to fix pheromone traps and light traps in the fields for the control of stem borer. Also farmers are advised to spray Saaf fungicide @ 2 g per liter of water to control of purple blotch in onion.
 - In Chhattisgarh Plain Zone, to control fruit borer in okra and brinjal, use pheromone traps @ 10 Nos/acre and destroy the upper portion of affected plants.
 - Suitable varieties for sowing are given in Annexure III.
 - **Animal Husbandry**
 - In Bastar Plateau Zone of Chhattisgarh, to protect livestock from diseases like Hemorrhagic Septicaemia (H.S.), Black quarter (B.Q.), Anthrax, Theileriosis etc. consult the veterinary Doctor and vaccinate. Undertake de worming in cattle with medicines like Piparagen, Benminth & Panaraquar.
 - In Kymore Plateau and Satpura Hill Zone of Madhya Pradesh, during night hours, poultry sheds should be lighted with 200W bulb to protect birds against cold.
 - In Malwa Plateau Zone of Madhya Pradesh, to control of respiratory diseases in poultry birds, give Furazole @ 1 gram for adult and ½ gram for small birds. Medicine should be dissolved in 1 litre of water.
 - **Fishery**
 - In North Hill Zone of Chhattisgarh, as temperature is increasing and it will favour the growth of fishes. Hence, add cow dung and lime in the pond as natural food for fishes and alternative feeds may also be used like Rice Bran and Mustard cake (each of 5 kg per day per acre area of pond).

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



Mustard

Maize

Cauliflower

Wheat

- **Realised Rainfall:**Rainfall occurred in Chamba, Kullu, Lahaul and Spiti and Mandi districts of Himachal Pradesh; Anantnag, Baramula, Doda, Ganderbal, Kulgam, Kupwara, Pulwama, Rajouri, Ramban, Srinagar and Udhampur districts of Jammu and Kashmir. Weather remained dry over rest of the region.
- **Realised Temperatures:**Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Jammu & Kashmir. They were **above normal (1.6°C to 3.0°C)** at most places over Himachal Pradesh, Uttarakhand and West Rajasthan; at many places over Haryana, Jharkhand; at a few places over Punjab and near normal over rest of the region. Minimum temperatures are **below normal (1.6°C to 3.0°C)** at isolated places over Jammu & Kashmir, Uttar Pradesh. They are **above normal (1.6°C to 3.0°C)** at a few places over Jammu & Kashmir and at isolated places over Rajasthan and near normal over rest of the region. The lowest minimum temperature of **6.6°C** recorded at **Churu (West Rajasthan)** in the plains of the country.
- **Advisories:**
 - As occasionally strong winds speed reaching about 10-20 KMPH likely to prevail over **Haryana, Chandigarh&Delhi** and **Uttar Pradesh** during next 2 days, postpone irrigation, application of fertilizer and plant protection measures in standing crops. Undertake propping up in sugarcane/staking of vegetables to prevent the crops from lodging due to strong winds.
- **Jammu & Kashmir:**
 - As rain/snow very likely at many places over Jammu & Kashmir on 28th February, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone and Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, clear drainage channels in standing crops, vegetable fields and in saffron fields. Provide staking with dry wooden branches to garden pea. Continue nursery preparation of summer vegetables under protected structures. Undertake transplanting cucurbits in main field. Undertake weeding and hoeing operation in onion and garlic crop in clear weather.
 - In Valley Temperate Zone of Jammu and Kashmir, in high frost condition, undertake raising of nursery for sowing of summer vegetables in hot beds and poly house. Maintain drainage channels in the standing crop field of saffron, wheat, and other standing crop. Undertake sowing of leafy vegetables in poly house.
 - In Cold Arid Zone of Leh, apply second dose of nitrogenous fertilizer in cabbage, cauliflower and broccoli in green houses. Timely irrigation should be applied at 7-10 days intervals. Continue harvesting of Chinese cabbage (namely Pakchoi, leafy palampur green), Palak, knolkhol and Lettuce in protected structures.
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone and Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, the prevailing weather conditions are favourable for infestation of yellow rust in late sown wheat crop, alternia blight/aphids in mustard crop and wilt and blight on gram crop; monitor the crops regularly and take proper plant protection measures if noticed on a non rainy day.
- **Uttarakhand:**
 - As ground frost conditions likely at isolated places over Uttarakhand on 24th February, to arrange for smoking around the fields during night, apply light and frequent irrigation /sprinkler irrigation in the evening hours and cover young fruit plants with straw/polythene sheets/ gunny bags to protect the crops from frost / cold injury.
 - In Udham Singh Nagar district of Bhabar and Tarai Zone, continue sowing of sunflower varieties like Mordan, Surya and Sankul variety of maize like Naveen, Shweta, Navjot, Kanchan, Surya, Gaurav, Sweet corn; Madhuri and hybrid maize variety Ganga-11. Continue field preparation for sowing of bottle gourd, bitter gourd, ridged gourd and pumpkin. Light irrigation should be provided in Gram crop before flowering. Don't irrigate at flowering stage otherwise production would be reduced.
 - In Nainital district of Bhabar and Tarai Zone, complete harvesting of mustard and toria in clear weather. Complete field preparation for Chappankaddu (summer Squash), i.e. clearing and deep ploughing of field should be done as well as mulching should be done for moisture conservation. Continue nursery sowing of tomato, capsicum and brinjal for sowing in mid and high hills. As temperature is increasing in coming days in the valleys, Arka komal and Contender variety of French bean should be sown.
 - In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, irrigate wheat crop as per availability of moisture in the soil. Undertake field preparation for spring sugar plantation.

- In Bhabar and Tarai Zone, there may be occurrence of Mahu in mustard crop, spray Thiamethoxam 25 WSG @ 50-100g/ha. There may be attack of fruit borer in gram and lentil crop at the time of flowering, spray Melathion 50EC @ 2.0 litre/ha or Quinalphos 25 EC @ 1.5litre/ha in 500-600 liter of water on a non rainy day.
- In TehriGarhwal, Chamoli, Champawat, Pithoragarh, Rudraprayag and Uttarkashi districts of Hill Zone, continue the weeding and hoeing in vegetable crops. Continue nursery preparation for chilli,tomato and brinjal in poly houses. Prepare seedlings of early cucurbitaceous crops in small polythene bags in poly houses.
- In Bhabar and Tarai Zone, weather is favourable for late blight disease in potato and tomato crop, spray Mancozeb @ 2.5g/litre andthere may be incidence of yellow rust disease in wheat crop, spray Propiconazole 25EC @ 1ml/litre of water on a non rainy day.
- **Himachal Pradesh:**
- In Himachal Pradesh, protect the nurseries of vegetables and forests plants and crops from frost in lower regions. Cover nursery with polythene sheet to protect from frost.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, continue land preparation for sowing of early crop of bhindi, seed rates should be 10-15 kilogram per acre. Continue sowing of spinach, coriander, fenugreek in present weather conditions. Continue sowing of French bean, cluster bean, summer radish as present temperature is suitable for germination of seeds. Continue transplanting of young seedlings of tomato, chilli and cole crop. In mid hill region continue nursery sowing of cucurbits viz. cucumber, bitter gourd, bottle guard and summer squash in polytubes inside polyhouse. Do the earthing up operation in the early sown potato crop. Continue sowing of early crop of ladies finger with seed rates 10-15 kilogram per acre. Sow chari and bajra for summer green fodder.
- In Mid Hills Sub humid Zone of Himachal Pradesh, continue nursery sowing of tomato, capsicum, brinjal, chilli in lower hills area.Avoid pruning in apple and pear orchards and stone fruits as heavy snow fall is expected. Continue preparation of tree basins and start pruning by removing diseased and dense unwanted branches etc. in pomegranate orchards.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of blight in potato and tomato crops, for control, spray Carbendazim @ 1.0 gm per litre of water or Dithane-M-45 @ 2.0 gm per litre of water a non rainy day.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of yellow rust in the wheat crop for control spray Tilt (Propiconazole) 25 EC/Folicure (Tebuconazole) 25 EC/Bayletan 25 WP @ 0.1% i.e. 30ml or 30 g per 30 litres of water per kanal and repeat the spray after 15 days interval on a non rainy day.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, present weather is conducive for attack of damping off disease in vegetable crop, for control mix thoroughly Dithane M 45 dust @ 10 to 15 g in 1 X 3 metre beds. For control of powdery mildew in peas, spray Celfex @ 25 g per 10 litres of water or Karathane @ 5 ml per 10 litres of water on a non rainy day.
- **Punjab, Haryana and Delhi:**
- In Western Plain Zone of Punjab, provide light irrigation to the wheat crop at booting / flowering stage when wind speed is less. Procure the seeds of okra varieties Punjab Padmini/ Punjab 7/ Punjab 8 for better yields for sowing in this season.
- In Western zone of Punjab, provide light irrigation to the vegetable crops when wind speed is less and monitor the crops regularly for the incidence of pest and diseases.Continue transplanting of the capsicum and chilli. Irrigate the field after transplanting of seedlings and repeat the irrigation once a week. Fill the gaps after 7-10 days to ensure a complete plant population of the crop.
- As weather conditions are favourable, continue planting of sugarcane in Western Plain zone of Punjab. Use recommended varieties i.e. Co-118, CoJ-85, CoJ-64 (early maturing), Co-238, CoPB-91, CoJ-88, CoS-8436 for mid season and CoJ-89 for late maturing. The planting sets should be free from diseases like red rot, wilt, ratoon-stunting and grassy shoot.
- In view of the anticipated dry weather conditions irrigate the wheat crop in Eastern zone of Haryana and there should be no water stress at anthesis stage. Undertake planting of spring season sugarcane. Apply irrigation and undertake cutting of fodder crops.
- In New Delhi, keeping in view of the increasing temperature, apply light irrigation in standing crops and vegetables, start field preparation for sowing of ladies finger- A-4, Parbani Kranti and Arka anamika cultivars. Seed rates should be 10-15 kilogram per acre. Undertake sowing of French bean, cluster bean, summer radish as present temperature is suitable for germination of seeds.
- Farmers in New Delhi are advised to procure quality seeds for green gram and black gram from certified source for sowing during first week of March. Variety: - Green gram – Pusa Visal, Pusa Baisakhi, PDM-11, SML-32 and Black gram – Pant Urd 19, Pant Urd 30, Pant Urd 35, PDU-1. Undertake planting of sugarcane in vacant fields. Choose the best varieties recommended for the region, such as Karnal-1, Karnal-2, Karnal-3, Karnal-4, Kernal-5, and Kernal-6 etc. Row to row spacing of 90 cm. Inter-cropping of short duration crops like lobia, guar, moong,

- spinach, amaranthus etc. may be done with sugarcane.
- In New Delhi, in present weather condition, constant monitoring of the wheat crop against rust disease is advised. If symptoms of black, brown or yellow rust appears, spray the crops with Dithane M-45 @ 2.5 g per litre of water.
 - In Western Zone and Western Plain zone of Punjab, to control purple blotch in onion, spray the crop with 600 g of Indofil M-45 mixed with 200 ml of Triton or linseed oil in 200 litres of water per acre as soon as first symptom of purple blotch appears in the crop. The spray should be repeated at 10 days interval.
 - Weather is conducive for severe attack of mustard aphid in Western Plain Zone of Punjab. Monitor the crop regularly, if pest population reaches to ETL, spray the crop with Actara 25 WG @40g /acre. If crop is raised for vegetable (saag) purpose, use Malathion only @ 400g/acre. Wait for one week after spraying to pluck saag.
- **Uttar Pradesh:**
 - In Central Plain Zone of Uttar Pradesh, undertake land preparation for sowing of summer moong. Give irrigation to wheat and sarson crop as per requirement. Avoid irrigation to standing gram crop which is in flowering stage. Undertake sowing of maize and urad crop. Undertake transplanting of onion in main field. Undertake sowing of cucurbits.
 - In Bundelkhand Zone of Uttar Pradesh, in Eastern part of Bundelkhand Zone, apply third irrigation at 60 to 65 days after sowing and 4th irrigation after 80 to 85 days of sowing as per requirement. Continue transplanting of cauliflower, cabbage, tomato, chilli, brinjal. Continue sowing of bhindi, Cucurbitaceous vegetables.
 - In Eastern plain Zone of Uttar Pradesh, apply irrigation in wheat crop at ear emergence stage as per requirement in clear weather to late sown wheat. Undertake planting of spring sugarcane. Continue transplanting of *rabi* onion. Continue digging of matured potato. Continue sowing of vegetables like okra, bitter gourd, lobia, bottle gourd etc.
 - In North Eastern plain Zone of Uttar Pradesh, continue transplanting of onion.
 - In Central Plain Zone of East Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of pod borer in gram crop, for control spray H.A.N.P.V. @ 250 ml in 350 to 400 litres of water per hectare.
 - In Bundelkhand Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of aphid in mustard, lentil, linseed and other *rabi*crops, for control spray Monocrotophos @ 1.25 litres in 600 litres of water per hectare.
 - In Bundelkhand Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of termite in wheat crop, for control, apply Chlorpyrifos @ 3.0 litres along with irrigation.
 - In North Eastern plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of alternaria blight and mustard aphid in mustard crop at flowering stage, for control spray 0.2 % Ridomil MZ and 0.2 % Monocrotophos
 - **Rajasthan:**
 - In Sub Humid Southern Plain and Aravali Hill Zone, in Bhilwara, Chittorgarh, Rajsamand, Sirohi and Udaipur districts, apply irrigation in wheat crop at the time of ear head emergence stage. Continue nursery sowing of chilli, 1 to 1.5 kg chilli seed required for one hectare area. Before sowing, treat seeds with trichodermaviridae@ 4 g per kg seeds. Continue sowing of summer okra with varieties PusaSavani, Arkaanamika, ArkaAbhya, Aajadkranti, Prabhnikranti, Pusa-A-4 ect. Continue sowing of summer groundnut with varieties are T.A.G.24, T.G.37A, G.G.2, D.H.86.
 - In Dungarpur, Banswara and Pratapgarh districts of Southern Humid Plain Zone, apply third irrigation in wheat at jointing stage. Continue intercultural operation in maize crop and irrigate with top dressing of nitrogen at the knee high stage. Farmers are also advised to be applied irrigation in gram and mustard at pod formation stage.
 - In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhapur districts of Flood Prone Eastern Plain Zone, stop irrigation 10 days before digging of matured potato crop. Dig using potato digger after drying of leaves and hardening of skin to minimize labour cost and cut injury to tubers.Undertake harvesting of matured mustard crop.
 - In Jaisalmer and Bikaner districts of Arid Western Plain Zone, give 5th irrigation to normal sown wheat crop at milk stage. To late sown wheat give 4th irrigation at ear head emergence stage.
 - In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, undertake harvesting of matured mustard crop. Prepare nursery for summer chilli crop. Undertake sowing of summer cucurbits.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganaganagar, continue harvesting of matured sugarcane. Apply third irrigation to timely sown wheat crop at 25-30 days after sowing and in mustard crop at 90 to 100 days at grain filling stage. Apply second irrigation in gram at 90 to 100 days after sowing at pod formation stage. Apply second irrigation in jou crop at 65 to 70 days and third irrigation at 100 to 110 days after sowing.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather is favourable for sowing of Zaid Green gram, Zaid groundnut, Okra, Zaid sorghum (fodder), Zaid Pearl millet (fodder) & early summer cucurbits like bottle gourd, round guard, bitter guard, water melon and musk melon.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of fruit borer in tomato and brinjal crops, to control, spray Asiphet 75 S.P. 0.5 gram per litre of water. Also Gram pod borer (*Heliothis*) insect is likely to attack gram crop at pod formation stage. Dust Malathion 2% or Carboryl 5% dust @ 25 kg per hectare.

- In Barmer, Churu, Jalore, Jodhpur, Pali districts of Arid Western Plain Zone, prevailing weather may increase the infestation of aphid and other sucking pests, to control spray Thiomethoxam(25WG) 100g or Dimethoate 30EC @ 1200ml per hectare.
- Suitable varieties for sowing are given in Annexure III.
- **Horticulture**
- In Central Plain Zone of East Uttar Pradesh, continue sowing of lady finger and lobia as intercrop in guava, and Anola orchards. Raise nursery for sowing of tomato and chilli.
- In Western Plain Zone of Uttar Pradesh, in present weather, wrapping of plastic sheets around mango trunk should be done for preventing climbing of young (nymphs) mealy bugs. Apply grease to seal any cracks in the polythene sheets.
- In Himachal Pradesh, prepare the pits for planting the winter plants like peanut, walnut, almond plum and peach. The new plant planted in frost affected region may be protected with thatch of grass.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, do not remove the thatching material from the plants. Due availability of sufficient moisture, apply well rotten FYM/chemical fertilizer to the fruit plants. Undertake spring season planting of fruit plants like mango/citrus/guava.
- In Bhabar and Tarai Zone of Uttarakhand, undertake planting of fruit crops like apple, pear, plum, wall nut etc. To control the Canker disease in the apple, apply 0.3% Copper-Oxichloride after cutting and pruning.
- In Western Zone of Punjab, apply 500 g of urea and 400 g of murate of potash/plant to grapes after pruning. Similarly, apply 500 g urea/plant to pear and 180 g urea/plant to plum. In view of dry weather forecast during next 4-5 days, apply light irrigation to the fruit trees.
- **Floriculture**
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, prevailing weather condition is congenial for attack of aphid in rose, for control spray Malathion @ 0.1% at the most three times at 10 day intervals.
- In Himachal Pradesh, present weather is conducive for the attack of inflorescence rotting disease in marigold crop for control spray Bavistin @ 1 g per litre of water or Indofil-M 45 @ 2 ml per litre of water and undertake intercultural operations and weeding in flower beds. The flowers affected with aphids, for control spray Malathion @ 0.05%.
- In Valley Temperate Zone of Jammu and Kashmir, dug drainage channels to avoid water stagnation after snow melting.
- **Apiculture**
- In Himachal Pradesh, artificial feed of 50% sugar and 50% water solution should be given to honey bees. Insert the brood chamber without frame for ensuring aeration. The temperature is still low, keep the winter packing to colonies. Check the colonies for nectar and Give artificial food to honey bees as there is scarcity of flowers during these days. And keep colonies in sun on clear day.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, shift the bee colonies near the fields of mustard/gobisarson.
- **Animal Husbandry**
- In Sub-Montane and Low Hills Sub-Tropical Zone of Himachal Pradesh, temperature is still low so protect the newly born calves and animals from cold as weather is conducive for white scour, naval ill and pneumonia.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, give special care to young calves as they are more sensitive to pneumonia. Use dry gunny bags as bedding material for protection against low night temperatures. Provide dry bedding during night.
- In Bhabar and Tarai Zone of Uttarakhand, Toxocaravitulorum (patera) are found in the food tube of buffalo calf in the age of 1-4 month. Piperazine should be given to the infected calf on identification of Patera disease as delay in treatment increases mortality on calves.
- **Poultry**
- In Rajouri, Ramban, Poonch and Udhampur districts of Jammu & Kashmir, in poultry shed, keep temperature 37 deg. Celcius for day old chicks in brooding house with the bukhari.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, cover the poultry shed with gunny bags in order to protect the birds from cold weather.
- **Fishery**
- In Himachal Pradesh, undertake renovation of ponds, preparation of new ponds, de-silting, manuring etc. to add stocking in by the next month.
- In Jammu & Kashmir, add supplementary feed (GNOC/mustard oilcake and Rice/Wheat bran) @ 3% of total body weight of fish biomass.

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

Annexure I

Sub-Divisions	08.02.17		15.02.17		22.02.17	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	0.2	-99	0.0	-100	25.0	-56
Dibang Valley	20.0	-49	19.0	74	69.0	35
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	0.1	-99	6.8	-51	34.3	65
Kurung Kumey	**	**	**	**	**	**
Lohit	1.4	-91	0.8	-93	70.2	137
Lower Dibang Valley	7.9	-80	29.9	174	53.5	4
Lower Subansari	**	**	**	**	**	**
Papumpare	0.0	-100	0.0	-100	36.8	59
Tawang	0.0	-100	**	**	35.0	197
Tirap	0.0	-100	**	**	**	**
Upper Siang	0.0	-100	12.6	1	12.8	-79
Upper Subansari	0.0	-100	0.0	-100	41.4	146
West Kameng	0.0	-100	0.0	-100	14.1	19
West Siang	0.7	-97	9.2	149	38.7	135
Assam&Meghalaya						
Assam						
Baksa	0.0	-100	0.0	-100	45.0	524
Barpeta	0.0	-100	0.0	-100	36.0	401
Bongaigaon	0.0	-100	0.0	-100	50.8	350
Cachar	0.0	-100	0.0	-100	39.7	71
Chirang	0.0	-100	0.0	-100	26.6	135
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	0.0	-100	40.0	205
Dhubri	0.0	-100	0.0	-100	8.2	413
Dibrugarh	0.4	-97	0.5	-95	62.8	351
Goalpara	0.0	-100	0.0	-100	22.4	300
Golaghat	0.0	-100	0.0	-100	44.3	387
Hailakandi	0.0	-100	0.0	-100	64.1	201
Jorhat	0.0	-100	0.0	-100	30.3	212
Kamrup(Rural)	0.0	-100	0.0	-100	24.6	246
Kamrup(Metro)	0.0	-100	0.0	-100	10.4	46
Karbi Anglong	0.0	-100	0.0	-100	6.1	-46

Karimganj	0.0	-100	0.0	-100	68.9	499
Kokrajhar	0.0	-100	0.0	-100	0.2	-98
Lakhimpur	0.0	-100	0.0	-100	39.6	202
Morigaon	0.0	-100	0.0	-100	6.6	-26
N.C.Hills	0.0	-100	0.0	-100	22.5	61
Nagaon	0.0	-100	0.0	-100	1.5	-71
Nalbari	0.0	-100	0.0	-100	25.9	245
Sonitpur	0.0	-100	0.0	-100	59.6	740
Sibsagar	0.0	-100	0.0	-100	29.3	142
Tinsukia	0.0	-100	1.5	-83	56.4	200
Udalgiri	0.0	-100	0.0	-100	72.5	1015
Meghalaya						
East Garo Hills	0.0	-100	0.0	-100	0.5	-89
East Khasi Hills	2.0	-62	0.0	-100	108.8	1136
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	0.0	-100	0.0	-100	0.9	-84
South Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	6.0	-57
NMMT						
Mizoram						
Aizwal	0.0	-100	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	0.0	-100	0.0	-100	0.0	-100
Mamit	**	**	**	**	**	**
Saiha	0.0	-100	0.0	-100	0.0	-100
Serchhip	0.0	-100	0.0	-100	0.0	-100
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	0.0	-100	0.0	-100
Churachandpur	**	**	**	**	**	**
Imphal east	0.0	-100	0.0	-100	14.4	62
Imphal west	0.0	-100	0.0	-100	12.9	239
Senapati	0.0	-100	0.0	-100	12.0	650
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	0.0	-100	7.0	218
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	0.0	-100	0.0	-100	0.0	-100
Kephire	**	**	0.0	-100	0.0	-100
Kohima	0.0	-100	0.0	-100	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	0.0	-100	0.0	-100	0.0	-100
Tuensang	**	**	**	**	**	**

Wokha	0.0	-100	0.0	-100	1.0	-88
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	0.0	-100	0.0	-100
NorthTripura	0.0	-100	0.0	-100	0.0	-100
SouthTripura	0.0	-100	0.0	-100	0.0	-100
West Tripura	0.0	-100	0.0	-100	0.0	-100
Himachal Pradesh						
Bilaspur	12.7	-7	0.0	-100	8.2	-56
Chamba	50.9	80	0.0	-100	39.3	74
Hamirpur	8.2	-44	0.0	-100	5.1	-67
Kangra	13.4	-21	0.0	-100	17.5	-6
Kinnaur	26.0	0	0.0	-100	11.1	-63
Kullu	26.6	48	0.0	-100	50.8	104
Lahaul and Spiti	36.2	27	1.5	-96	41.4	22
Mandi	12.0	-6	0.0	-100	21.3	-1
Shimla	9.5	-31	0.0	-100	10.9	-44
Sirmaur	8.2	-33	0.0	-100	2.0	-84
Solan	4.8	-68	0.0	-100	5.2	-76
Una	11.6	36	0.0	-100	2.1	-84
Punjab						
Amritsar	1.4	-74	0.0	-100	0.0	-100
Barnala	5.0	127	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	3.0	-52	0.0	-100	0.0	-100
Ferozpur	0.1	-94	0.0	-100	0.0	-100
Gurdaspur	5.8	-48	0.0	-100	3.6	-68
Hoshiarpur	13.6	99	0.0	-100	0.0	-100
Jalandhar	3.3	-34	0.0	-100	0.0	-100
Kapurthala	1.2	-73	0.0	-100	0.0	-100
Ludhiana	2.6	-52	0.0	-100	0.0	-100
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	1.7	-77	0.0	-100	0.0	-100
Patiala	0.7	-84	0.0	-100	0.0	-100
Ropar	4.8	-31	0.0	-100	0.1	-99
Sangrur	3.2	-16	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	5.0	-100	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	1.3	-86	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	1.6	-83	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	1.0	-79	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.3	-95	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	1.2	-88	0.0	-100	0.0	-100
Panipat	0.2	-96	0.0	-100	0.0	-100
Rewari	1.7	-12	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	0.2	-95	0.0	-100	0.0	-100
Yamunanagar	2.4	-74	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	**	**	**	**	**	**
Jammu & Kashmir						
Anantnag	80.3	268	1.4	-93	71.7	134
Badgam	32.3	138	0.0	-100	12.4	-36
Bandipore	**	**	**	**	**	**
Baramula	32.4	-42	1.2	-97	48.7	32
Doda	74.8	132	0.0	-100	78.0	37
Ganderbal	41.2	180	0.0	-100	82.6	342
Jammu	36.0	256	0.0	-100	11.8	-42
Kargil	**	**	0.0	-100	0.0	-100
Kathua	31.2	86	0.0	-100	3.4	-83
Kistwar	**	**	**	**	**	**
Kulgam	119.0	446	0.4	-98	40.6	33
Kupwara	40.5	61	2.9	-90	102.2	200
Ladakh(Leh)	52.6	3946	0.0	-100	3.2	58
Poonch	**	**	**	**	**	**
Pulwama	35.2	278	0.0	-100	23.2	53
Rajouri	22.4	60	0.0	-100	26.6	13
Ramban	113.2	251	0.0	-100	74.6	31
Reasi	78.6	206	0.0	-100	8.6	-72
Samba	24.3	141	0.0	-100	2.6	-87
Shopian	**	**	**	**	**	**
Srinagar	108.3	637	0.0	-100	34.0	82

Udhampur	128.1	398	0.0	-100	25.4	-17
East Madhya Pradesh						
Anuppur	0.0	-100	12.6	46	0.0	-100
Balaghat	0.0	-100	2.8	-32	0.0	-100
Chhatarpur	0.0	-100	1.4	-69	0.0	-100
Chindwara	0.0	-100	5.6	60	0.0	-100
Damoh	0.0	-100	6.5	7	0.0	-100
Dindori	0.0	-100	4.0	-25	0.0	-100
Jabalpur	0.0	-100	20.2	531	0.0	-100
Katni	0.0	-100	3.0	-48	0.0	-100
Mandla	0.0	-100	6.8	7	0.0	-100
Narsingpur	0.0	-100	13.6	548	0.0	-100
Panna	0.0	-100	3.8	-23	0.0	-100
Rewa	0.0	-100	4.2	-27	0.0	-100
Sagar	0.0	-100	11.6	366	0.0	-100
Satna	0.0	-100	3.2	-38	0.0	-100
Seoni	0.0	-100	9.5	101	0.0	-100
Shahdol	0.0	-100	7.0	-10	0.0	-100
Sidhi	0.0	-100	2.0	-68	0.0	-100
Singrauli	0.0	-100	7.3	7	0.0	-100
Tikamgarh	0.0	-100	3.0	131	0.0	-100
Umaria	0.0	-100	10.2	28	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	5.9	245	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	2.8	65	0.0	-100
Burhanpur	0.0	-100	1.7	233	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	7.7	175	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	6.0	200	0.0	-100
Hoshangabad	0.0	-100	8.8	202	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	10.0	233	0.0	-100
Rajgarh	0.0	-100	0.4	-75	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100

Sehore	0.0	-100	1.3	-30	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	3.9	34	0.0	-100
Chhattisgarh						
Balod	0.0	-100	0.0	-100	0.0	-100
Baloda Bazar	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Bastar	0.0	-100	0.0	-100	0.0	-100
Bemetara	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	8.6	94	0.0	-100
Dantewara	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.2	-92	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100
Gariaband	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
Kabirdham	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100
Kondagaon	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	2.9	110	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Mungeli	0.0	-100	1.8	-59	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-100
Rajnandgaon	0.0	-100	0.0	-100	0.0	-100
Sukma	0.0	-100	0.0	-100	0.0	-100
Surajpur	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	3.8	-16	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	0.3	-93	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	0.0	-100
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	1.0	-70	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 Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	**	**	**	**	**	**
Sidharthnagar	0.0	-100	0.0	-100	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	0.8	-87	0.0	-100	0.0	-100
Bijnor	1.8	-63	0.0	-100	1.3	-83
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	2.0	-5	0.0	-100	0.0	-100
Lalitpur	0.0	-100	8.0	233	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	0.3	-93	0.0	-100	0.0	-100
Muzzaffarnagar	0.6	-88	0.0	-100	0.0	-100
Pilibhit	1.0	-84	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	2.0	-68	0.0	-100	0.0	-100
Shahjahanpur	0.5	-92	0.0	-100	0.0	-100
Uttarakhand						
Almora	4.5	-60	0.0	-100	2.5	-82
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	11.9	-25	0.0	-100	12.8	-45
Champawat	3.0	-69	0.0	-100	4.0	-68
Dehradun	6.5	-49	0.0	-100	4.2	-74
Garhwal Pauri	1.1	-89	0.0	-100	2.4	-79
Garhwal Tehri	10.0	-26	0.0	-100	7.5	-47
Haridwar	3.9	-54	0.0	-100	4.1	-60
Nainital	1.3	-87	0.0	-100	12.1	-3
Pithorgarh	5.5	-50	0.0	-100	9.4	-51
Rudraprayag	3.1	-81	0.0	-100	4.9	-80
Udham Sing Nagar	0.7	-88	0.0	-100	0.0	-100
Uttarkashi	14.7	7	0.0	-100	10.0	-56
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
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
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	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	0.0	-100	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	0.2	-90	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	0.0	-100	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	**	**	**	**	**	**
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	1.3	-66	0.0	-100
Ramgarh	**	**	**	**	**	**
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 Singbhum	0.0	-100	0.0	-100	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100

Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.0	-100	0.0	-100	0.0	-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	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	2.1	48	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
Aravalli	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100
Chhota Udepur	0.0	-100	0.0	-100	0.0	-100
DNH	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	**	**	**	**	**	**
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
Mahisagar	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
Vadodara	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
Botad	0.0	-100	0.0	-100	0.0	-100
Devbhoomi Dwarka	0.0	-100	0.0	-100	0.0	-100
Diu	0.0	-100	0.0	-100	0.0	-100
Gir Somnath	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	0.1	-46	0.0	-100	0.0	-100
Morbi	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	0.0	-100	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
Osmanabad	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	0.5	-84	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	0.0	-100	0.0	-100	0.0	-100
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Rayagada	0.0	-100	0.0	-100	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	0.3	-98	1.2	-93	9.3	-22
North & Middle Andaman	0.0	-100	0.0	-100	0.0	-100
South Andaman	0.0	-100	2.7	-76	0.0	-100
GWB						
Bankura	0.0	-100	0.0	-100	0.0	-100
Birbhum	0.0	-100	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100

East Midnapore	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.0	-100	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100
Nadia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100
Purulia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (S)	0.0	-100	0.0	-100	0.0	-100
West Midnapore	0.0	-100	0.0	-100	0.0	-100
SHWB & Sikkim						
Cooch Behar	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	0.0	-100	0.0	-100
East Sikkim	0.0	-100	0.0	-100	0.9	-90
Jalpaiguri	0.0	-100	0.0	-100	0.4	-93
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	0.0	-100	0.0	-100
North Sikkim	0.0	-100	0.0	-100	19.9	-18
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	0.0	-100
West Sikkim	**	**	**	**	**	**
Karnataka						
Coastal Karnataka						
Dakshina Kannada	0.0	-100	0.0	-100	0.0	-100
Udupi	0.0	-100	0.0	-100	0.0	-100
Uttara Kannada	0.0	-100	0.0	-100	0.0	-100
NI Karnataka						
Bagalkote	0.0	-100	0.0	-100	0.0	-100
Belagavi	0.0	-100	0.0	-100	0.0	-100
Bidar	0.0	-100	0.0	-100	0.0	-100
Dharwad	0.0	-100	0.0	-100	0.0	-100
Gadag	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.0	-100	0.0	-100
Kalaburgi	0.0	-100	0.0	-100	0.0	-100
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100
Vijayapura	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.0	-100	0.0	-100	0.0	-100
SI Karnataka						
Ballari	0.0	-100	0.0	-100	0.0	-100
Bangalore Rural	0.0	-100	0.0	-100	0.0	-100
Bangalore Urban	0.0	-100	0.0	-100	0.0	-100
Chamarajanagar	0.0	-100	0.0	-100	0.0	-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	0.9	-85	0.0	-100	0.0	-100
Kannur	0.0	-100	0.0	-100	0.0	-100
Ernakulam	0.0	-100	0.0	-100	0.0	-100
Idukki	0.0	-100	1.1	-71	0.0	-100
Kasaragod	0.0	-100	0.0	-100	0.0	-100
Kollam	0.0	-100	1.3	-83	0.0	-100
Kottayam	0.0	-100	0.1	-98	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	0.0	-100	0.0	-100	0.0	-100
Thiruvananthapuram	0.0	-100	0.0	-100	0.0	-100
Thrissur	0.0	-100	0.0	-100	0.0	-100
Wyand	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	-100	0.3	-84	0.0	-100
Dharmapuri	0.0	-100	0.0	-100	0.0	-100
Dindigul	0.0	-100	0.7	-71	0.0	-100
Erode	0.0	-100	0.0	-100	0.0	-100
Kanchipuram	0.0	-100	0.1	-97	0.0	-100
Kanyakumari	0.0	-100	0.0	-99	0.0	-100
Karaikal	0.0	-100	0.0	-100	0.0	-100
Karur	0.0	-100	0.0	-100	0.0	-100
Krishnagiri	0.0	-100	0.0	-100	0.0	-100
Madurai	0.0	-100	0.5	-83	0.0	-100
Nagapattinam	0.0	-100	6.9	56	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	1.3	-1	0.0	-100
Ramanathapuram	0.0	-100	7.1	65	0.0	-100
Salem	0.0	-100	0.0	-100	0.0	-100
Sivaganga	0.0	-100	1.1	-52	0.0	-100
Thanjavur	0.0	-100	4.0	42	0.0	-100
Theni	0.0	-100	0.1	-96	0.0	-100
Tirunelveli	0.0	-100	5.0	-36	0.0	-100
Tirupur	0.0	-100	0.0	-100	0.0	-100
Tiruvallur	0.0	-100	0.0	-100	0.0	-100

Tiruvannamalai	0.0	-100	0.0	-100	0.0	-100
Tiruvarur	0.0	-100	2.0	-50	0.0	-100
Toothukudi	0.0	-100	0.3	-89	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	0.0	-100	6.2	63	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	0.0	-100	0.0	-100
Guntur	0.0	-100	0.0	-100	0.0	-100
Krishna	0.0	-100	0.0	-100	0.0	-100
Nellore	0.0	-100	0.0	-100	0.0	-100
Prakasam	0.0	-100	0.0	-100	0.0	-100
Sirkakulam	0.0	-100	0.0	-100	0.0	-100
Visakhapatnam	0.0	-100	0.0	-100	0.0	-100
Vizianagram	0.0	-100	0.0	-100	0.0	-100
West Godavari	0.0	-100	0.0	-100	0.0	-100
Rayalaseema						
Anantapur	0.0	-100	0.0	-100	0.0	-100
Chittoor	0.0	-100	0.0	-100	0.0	-100
Cuddapah	0.0	-100	0.0	-100	0.0	-100
Kurnool	0.0	-100	0.0	-100	0.0	-100
Telangana						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	0.0	-100
Karimnagar	0.0	-100	0.0	-100	0.0	-100
Khammam	0.0	-100	0.0	-100	0.0	-100
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	0.0	-100	0.0	-100	0.0	-100
Nizamabad	0.0	-100	0.0	-100	0.0	-100
Rangareddy	0.0	-100	0.0	-100	0.0	-100
Warangal	0.0	-100	0.0	-100	0.0	-100

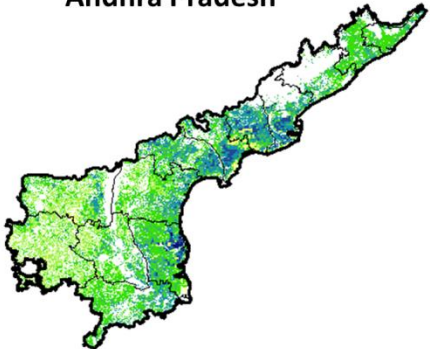
Legends

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

Annexure II

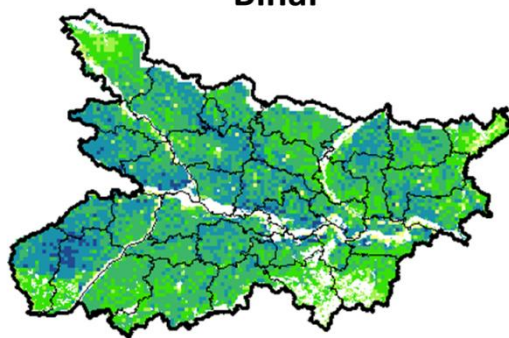
**NOAA/AVHRR NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON
23rd February 2017 FOR DIFFERENT STATES**

Andhra Pradesh



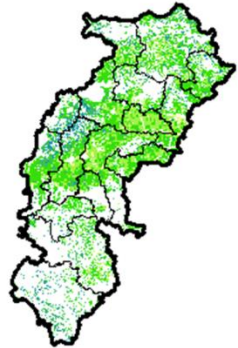
Agriculture vigour is moderate over southern and patches in costal part whereas, patches in central region and east of Rayalseema show good to very good NDVI in the state of Andhra Pradesh.

Bihar



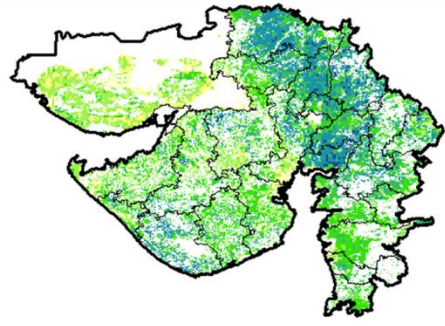
Agriculture vigour is good over most of the patches in state of Bihar, rest of the state shows moderate NDVI.

Chhattisgarh



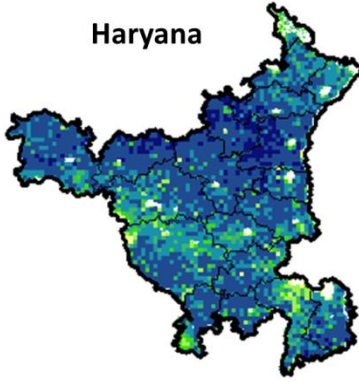
Agriculture vigour is good in southern and central region of Chhattisgarh, whereas, moderate vigour is seen in rest of the state.

Gujarat



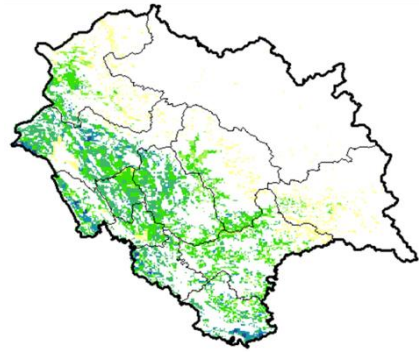
Moderate NDVI values are observed in patches in Kutch and Saurashtra whereas, good to very good NDVI is observed in many places in Saurashtra and Gujarat.

Haryana



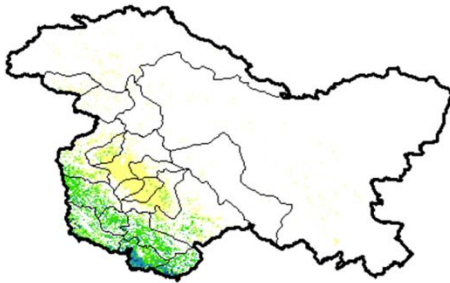
Good to very good agriculture vigour is observed over entire state of Haryana, moderate vigour is seen in patches in central and east part of Haryana.

Himachal Pradesh



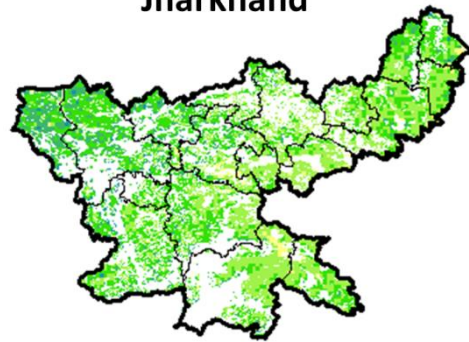
Agriculture vigour is moderate to good in few patches of Himachal Pradesh.

Jammu & Kashmir



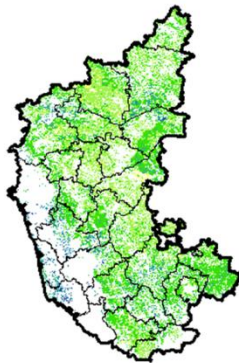
Agriculture vigour is moderate over entire state of Jammu & Kashmir, good NDVI values are observed in southern part of state.

Jharkhand



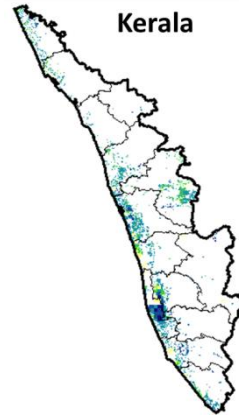
Agriculture vigour is good over patches in central and western region of Jharkhand whereas, remaining states shows moderate NDVI values.

Karnataka



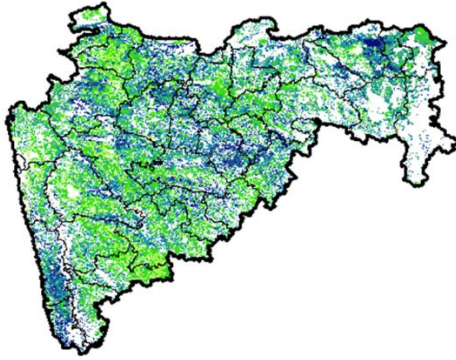
Agriculture vigour is good in patches over costal Karnataka and northern region of the state whereas rest of the state shows moderate vigour.

Kerala



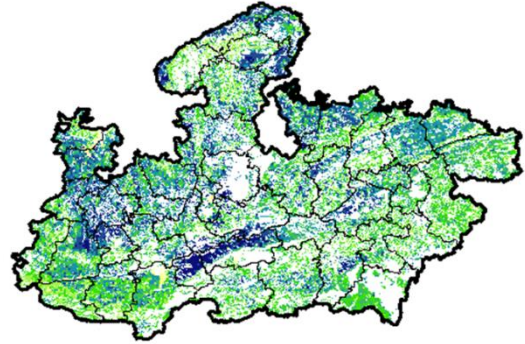
Agriculture vigour is good over entire state of Kerala except few patches in central and southern part shows moderate NDVI values.

Maharashtra



Agricultural vigour is moderate over central Maharashtra and western part of Vidharbha whereas, good to very good vigour is observed in the north, Konkan, Marathwada and eastern regions.

Madhya Pradesh



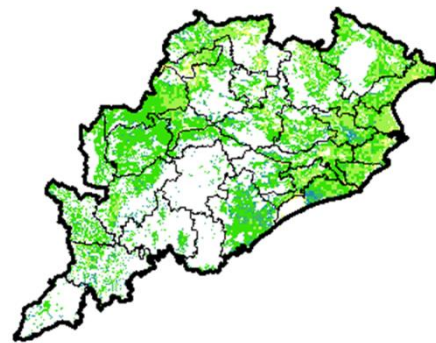
Agriculture vigour is good to very good over many places in state of Madhya Pradesh whereas, eastern and southern part shows moderate vigour.

North East Region



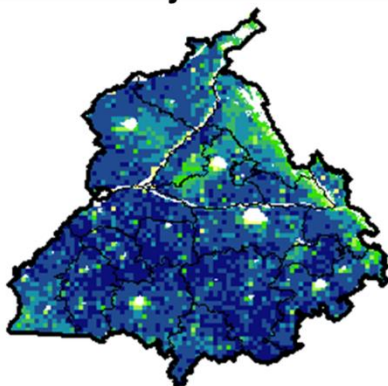
Agriculture vigour is moderate over most of the parts in North-Eastern states, whereas few patches in Assam, Manipur and Arunachal Pradesh show good vigour.

Odisha



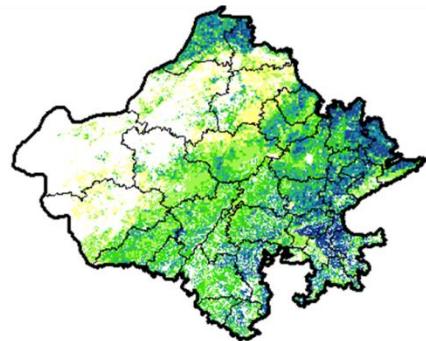
Agricultural vigour is good over many patches over state of Odisha whereas, moderate vigour is observed over the entire state.

Punjab



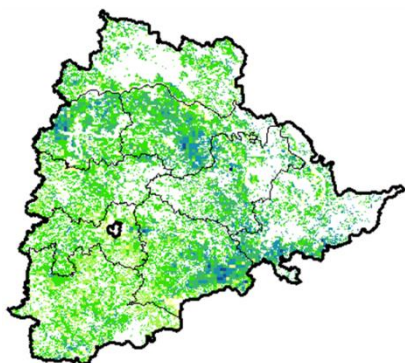
Agricultural vigour is good to very good in over entire state of Punjab, whereas few patches in north-east show moderate vigour.

Rajasthan



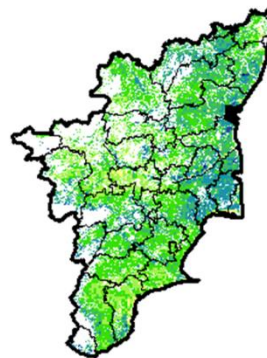
Agriculture vigour is good to very good over eastern and southern part and few patches in north of Rajasthan whereas, moderate vigour is observed over rest of the region.

Telangana



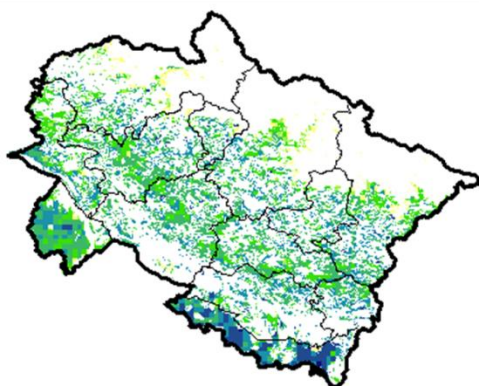
Agriculture vigour is good over northern and eastern region of Telangana whereas, moderate vigour is observed in rest of the region.

Tamil Nadu



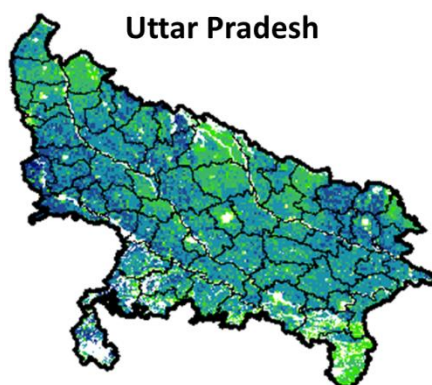
Agricultural vigour is moderate over most region of Tamil Nadu, whereas central region and patches in north shows good to very good NDVI.

Uttarakhand



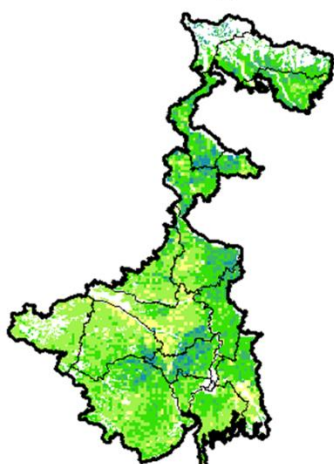
Agricultural vigour is good to very good over entire state of Uttarakhand whereas, moderate in south-western region of Uttarakhand.

Uttar Pradesh

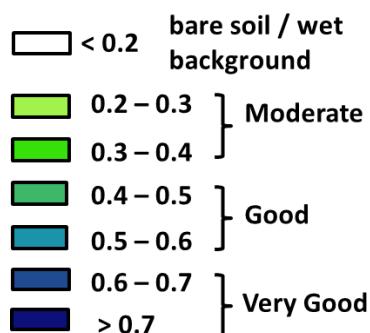


Agricultural vigour is good to very good over many parts of Uttar Pradesh, whereas remaining part shows moderate NDVI.

West Bengal



Agricultural vigour is good in patches northern and south-eastern region of West Bengal, whereas remaining region of the state shows moderate NDVI.



* For New Delhi NOAA/AVHRR NDVI COMPOSITE Map is not available due to some problem in data set.

Annexure III

Assam

Early *Ahu*Rice :IR-50, Pusa 2-21, Rasi, Culture -1, Luit, Kopilee (Semi-dwarf varieties); Rongadoria, Dubaichenga, Nilajee (Tall varieties) etc.

Summer rice : Ratna, Cauvery, Luit and Kapilee.

Green gram : Pratap, T-44, Kopergaon, AAU-39, K-851 and ML-55.

Black gram : T-9, Pant-U-19, UG-157.

Okra : Pusa Sawani, Arka Anamika, Parvani Kranti or other local varieties.

Ridge gourd : Pusa Nashdar or other local varieties like AAU-1, AAU-2, AAU-3.

Sponge gourd : Pusa Chikni or other local varieties.

Odisha

Green pea: Rachana, Arkel. and T -163.

Mustard:Parbhathi, Anuradha, TS-29 & M-27.

Garlic:Phawari, Rajalbadi, Jamnagar and G-282

Potato: Kufri Chandramukhi, Kufri Chamatkar, Kufri Jyoti, Kufri Sinduri and Kufri Alankar, etc

Greengram- TARM1, OUM11-5, Hum-1

Blackgram-PU-19, LBG-17

Gram-Radhey, Annegiri, Sweta, Bharati, JG 11

Groundnut:are Smruti, AK 12-24, JL-24.

Bihar

Pigeon pea:- Bahar, Pusa-9, Narendra Arher-1, Rajendra Arher-1 and Maalvia-13.

Sesame : Kanak, kalika, Uma, Usha, Tilottama, Neelima and Prachi

Green gram : K -851, PDM -54, PDM -11, OUM 11-5

Balck gram : T-9, Pant-U-19. Pant -U-30, Pant -U-11

Niger : Deomali

Horsegram : Urmi, DS 1-2-2, DS 1-2

Barseem:-Pusa Vikash, Bundel and of Jai- Kent.

Garlic :Jamuna Safed-2(G-50), Jamuna Safed-3(G-282), and Jamuna Safed-4 (G-323), G-1 and G-41(Agri found safed).

Rai :Baruna, Pusa bold, Kranti, Pusa mahak and Rajendra suflam.

Coriander :-Rajendra swati, Pant haritima, Kumarganj selection and Hisar anand.

Lentil :-Mallika (K-75), Arun (PL77-12), KLS-218, HUL-57, PL-5.

Jharkhand

Mustard: Shivani, Varuna, Pusa bold, Kranti, Pusa jaikisan , Vardan etc.

Potato: Kufri Ashoka, Kufri Pukhraj, Kufri Lalima, Kufri Pushkar and Kufri Kanchan.

Toria: BR-23,T.-9, P.T. 303, Panchali and Bhavani.

Gram: KAK-2, ICC-2, HK94-134(Kabuli) and Pusa 256, Pusa 372, Pant G-114, KWR 108, ICC 37.

Lentil:P.L.- 406, P.L.-639, D.P.L.-15, D.P.I.- 62 etc.

Green pea: Arkel or Azad pea.

Wheat: HDR-77, K-8027, C-306, Birsa genhu – 3 etc. HDR-77, K-8027, C-306, Birsa genhu – 3 etc.

Linseed:Sweta, Shubhra, T-397 etc.

West Bengal:

Mango: Himsagar, Mallicka, Langra

Guava: Safeda, L-49

Coconut: Eastcoastal, Hazari

Banana :-Mortoman, Chapa, Kathali, Singapuri,

Potato :-Ashoka, Chipsona 1,2, Kufri Jyoti, Kufri Alankar

Mustard:--Agrani(B-54), Panchali (T.W.C.-3), B-9, Rai-5 and Bhagirothi (R.W.-351).

Jute :-Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali etc.

Cabbage :- Pride of India, Pusa early, Kranti.

Cauliflower:- Jawhar moti, Bharat Jyoti, Early banaras.

Uttarakhand

Mentha:Koshi, Saksham, Kushal, Himalaya, Saryu, Simkranti.

Onoin:VL-Pyaj-3,Nasik Red,Pusa Red

Pea: Vivek 10, Vivek 11, Pant 3,
Radish: Meenu early, Japanese white, Pusa Himani.
Carrot: Pusa Vrishi,
Rai: Varuna, Rohini, Krishna, Kanti, Vardan, Vaibhav, Basanti, Narendra, Early rai-4, Urvashi and varieties
Yellow Mustard: Ragini, Binoy (B-9), Pant peeli Sarso-1.

Jammu and Kashmir

Pea: AP-1, Bonnevillea, Rachna and Arkel
Chickpea: K-468, Gourav
Lentil: L-4147, L-9/12, PL-406.
Berseem: Vardan, mascavi, pusa giant, BL-1
Potato: Kufri Badshah, K. Sinduri, K. Chipsona & K. Sona
Gram: C-235, Gaurav, K-468, SCS-3, PBG-1
Toria: RSPT-1 and RSPT-2

Himachal Pradesh

Cauliflower: snowball and Giant snowball.
Radish: Japanese white, Chinese pink and mino early white
Turnip: PTWG-1
Carrot: Pusakesar
Peas: Mater ageta-6 (early variety).
Cabbage: Pride of India, golden achor and hybrid

East Uttar Pradesh

Sugarcane: Kosho-8436, Kosha-84230, Kosha-95436 etc
Maize: Navjyoti, Kanchan, Gaurav, Navin, Surya, Shweta, Azad uttam, Prakash, Daccan-115, MMH-135, Pro-4212, Ganga-11, Pusa, Makka-2, J.H.-3459
Urad: T-9, Narendra Urad -1, Azad Urad-1, Uttara, Azad Urad-2, Shekhar-2
Onion: Kalyanpur Lalgol, Pusaratnakar, Agrifoundlite red, bargandi, KP, Orient, Rosi.
Jou: Azad, K-141/11.
Turmeric: Kasturi, Paspu, Amlapuram, Madhukar, Sugna, Rajendra
Ginger -suprabha, suruchi, surbhi and Himgiri
Arahar: Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, parasmanak, UPAS 120, NDA-1,2, Malviya Vikas (M.L.-6), Malviya Chamatkar (M.A.L.13), Pusa-9, Azad, PDA-11.
Moong: Type-27, 56
Gram: JCP-105, K-850, Pusa-256, Avrodhi, Pusa-256, KWR-108, DCP-92-3, KDG-1168, K-850, and Kabuli chana: HK-94-134, Gujraat Chana-4, KW, R-108,
Mustard: Narendra geti, rai-4, Varuna (T59), Basti (Pili), rohini, Maya, Narendra swarna-rai-8(pili), Narendrarai (NDR-8501), vaibhav.T-59, Vaishali, Vaibhav, Kranti, Urvashi, Rohni, kranti, krushna, vardan.
Kabuli gram: chatmatkar, Puse-1003, Subhra as good varieties.
Pea: Rachna, Pantmatar-5, Aparna Malviya Matar-2, Malviya Matar-15, Shikha and Sapna are good varieties.
Radish: kalyanpur No.1, Pusa Rashmi, Hisar selection-1, Japani Safed, pusa Chetaki, Pusa Himani, Pusadeshi, Arka Nishant and Jaunpuri.
Cabbage: Pusa snowball, Pusa snowball II, Snowball 16 and Pusa snowball K1
Barley: Jagriti, Preeti, RS-06, Narendra & NDV-940 and for malt & Beer Retambhra, DWR-28, DL-88 etc.
Rabi Maize: Sankar maize, Ganga, Shaktiman, HQPM-1, Sankul maize, Dhawal, Sharadmani & Shakti-1, Baby corn (Shishu maize), BL-42, Prakash & HM-4
Lentil: NDL-1, NDL-2, Pant Masoor-406, Malika, Lentil pant 4 & 5, K-75 (Malviya Vishwnath), Shekhar 2 & 3
Cowpea: Type-2, UPC-4200, 5287, IGF-450
Banana: Harichhal, Alpan, Malbhog, Basrai dwarf, robasta, kothiya
Tomato: Kashi Amrit, Kashi Anupam, Avinash-2 & Rupali Azad, Punjab chuhara NDT 4&5
Brinjal: Pusa hybrid 5,6, Kasisandesh BR-14, KS-224

West Uttar Pradesh

Bhindi: A-4, Parbani Kranti and Arkaanamika
Barseem: V.L.1, V.L.10, maskavi, jai, K-8027, K-9565, Mandakini.
Baby corn: M.H.-4.
Toria: bhavani

Mustard: Urvashi, Rohini, Maya, Giriraj, Vardan, Vaibhav
Linseed: Parvati, sharda, Padmini
Vegetable pea: Azad-3, Aakril
Gram: Zaki-9218, KGD-1168, KWR-108, Uday
Pea: KPRM-522, KPRM-400, Vikas, Prakash
Lentil: DPL-62, Malika
Potato: KufriBadshah, KufriBahar, KufriAanand, Chipsona-1, Chipsona-2, Chipsona-3.

Punjab

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89, CO118, COJ85, COJ64.
Onion: Punjab Naroya, Punjab White and PRO 6.
Radish: Punjab Pasand and Japanese white.
Turnip: L-1.
Carrot: Punjab Black Beauty, Punjab Carrot Red and PC-34.
Tomato: TH-1, PunjabRatta, Punjab NR 7, Punjab Chuhara, Punjab Upma, Castle Rock.
Okra: Punjab-8 and Punjab-7
Cauliflower: Pusa Snow Ball-1, Pusa Snow Ball K-1
Wheat: PBW 725, PBW 677, HD-3086, WH 1105, PBW 621, HD 2967.
Kabuli gram: L 552, L 550 & BG-1053.
Raya: RLC3, PBR 357, PBR 210, RLC-1, , RLM-619, PBR-91
Gram: C 235, HC 5
un-irrigated/rainfed (HC 1)

Delhi

Gram: Kabuli type - Pusa 267, Pusa 1003, PusaChamatkar; local type – C235, Pusa 246, P.B.G. 1, Pusa 372.
Pea: PusaPragati, Arkel, Azad Matar-3, Pant Matar-3 and Bournville.
Potato: KufriBadshah, KufriBahar, KufriAanand, Chipsona-1, Chipsona-2, Chipsona-3.

East Rajasthan:

Summer groundnut: T.A.G.24, T.G.37A, G.G.2, D.H.86
Bottle gourd: Pusa summer prolific long, Pusa summer prolific round, Pusamanjri, PusaNavin, PusaMeghdoot, Arkavihar
Pumpkin: Pusaviswas, Pusaalankar, arkachandan
Kheera: Balamkhira, Pusasayong
Bitter gourd: Coimbatore long, Pusadomosami, Priya, Ark harit, Pusavishesh
Tinda: Bikaner green, Dilpasand, Tinda Ludhiana, ArkaTinda
Cucumber: LakhnowAgeti, Arkasheetal
Barley: RD-2552, RD-2052, RD-2035, RD-2503, RD-2715, RD-2660, RD-2508 and Jyoti, RD 2668
Gram: RSG 44, Dahod yellow, GNG 16, ICCV 10, RSG 888, GNG 469 and Pratapchana 1, RSG-895, RSG-973, RSG-896, RSG-902, RSG-991 and GNG-1581
Lentil: T 36, BL 406, Sihore 74-7 and K 75
Sorghum: CSH-6, CSH-9, CSV-10, CSV-15, TG37-A, DH-86, Pratap Mungfali-1.
Maize: Aravali Makka-1, Pratap Makka-1, Pratap Makka-5, Pratap Hybrid Maize-1, Pratap Hybrid Maize-2 and bio-9637, Hybrid varieties are-MahiDhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9, Ageti-76, Bassi Selected, MahiKanchan
Greengram: RMG-62, RMG-268. RMG-492 & RMG-344, IPM-02-3.
Cowpea: FS-68, RC-19 and RC-101.
Moth: RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)
Pea (early): Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 improved varieties.
Cauliflower: Pusa snow ball K-1, Hisar-1, Dania and Selection-7 are improved varieties.
Carrot: PusaKeshar is improved variety.
Mustard: Pusa jai kisan, RH-30, Pusa bold, Laxmi, kranti, Pusa Jai Kisan, PR-15 (Kranti), Vashundra, RRN 573, RGN-73, Bio-902 (PusaJaikisan), Aashirwad, RH-9304 (Vasundhara), RH-9802 (SwarnJyoti), RH-8812 (Laxmi).
Radish: Japanese white & hill queen.
Cumin: G. C. 4, RZ-223, RS-1, RZ-19, RZ-209 and Gujarat Jeera-2
Musk Melon: Durgapura madhu, Punjab sunheri, Punjab hybrid, arkajeet, hara madhu, pusa madhuras
Water melon: Durgapura meetha, durgapura kesar, arka jyoti(hybrid), madhu (hybrid)

Tinda:Beekaneri green, Dil pasand, arka tinda
Cucumber:Lucknow ageti and arka sheetal
Zaid Pearl millet (fodder):raj bajra chari, rajko Zaint, L-72, L-74

West Rajasthan

Wheat: Raj-3077, Raj-3777, Raj-4037, Raj-1482, WH-147 and Loak-1.(**late sown**): Raj-3765, Raj-3777, Lok-1 and HI-8498.

Jou:RD-2052, RD-2035, RD-57, RD-31, and Bilada-2, RD-2660, RD-2552, RD-2592 or Mald varieties RD-2503, DWRUB-52(timely sowing) or DWRUB-64(late sowing)

Cumin: RZ-19, RZ-209, GG-4, RZ-223.

Isabgol: RI 89 & GI-2.

Fenugreek :RMt 1 & RMT305.

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

Groundnut: HNG-123, HNG-69, ICHG-00440, HNG-10, TG-37 A, Girnar-2, R.G.-425, GG-20, TG-39.

Gram: c-235, RSG-44, GNG-663(vardan), RSG-888, GNG-469(samrat), GNG_1581(gangour), for kabulichana-GNG-1499(gouri) and GNG-1292

Mustard: RGN-13, RGN-73, Laxmi, Pusa bold, RGN-298, RGN-229, RGN-48, barni (timely sowing) RGN-145, RGN-236 (for late sowing), Bio-902, T-59, Pusa bold, Arawali and RGN-48,

Radish: Japanese white & hill queen.

Garlic: lava, maleva

Onion:Pusa red, Nasik red, Udaipur-102, pusa white flate

Madhya Pradesh

Moong: PDM-54, PDM-139, PS-16, PS-7, K-851

Maharashtra

Sunflower: Improved varieties: S.S.56, Modern, E.C.68414, Bhanu.

Hybrid varieties : K.B.S.H.1, L.S.F.H.171, Phule Raviraj, M.S.F.H.17)

Pearl millet: shradha, saburi or shanti.

Chilli:Phule Jyoti, Phule Mukta.

Gujarat

Summer Groundnut: TAG-24,TG-37-A, TPG-41,GG-2, GJG-31.

Summer Sesame: G.Til-2, G.Til-3.

Pearl millet: GHB-526 and GHB-558.

Brinjal: Junagadh Oblong, Junagadh Long, Guj. Bringle-2.

Lady finger: Guj. Hy.-1 & 2.

Ridge gourd: Pusa Nasdar, Jaipuri.

Bottle gourd: Junagadh Tender Long, Pusa Summer Prolific Long.

Sponge guard: Pusa Chikni.

Bitter guard: Priya, Pusa Domosmi.

Karnataka

Sugarcane:Co-86032, Co-94012.

Tamil Nadu

Summer rice- ADT 43 and ADT 45.

Cotton:Surbhi.