



National Agromet Advisory Service Bulletin



Friday 11th March 2016
(For the period 11th to 15th March 2016)

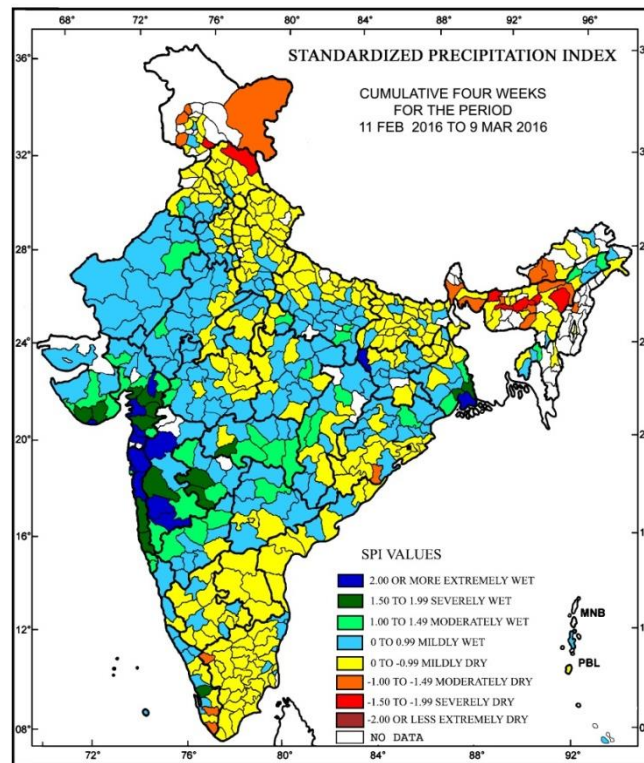


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Weblink For
District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Standardised Precipitation Index Four Weekly for the Period 11th February to 9th March 2016

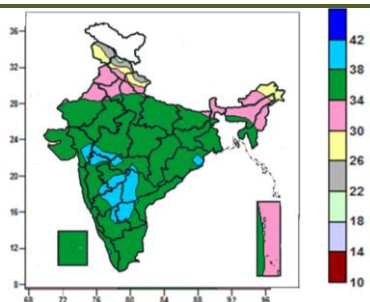
MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in most districts of Konkan & Goa; Gujarat Region; few districts of Saurashtra, Kutch & Diu; Kolkatta, Howrah, North 24 Paraganas district of West Bengal; Garwah district of Jharkhand; Thane, Mumbai Suburban, Nashik, Pune, Sangli, Satara, Beed, Osmanabad, Washim districts of Maharashtra; Ernakulam district of Kerala.
- Extremely/Severely dry conditions experienced in few districts of Assam; Lahaul & Spitti district of Himachal Pradesh; Doda district of Jammu & Kashmir.
- Moderately dry conditions experienced in East Kameng, West Kameng districts of Arunachal Pradesh; Sonitpur, Bongaigaon, Golaghat, Kamrup Metro districts of Assam; East Khasi Hills district of Meghalaya; Kohima district of Nagaland; Darjeeling, Coochbehar districts of West Bengal; Gajapati district of Odisha; Baramula, Ladakh, Kupwara, Rajouri districts of Jammu & Kashmir; Nilgiri district of Tamil Nadu; Trivandrum, Pathanamthitta districts of Kerala.
- Rest of the country experienced moderately wet/ mildly dry/mildly wet conditions.

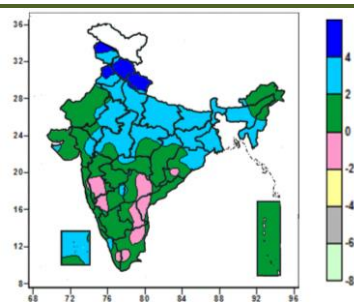
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 09.03.2016

Actual Mean Maximum Temperature (°C) in India for the week ending 09.03.2016



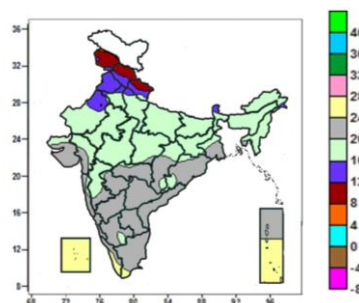
- Mean maximum temperature was above 38⁰C (38-40⁰C) over many parts of North Interior Karnataka, Telangana, Rayalaseema, some parts of Madhya Maharashtra, Marathwada, West Madhya Pradesh and isolated pockets of Gujarat region, Odisha, Vidarbha, South Interior Karnataka.
- Mean maximum temperature was between 30 to 38⁰C over rest of the country except Jammu & Kashmir, many parts of Himachal Pradesh, Uttarakhand, some parts of Arunachal Pradesh and isolated pockets of Assam where it was between 18 and 30⁰C.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 09.03.2016



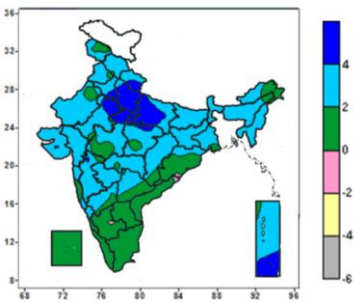
- Mean maximum temperature was above normal by 4 to 6⁰C over many parts of Himachal Pradesh, Uttarakhand, some parts of Jammu & Kashmir, Punjab and isolated pockets of West Uttar Pradesh.
- Mean maximum temperature was above normal by 2 to 4⁰C over East Uttar Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Mizoram, Tripura, many parts of Jammu & Kashmir, Punjab, Haryana & Delhi, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Gangetic West Bengal, Odisha, Assam & Meghalaya, Manipur, Lakshadweep, some parts of Gujarat region and isolated pockets of Himachal Pradesh, Uttarakhand, West Rajasthan, Saurashtra, Madhya Maharashtra, Arunachal Pradesh, Vidarbha, Telangana, North Interior Karnataka, Kerala.
- It was normal to near normal in remaining parts of the Country.

Actual Mean Minimum Temperature (°C) in India for the week ending 09.03.2016



- Mean minimum temperature was between 4 to 8⁰C over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was between 8 to 12⁰C over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand.
- Mean minimum temperature was between 12 to 16⁰C over Punjab, many parts of Sikkim, some parts of Himachal Pradesh, Uttarakhand, West Rajasthan and isolated pockets of Jammu & Kashmir, Haryana, West Uttar Pradesh, Arunachal Pradesh.
- Mean minimum temperature was between 16 to 28⁰C over remaining parts of the country.

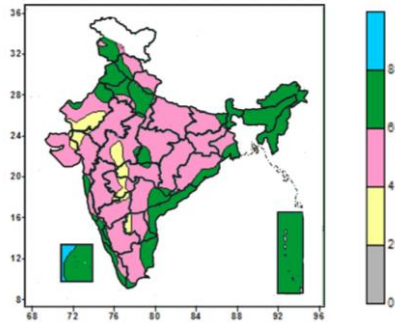
Mean Minimum Temperature (°C) Anomaly in India for the week ending 09.03.2016



- Mean minimum temperature was above normal by 4 to 6⁰C over many parts of Uttar Pradesh, some parts of Uttarakhand, Haryana & Delhi, East Rajasthan, Madhya Pradesh, Andaman & Nicobar Islands.
- Mean minimum temperature was above normal by 2 to 4⁰C over rest of country except Lakshadweep, Kerala, Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, South Interior Karnataka, many parts of Odisha, some parts of Jammu & Kashmir, Arunachal Pradesh, Madhya Pradesh, Chhattisgarh, Telangana, Coastal and North Interior Karnataka, Konkan and isolated pockets of Himachal Pradesh, Punjab, Rajasthan, Assam, Gangetic West Bengal, Madhya Maharashtra, Vidarbha where it was normal to near normal.

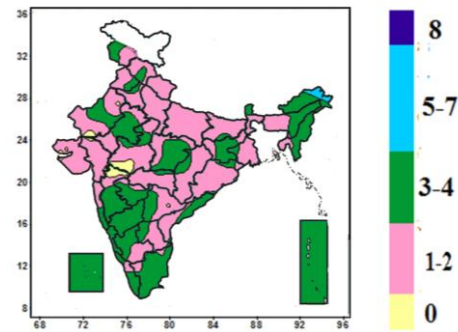
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 09.03.2016

Relative Humidity (%) over India for the week ending 09.03.2016



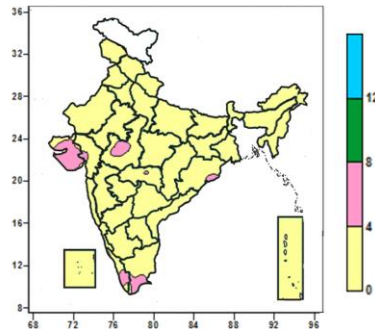
- Mean Relative humidity was above 80% over some parts of Lakshadweep.
- Mean Relative humidity was between 40 to 80% over rest of the country except some parts of West Rajasthan, West Madhya Pradesh, Gujarat region, Vidarbha, Marathwada and isolated pockets of East Rajasthan, Saurashtra & Kutch, Madhya Maharashtra, North Interior Karnataka, Rayalaseema where it was between 20 to 40%.

Cloud amount (okta) over India for the week ending 09.03.2016



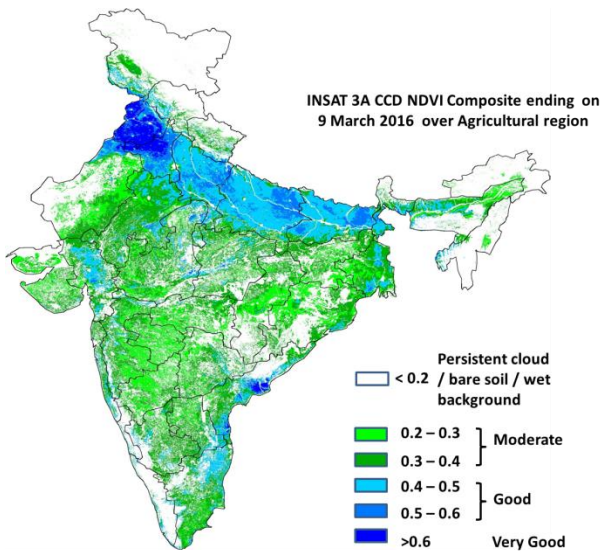
- Sky remained generally cloudy (5-7 okta) over isolated pockets of Arunachal Pradesh.
- Sky remained partly cloudy (3-4 okta) over Sikkim, Nagaland, Manipur, Coastal and North Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, many parts of Arunachal Pradesh, Assam & Meghalaya, Mizoram, Jharkhand,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

Wind speed (knots) over India for the week ending 09.03.2016



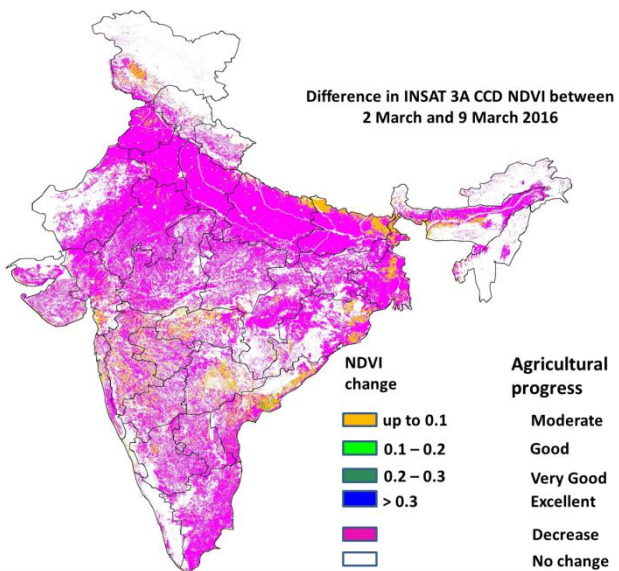
- Mean wind speed was 4 to 8 knots over many parts of Saurashtra & Kutch, some parts of West Madhya Pradesh, Tamil Nadu, Kerala and isolated pockets of Gujarat region, Vidarbha, Odisha.
- It was less than 4 knots over rest of the country.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 9th March 2016 OVER AGRICULTURAL REGION OF INDIA



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

Difference in INSAT 3A CCD NDVI between 2nd and 9th March 2016



- Moderate Progress in NDVI is observed in Patches in Maharashtra, Telangana, Coastal parts of Andhra Pradesh and central West Bengal. Decrease in NDVI was observed in states of Uttar Pradesh, Bihar, Punjab, Haryana, Rajasthan, Gujarat, Telangana, West Bengal, Odisha Karnataka, some parts of Maharashtra and Madhya Pradesh, Kerala, Andhra Pradesh and Tamil Nadu.

- INSAT 3A CCD NDVI composite maps for the week ending on 9th March 2016 for different States are given below in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 16th March 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.
- Maximum temperatures very likely to fall by 3-4°C over plains of northwest and adjoining central India during 12th to 14th March.

5 Day Rainfall Forecast (MID DAY) 11th March 2016

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

% Station Reporting Rainfall

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

Weather Warning during next 5 days

- **11 March (Day 1):** Heavy rain/snow very likely at isolated places over Jammu & Kashmir and Himachal Pradesh. Thundersquall accompanied with hail very likely at isolated places over Jammu division, Himachal Pradesh, Uttarakhand, Punjab, West Rajasthan, Haryana, Chandigarh & Delhi and West Uttar Pradesh. Thunderstorm accompanied with squall very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- **12 March (Day 2):** Heavy rain/snow very likely at a few places over Jammu & Kashmir and at isolated places over Himachal Pradesh. Heavy rain very likely at isolated places over Punjab and Haryana, Chandigarh & Delhi. Thunderstorm accompanied with hail very likely at isolated places over Jammu division, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, Uttar Pradesh, Madhya Pradesh, Vidarbha and Chhattisgarh. Thunderstorm accompanied with squall very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- **13 March (Day 3):** Heavy rain/snow very likely at isolated places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand. Heavy rain very likely at isolated places Haryana, Chandigarh & Delhi and Uttar

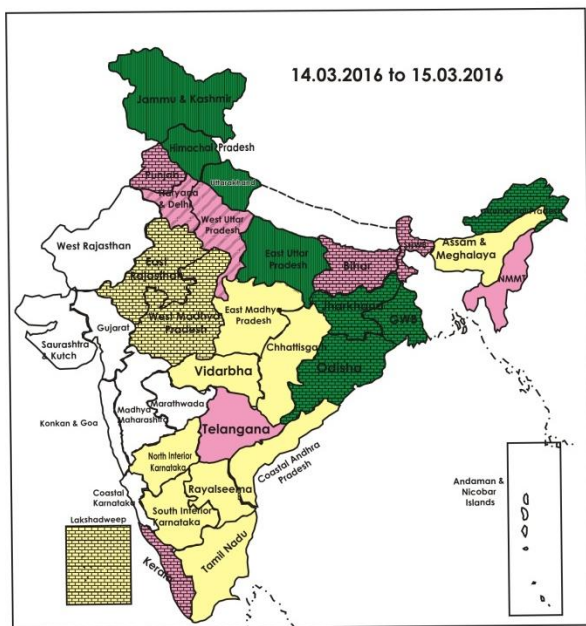
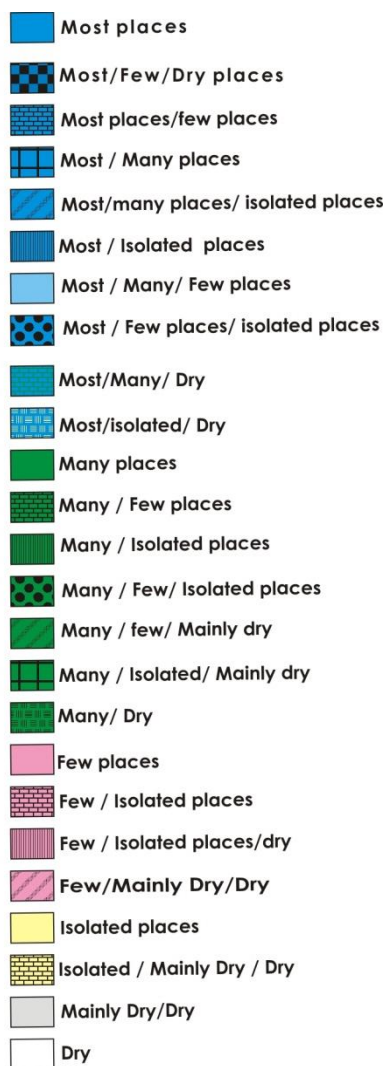
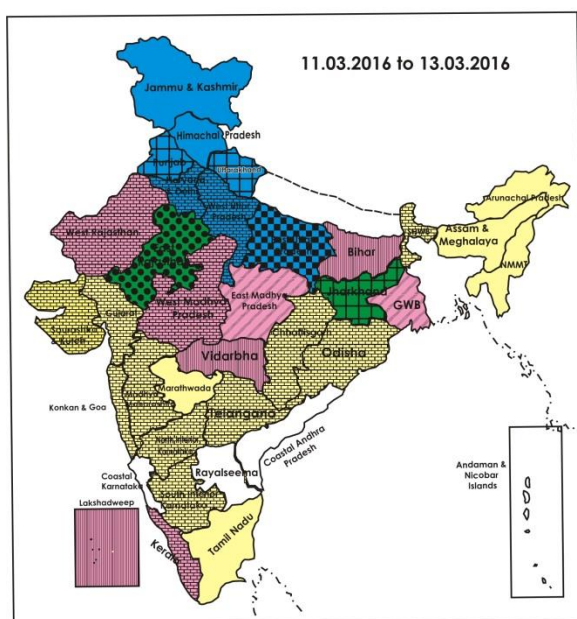
Pradesh. Thundersquall accompanied with hail very likely at isolated places over Utrakhand, West Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand and Gangetic West Bengal. Thunderstorm accompanied with squall very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

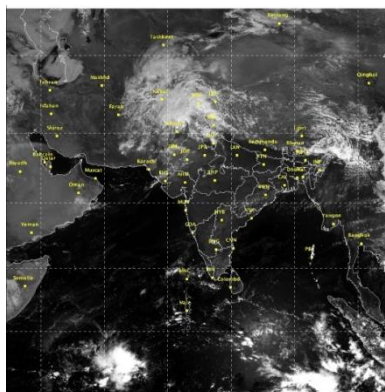
- **14 March (Day 4):** Thundersquall accompanied with hail very likely at isolated places over Bihar, Jharkhand, West Bengal & Sikkim and Odisha. Thunderstorm accompanied with squall likely at isolated places over Telangana.
- **15 March (Day 5):** Thunderstorm accompanied with squall likely at isolated places over Telangana.

Weather Outlook for subsequent 2 days from 16th to 18th March 2016

- A fresh western disturbance is likely to affect western Himalayan region from 16th and northern plains of northwest India from 17th March.
- Rain/thundershowers likely at a few places over east & adjoining central India and at isolated places over northeastern states and peninsular India.

Weather Forecast Map (Valid upto 0830 hours of 16th March, 2016)





Salient Advisories

- As thundersquall/thunderstorm accompanied with hail very likely at isolated places over **Jammu division, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi** on 11th & 12th, over **Uttarakhand** from 11th to 13th, over **West Rajasthan** on 11th, over **East Rajasthan** on 12th, over West **Uttar Pradesh** on 12th & 13th, over **Uttar Pradesh** on 12th March, over **Madhya Pradesh** and **Vidarbha** on 12th; over **East Madhya Pradesh** on 13th, over **Chhattisgarh** on 12th, 13th March, over **Bihar, Jharkhand** on 13th & 14th, **Gangetic West Bengal** on 13th and over **West Bengal & Sikkim** and **Odisha** on 14th March, farmers are advised to use hail nets/hail caps for orchard crops to protect from mechanical damage. Provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places. In Vidarbha, farmers are advised to use hail nets/hail caps to protect orange and sweet lime orchards from mechanical damage.
- As thunderstorm accompanied with squall very likely at isolated places over **Assam & Meghalaya** and **Nagaland, Manipur, Mizoram & Tripura** from 11th to 13th March and over **Telangana** on 15th March; provide mechanical support banana and young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in Telangana.
- As rain/snow very likely to occur at most/many places over **Jammu & Kashmir, Himachal Pradesh** and **Uttarakhand** from 11th to 14th March along with heavy rain/snow very likely at isolated places over Jammu & Kashmir and Himachal Pradesh and rain/thundershowers very likely at most/many places over **East Uttar Pradesh** on 13th & 14th, over **West Uttar Pradesh** on 12th & 13th, over **Punjab** on 11th to 13th and over **Haryana, Chandigarh & Delhi** on 12th & 13th along with heavy rain likely at isolated places over Uttar Pradesh on 13th, over Punjab on 12th and over Haryana, Chandigarh & Delhi on 12th & 13th March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of matured crop and keep already harvested produces at safe places. Provide adequate drainage in standing crop fields in to avoid water stagnation.
- As rain/thundershowers would occur at many places over **Gangetic West Bengal** on 14th, over **Arunachal Pradesh** on 15th, over **Odisha** on 15th and over **Jharkhand** on 13th & 14th March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- Undertake land preparation/sowing of the following summer crops:
 - In **Assam**, continue land preparation and sowing of *capsularis* jute, early *ahu* rice and sowing of summer green gram & black gram.
 - In **West Bengal**, in Hill Zone, continue field preparation for sowing of maize, planting of ginger and turmeric and in New Alluvial Zone, sowing of sesame utilizing the realized/expected rainfall.
 - In **Odisha**, in North Eastern Ghat Zone, continue sowing summer sunflower and groundnut. In North Eastern Plateau Zone, continue sowing of green gram & black gram.
 - In **Uttar Pradesh**, continue planting of autumn sugarcane, land preparation and sowing of cowpea, maize, urad, mung after current spells of heavy rain.
 - In South Saurashtra Zone of **Gujarat**, continue sowing of green gram, black gram, groundnut and sesame.
 - In **Bihar**, continue sowing of summer maize and in **Jharkhand**, continue sowing of green gram/black gram, maize and vegetables.
 - In Southern Zone of **Kerala**, continue sowing of cucurbits and in Northern Zone, undertake cultivation

of vegetables as inter crops in coconut gardens.

- Continue sowing of sesame in Nagapattinam, Thanjavur, Thiruvarur and Thiruchirapalli districts of **Tamil Nadu**.
- As mainly dry weather would prevail, continue harvesting of mustard, cotton and castor in **North Gujarat**, onion and wheat crops in Madhya Maharashtra, *Thaladi* rice in Cauvery Delta Zone of **Tamil Nadu** and *Mundakan* rice in Northern Zone of **Kerala**. In North East Transition Zone of **Karnataka**, continue harvesting of sorghum, wheat and safflower.
- In Upper Brahmaputra Valley Zone and North Bank Plain Zone of **Assam**, soil and air temperatures are becoming favourable for attack of stem borer in *boro* rice. If eggs of the pests are noticed, apply 'Darsban' or 'Monocrotophos' @ 2 ml per litre of water. Undertake spraying in clear weather conditions.

Detailed Zonewise Agromet Advisories

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



Banana



Groundnut



Sugarcane



Cotton

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

- **Advisories:**

- **Tamil Nadu:**

- In the Cauvery Delta Zone, continue harvesting of matured *thaladi* rice and harvesting of late *samba* rice in Ariyalur, Karur and Perambalur districts utilizing the expected mainly dry weather. Continue cultivation of sesame in Nagapattinam, Thanjavur, Thiruvarur and Thiruchirapalli districts. Apply Gypsum @ 160 kg per acre to encourage pod formation and better pod filling 40 to 60 days after sowing depending on soil moisture on rainfed groundnut. In rice fallow pulses, give one irrigation using mobile sprinkler wherever water sources are available (farm pond) during flowering stage.
- In the Western Zone, prop the banana of more than five months old against lodging. Anticipating the dry and hot weather, hand hoeing, weeding and thinning may be done for irrigated sesame followed by one irrigation three days after weeding. Form inward basin to each coconut tree and drop 100 litres of salt free water per day.
- In the Southern Zone, undertake harvesting of cotton.
- In the South Zone, as mainly dry weather is expected in the coming days, continue picking of cotton (rainfed) and harvesting of chillies (irrigated). Maintain adequate soil moisture in banana crop through irrigation based on soil moisture depletion, as bunch development stage is an important stage.
- In the High Altitude Hilly Zone, spray 0.5% Urea @ 5 g/litre of water or 1% Potassium nitrate @ 10 g /litre of water to induce flowering in mango crop.
- In the High Rainfall Zone, discontinue tapping in rubber plants, as the trees started leaf shedding. Continue staking of banana plants with bamboo poles to protect from strong wind.
- In the North Western Zone, incidence of leaf webber attack was found in cultivated groundnut crops. To control this pest, spray Ethion @ 2ml/litre of water along with sticking agent.
- In the Cauvery Delta Zone, in rice fallow black gram, leaf caterpillar damage is noticed. To manage this, spray Chlorpyrifos 20 E.C. @ 500ml/acre or Profenophos 50 E.C. @ 400ml/acre.
- In the North Eastern Zone, stem borer incidence is noticed in rice crop. To control, spray any Monocrotophos 36 SL @ 1000ml/ha or Quinalphos 25 EC @ 1000 ml/ha.
- In the South Zone, prevailing dry weather conditions are congenial for incidence of stem weevil in summer irrigated cotton. To control, undertake earthing up and collar region drenching with Chlorpyrifos @ 2.5 ml/litre of water 15 days after sowing and do. Drenching has to be repeated after 30 days.
- In the High Rainfall Zone, prevailing increase in temperature and humidity is congenial for incidence of mite in coconut. Undertake root feeding with Azadiractin 50% formulation @ 7.5 ml in 7.5 ml water, if attack of mite is noticed.

- Suitable varieties for sowing are given in Annexure III.

- **Andhra Pradesh:**

- In the Krishna Godavari Zone, prevailing hot weather coupled with flowering to grain formation and hardening stage of rabi jowar requires water. Hence, provide irrigation immediately.

- In the North Coastal Zone, undertake new planting of sugar-cane using single budded setts/bud chip seedlings and give irrigations at frequent interval to keep the soil moist. Spray Diafenphouiron @ 1.6g /litre of water on chillies to prevent upward and down ward curling.
- In the Scarce Rainfall Zone, undertake harvesting of rabi groundnut in Anantapur district.
- In the Southern Zone, prevailing dry weather conditions are congenial for incidence of tikka leaf spot in rabi groundnut. To control, spray Mancozeb @ 2 g + Carbendizum @ 1 g or Hexaconazole @ 2 ml/litre of water twice within 15 days interval.
- In the Krishna Godavari Zone, prevailing dry weather conditions are congenial for mite attack on rabi jowar. If intensity is more, spread 5% Carbaril dust @ 8 kg per acre
- In the North Coastal Zone, prevailing dry weather condition are congenial for incidence of termites in sugar-cane. To control, spray Chloripyriphos @ 2.5 ml/litre of water.
- In the Scarce Rainfall Zone, prevailing weather conditions are congenial for incidence of bruchid damage in rabi groundnut. To avoid the bruchid damage, spray Malathion @ 10ml/10 litre of water or Chlorpyriphos @ 2.5ml/litre of water.
- **Telangana:**
- As thunderstorm accompanied with squall very likely at isolated places over Telangana on 15th March; provide mechanical support banana and young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
- In the Southern Telangana Zone, continue sowing of fodder crops like sorghum, bajra and maize where irrigation facilities are available and fodder sorghum, bajra, maize, pillipesara, sunhemp and horsegram in rice fallows.
- In the Northern Telangana Zone, undertake harvesting of bhendi and continue harvesting of tomato. Due to the present dry weather conditions, give frequent irrigations in mango orchards to get synchronized flowering.
- In the Northern Telangana Zone, leaf hopper incidence is noticed bhendi. To control, spray Imidacloprid @ 1 ml/litre of water.
- In the Southern Telangana Zone, Incidence of mites in noticed in chillies. To control, spray Spiromesifen @ 1.25 ml or Fenpyroximate @ 2ml per litre or Wettable Sulphur @ 3 g or Dicofol @ 5 ml per litre of water.
- **Karnataka:**
- In North East Transition Zone, complete harvesting of sorghum, wheat, safflower. Apply irrigation in mango at an interval of 15-20 days interval if sufficient water is available. Dip the lemon fruit size watermelon in to 20 ppm (20 mg in 1 litre of water) Gibberellic acid to increase size and quality of the fruit.
- In Southern Dry Zone, due to increase in day temperature dropping of fruits in mango trees was noticed; to manage this provide adequate quantity of irrigation water (go for drip irrigation wherever possible). Clear the weeds in Mango orchard, put it under the basin as mulch.
- In North Transition Zone, complete harvesting of sorghum, chickpea, wheat, chilli, brinjal, tomato and matured fruits of sapota. In Southern Transition Zone, continue planting of ginger/turmeric.
- In North East Dry Zone, as there is increase in temperatures, apply irrigation in watermelon. Complete sowing of Bt. cotton under irrigation facility. As dry weather is prevailing, complete harvesting of wheat, Bengal gram sorghum and safflower at the earliest. To overcome iron and zinc deficiencies, take up spraying of 0.25% Ferrous Sulphate + 0.5% Zinc Sulphate + 1% Urea; spray 5-6 times with 10 days interval or apply Ferrous Sulphate and Zinc Sulphate 10 kg each for one acre directly to the soil along with FYM.
- The incidence of button dropping, inflorescence dieback is likely to occur in arecanut in Hill Zone; for control spray Carbendezim @ 1 g/litre or Mancozeb @ 2 g/litre of water.
- Due to cloudy weather followed by rising temperature attack of tea mosquito bug is noticed in cashew in Coastal Zone; spray the affected cashew plants with Rogar/Chloropyriphos / Quinolphos @ 2 ml/litre solution.
- In present weather condition there is chance of infestation of leaf spot in banana in Central Dry Zone; spray the crop with Hexaconazole @ 1 ml dissolved in one litre of water.
- Attack of hoppers was noticed in mango crop in North East Dry Zone; for effective control take up spraying of Carbaryl 50 WP @ 4 g or Malathion 50 EC @ 2 ml or Monocrotophos 36SL @ 1.5 ml in one litre of water.
- **Kerala:**
- In the Problem Area Zone, continue providing irrigation to nutmeg, pepper and banana crops at regular interval and harvesting of rice.
- In Northern Zone, undertake cultivation of vegetables as inter crops in coconut gardens and continue harvesting of rice, black pepper and early fruit setting varieties of cashew.
- In the Southern Zone, continue cultivation of bitter gourd, bottle gourd and cucumber. Adopt a comprehensive management package, crown cleaning, phytosanitation, and regulation of shade to prevent mid-whorl yellowing in coconut. Resume tapping of rubber only after the receipt of good showers.
- In the High Altitude Zone, continue cultivation of crops like ginger and turmeric etc as an intercrop in irrigated coconut gardens. Give heavy irrigation to cardamom once in a fortnight.
- In the Southern Zone, prevailing increase in temperature is congenial for mosaic disease in bhindi. To control vectors like white fly, green hopper etc., apply Rogour (Dimethoate) 1.5 ml/litre of water and undertake uprooting and destruction of affected plants and collateral hosts on a non rainy day.
- In the Problem Area Zone, prevailing weather condition (dry, warm with low wind speed) is congenial for the

incidence of brown plant hopper (BPH) and sheath blight in rice. To control brown plant hopper, drain away water from the field (other than flowering and milky stage) and keep it in that condition until the pest population dwindle and to control sheath blight, apply Contaf 2ml/litre of water as spot application on a non rainy day.

- In the Central Zone, high temperature and low humidity is congenial for incidence of fruit fly in vegetables. To manage, remove and destroy affected and decayed fruits. Use special pheromone traps for vegetable fruit fly or Thulasi/fruit traps. If the attack is not reduced, apply Malathion 0.2% suspension containing sugar or jaggery at 10 g/litre of water at fortnightly intervals at flowering and fruit initiation.
- In the Northern Zone, prevailing dry and humid weather condition is congenial for incidence of stem borers in rice. If any incidence is noticed, swab the pseudostem and fill the leaf axils with diluted Carbaryl @ 2g per litre of water on a non rainy day.
- **Animal Husbandry**
- In the Northern Telangana Zone, vaccinate animals to prevent pneumonia, blue tongue disease in sheep and goats, birds to prevent kokkera disease, provide clean and fresh water daily & undertake deworming at regular intervals.
- In the Western Zone of Tamil Nadu, raise 30 per cent of the irrigated area with fodder sorghum/cumbu napier hybrid grass to meet the summer green fodder requirement of milch animal to sustain milk productivity.
- In the North Eastern Zone of Tamil Nadu, vaccinate livestock to protect them from foot and mouth disease. Animals should not be allowed for grazing during hot part of the day, provide cool drinking water and shade to the animals to reduce heat stress.
- In the North Western Zone of Tamil Nadu, prevailing temperature may affect feed intake in poultry, which will lead to reduction in egg weight and misshapen eggs. To prevent such changes add sufficient quantities of amino acids particularly lysine and methionine. This will balance amino acids in the diet and helps to maintain normal egg weight and production in poultry.
- Feed the animals with mineral supplements based on the deficiency in North East Transition Zone of Karnataka.
- In Southern Dry Zone of Karnataka, apply 4-6 inch thick hay thatch as a roofing material. Water can be used for spraying the floor and roof of shelter periodically during peak hot hours to reduce the heat load on animals. Proper ventilation should be maintained for free circulation of air in the animal sheds. Maintain optimum temperature between 18° C to 29°C in poultry shed for better production.
- Conserve fodder in the form of hay/silage for the lean period in North East Transition Zone.

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



Mustard



Rice



Okra



Cabbage

- **Realised Rainfall:** Rainfall occurred in East Siang, Lohit, Papumpara, Tawang, Upper Siang, Upper Subansari and West Siang districts of Arunachal Pradesh; Dibrugarh, Jorhat, Lakhimpur, Sibsagar and Tinsukia districts of Assam; Imphal West district of Manipur. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with squall very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura from 11th to 13th March, provide mechanical support banana and young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds.
 - Assam, Meghalaya & Arunachal Pradesh:
 - As rain/thundershowers would occur at many places over Arunachal Pradesh on 15th March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Continue sowing of summer vegetables like cucumber, sponge gourd, bottle gourd, ladies finger and early maize and cowpea utilising the realised rainfall. Complete harvesting of matured mustard, toria, *rabi* maize & potato at the earliest and keep harvested produce in safer places.
 - In Hill Zone of Assam, continue sowing of recommended high yielding varieties of bhindi and ridge gourd, nursery sowing of early ahu rice and land preparation for sowing of summer black gram/green gram and jute. Maintain 5 cm standing water level in the *boro* rice field up to 7-10 days before harvest.
 - In Lower Brahmaputra Valley Zone of Assam, continue sowing of early ahu rice (direct seeded), land preparation and sowing of *Capsularis* jute.
 - In Upper Brahmaputra Valley Zone of Assam, continue sowing of *Ahu* rice and prepare land for cultivation of *bao* rice. Undertake harvesting of toria.
 - In Barak Valley Zone of Assam, maintain 6 cm standing water in the boro rice fields at tillering stage. Undertake transplanting of summer vegetables, tomato and brinjal. There may be moisture stress in upland and medium

- upland banana garden because of less rainfall, farmers may irrigate the banana gardens.
- In Central Brahmaputra Valley Zone of Assam, continue land preparation and sowing of green gram/black gram, summer vegetables and Capsularis jute. Undertake nursery bed preparation for transplanted early ahu. Complete the harvesting of matured toria crop.
- In North Bank Plain Zone of Assam, continue land preparation and sowing of direct seeded ahu rice and nursery bed preparation for transplanted early ahu crop. Prepare land for sowing of green gram/black gram and bhindi. Farmers of flood affected low lying areas are advised to prepare land and undertake sowing of *baorice* as March-April is the ideal time of sowing. Undertake sowing of ridge gourd and sponge guard.
- In Meghalaya, undertake harvesting of potato, cabbage, cauliflower, broccoli, mustard and rapeseed. Undertake land preparation for sowing of maize in high and mid altitude region. Start land preparation and sowing of summer potato in high altitude region.
- In Upper Brahmaputra Valley Zone of Assam, due to favourable weather condition, infestation of stem borer may be noticed in boro rice field. As soon as one or more egg mass is seen per square metre area, spray Dursban of recommended dose.
- In Barak Valley Zone of Assam there may be stem borer attack in the rice field; to control the pest apply Chloropyrifos @ 1 ml/litre of water.
- In Central Brahmaputra Valley Zone of Assam, wilt disease in lentil crop is observed in some areas. Farmers are advised to protect their crop by soil drenching with Bavistin @ 1g/litre of water. Rust in field pea has been observed in some locality. To prevent the spread of this disease, Calixin @ 1-2 ml/litre of water may be sprayed depending upon the disease intensity in clear weather.
- In Upper Brahmaputra Valley Zone and North Bank Plain Zone, soil and air temperatures are becoming favourable for the attack of stem borer in boro rice. If eggs of the pests are noticed, apply 'Darsban' or 'Monocrotophos' @ 2 ml per litre of water in the fields. Spraying should be done in dry weather conditions.
- In Arunachal Pradesh, in prevailing weather condition, there is chance of incidence of powdery mildew in pea, spray Carbendazim 50 WP @ 1g/litre of water or Difenconazole 5 EC @ 0.5 ml/litre of water after current spells of rain.
- In Meghalaya, in the prevailing weather, there is chance of attack of powdery mildew in pea at fruting stage. Spray wettable Sulphur @ 3 g/litre of water or Dinocap @ 1 ml/litre of water or dust Sulphur @ 25 kg/ha three rounds at 15 days interval for control powdery mildew. Undertake plant protection measures on a non rainy day.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Nagaland, continue harvesting of chickpea, lentil, linseed and maize. Undertake land preparation for sowing of maize, okra, cowpea and cucurbits.
- In Manipur, undertake land preparation for sowing of French bean and okra.
- In Mizoram undertake harvesting of khasi mandarin, acid lime, oil plam, banana, pea, mustard, and toria. Undertake transplanting of brinjal and chilli in the main field. Undertake sowing of French bean and cow pea.
- In Tripura, undertake transplanting of summer brinjal and tomato in the main field. Maintain 4 -5cm standing water in the *boro* rice fields.
- In Manipur, due to humid weather condition there is chance of attack of aphids and powdery mildew in lentil/pea. Spray Cypermethrin @ 2ml/litre of water or Nuvan @ 0.5ml/litre of water against aphids. Spray Bayleton (Triademofon 25%WP) @ 7.5 g/pump (15 litre capacity) or Dinocap (Karathane 46% EC) @ 7.5ml/pump against powdery mildew.
- In Tripura, there is chance of attack of yellow stem borer on boro rice apply Fipronil @ 2g per litre of water to manage the attack. At flowering stage there may be attack of hopper in mango plants, spray Malathion @ 2ml/litre in water.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- In Lower Brahmaputra Valley Zone of Assam; it is time to make ready the pond for new batch of fishes. Collect all the fishes. Dry up the bottom of the pond for 15-20 days and remove the upper layer of the bottom soil, then plough it and add lime. After 7 -15days of application of lime, add cow-dung and mix it properly.
- In Barak Valley Zone, increase of temperature may cause stress in animals. Under these conditions farmers are advised to feed their animals at night time and feed as much as green grass with small pieces.
- In Meghalaya farmers are advised to vaccinate all newly born piglets against swine fever of age 3 months followed by annual booster dose. In epidemic areas vaccinate 6 months pigs with FMD vaccine once in a year.
- In Manipur give vaccination against PPR to sheeps and goats. Give vaccination to cattles against black quarter, haemorrhagic septicaemia and foot and mouth disease.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Gram



Sugarcane



Groundnut



Wheat

- **Realised Rainfall:** Weather remained mainly dry/dry over the region.
- **Advisories:**
 - **Maharashtra:**
 - As thundersquall accompanied with hail likely to occur at isolated places over Vidarbha on 12th March, farmers are advised to use hail nets/hail caps to protect orange and sweet lime orchards from mechanical damage. Farmers are advised to cover banana bunch with skirting bags. Farmers are advised to provide mechanical support to banana, papaya plants, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep already harvested jowar and gram at safer place. Harvest the matured fruits and vegetables at the earliest and keep at safer places.
 - In Madhya Maharashtra, continue cultivation of summer vegetable crops like bitter gourd, cucumber, ridge gourd, bottle gourd, water melon, musk melon. Continue harvesting of onion and wheat crops. Undertake intercultural operations and fertilizer application in sugarcane, summer groundnut and vegetables.
 - In Marathwada, apply irrigation in mango orchard. Continue sowing of fodder crops like maize, jowar and bajra. Undertake intercultural operations and fertilizer application in orchards (banana, fig, pomegranate, sweet lime, guava), sugarcane, summer groundnut and vegetables.
 - In Konkan, in *rabi* rice, maintain water level of 10 cm at panicle initiation stage in Sindhudurg. Continue sowing of seasonal fodder crops like cowpea, maize (African Tall), multicut sorghum and rice bean. Undertake intercultural operations and fertilizer application in vegetables. Apply irrigation to groundnut, orchards, vegetable crops and pulses. As mango is at fruit formation stage (pea/marble size) and considering the crop canopy, apply 80-100 litres of water per tree at 7 days interval to avoid fruit dropping.
 - In Vidarbha, maintain water level of 5-8 cm in summer rice field in East Vidarbha. Continue sowing of summer green gram with availability of irrigation facilities. Continue cultivation of summer vegetables like bitter gourd, tinda, ridge gourd, smooth gourd, bottle gourd, cowpea, clusterbean and coriander. Continue sowing of fodder crops like maize (African tall) and sorghum (varieties Pusa-Chari, MP-Chari, SSG-898).
 - Due to partially cloudy weather conditions in Madhya Maharashtra region, there may be incidence of downy mildew in vegetable crops such as cucumber, ridge gourd, bottle gourd, pumpkin; spray Metalaxyl MZ-72 @ 25 g or Mancozeb @ 25 g per 10 litres of water.
 - **Gujarat:**
 - In North Saurashtra Zone, continue sowing of summer green gram and black gram, apply irrigation in already sown crops and vegetables.
 - In South Gujarat Heavy Rainfall Zone, undertake intercultural operation in rice, groundnut and green gram, complete sowing of vegetable cowpea, cluster bean, summer pigeon pea, okra, cucurbits and amaranth. Maintain 5 cm water level in transplanted rice fields. Apply irrigation in sugarcane, green gram groundnut sweet corn as per requirement and light irrigation in vegetable crops, cluster bean, cucurbits.
 - Apply irrigation in gram, wheat and cumin in Bhal and Coastal Zone. Continue sowing of ladies finger, bitter gourd, bottle gourd, small gourd, green gram, pearl millet, okra, cluster bean and cowpea and transplanting of brinjal.
 - In Middle Gujarat Zone, continue sowing of summer pearl millet; complete the sowing of bitter gourd, bottle gourd, small gourd, Indian squash (tinda/round melon), summer squash (vegetable marrow), okra, cluster bean, cowpea, ladies finger, cluster bean, cowpea, water melon in time.
 - In South Saurashtra Zone, apply irrigation to onion (bulb development stage); complete sowing of green gram, black gram, groundnut and sesame. Apply irrigation to standing crops as per requirement. Stop irrigation to prevent further infestation of blight in cumin. Avoid irrigation to wheat crop at the time of maturity.
 - In North Gujarat Zone and North West Zone, complete sowing of summer vegetable crops (ladies finger, cluster bean, cow pea, bitter gourd, bottle gourd, small gourd etc.), continue sowing of pearl millet, green gram and cowpea. Apply irrigation to wheat (dough stage) and light irrigation in amaranth.
 - In present weather conditions attack of thrips has been reported in onion in North Saurashtra Zone; make alternative sprays of Imidacloprid 30.5 SC 3 ml and Profenofos 20 ml in 10 litres of water at 10 days interval. Spray Mencozeb 25 g and Hexaconazole 15 ml in 10 litres of water at 10 days interval.
 - In North Saurashtra Zone, thrips infestation is observed above ETL in summer groundnut; spray 500 ml of 5 % neem seed extract or neem seed oil @ 50 ml with Profenofos @ 20 ml or Imidacloprid 30.5 SC @ 3 ml or Lemda Cyheloثرin @ 10 ml/10 litres of water.

- Suitable varieties for sowing are given in Annexure III.

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



Rice



Wheat



Maize



Mustard

- **Realised Rainfall:** Rainfall occurred in East Sikkim, North Sikkim and West Sikkim districts of Sikkim; Garhwa district of Jharkhand. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers would occur at many places over Gangetic West Bengal on 14th, over Odisha on 15th and over Jharkhand on 13th & 14th March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - As thunderstorm accompanied with squall very likely at isolated places over Bihar, Jharkhand on 13th & 14th, over Gangetic West Bengal on 13th and over West Bengal & Sikkim and Odisha on 14th March, provide mechanical support banana and young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in Odisha and Jharkhand.
 - **West Bengal:**
 - In Old Alluvial Zone and Terai Zone, keep 5 cm water in the transplanted rice fields. Continue sowing of bitter gourd.
 - In Hill Zone, continue land preparation for sowing of maize, bhindi and French bean and planting of ginger and turmeric. Undertake harvesting of cole crops.
 - In Coastal Saline Zone, undertake land preparation for sowing of sesame. Apply Azophos @ 3kg/bigha for land preparation. Seed rate should be followed for broadcasting @ 800g/bigha and for line sowing @ 600g/bigha.
 - In Hill Zone, due to hot and mainly dry weather condition, powdery mildew disease may attack in tomato at fruiting stage. Spray Wettable Sulphur @ 2g/litre of water to control powdery mildew disease.
 - In Laterite and Red soil Zone, in the prevailing weather condition, stem borer may damage *boro* rice at Maximum tillering stage and shoot and fruit borer may be affected in brinjal. Spray Methyl Parathion @ 1ml/litre of water to control stem borer and spray neem seed Kernel Extract solution @ 50ml/lit to control shoot and fruit borer.
 - In New Alluvial Zone, prevailing weather condition stem borer attack may be found in rice. To control stem borer apply Cartap 4 G @ 25 kg/ha or Phorate 10 G @ 10 kg/ha after current spells of rain.
 - In Terai and Old Alluvial Zone, weather is congenial for attack of fruit and shoot borer in brinjal. Use 6-8 pheromone traps/bigha or apply Acephate + Fenvelarate mixture @ 1ml/litre water with 2g of detergent powder as sticker.
 - In Terai Zone, there may be attack of aphids in mustard and leaf blight in tomato, spray Thiamethoxam @ 1 g/3 litres of water for control of aphids. In case of Leaf blight, apply Mancozeb @ 2.5g/litre of water.
 - **Andaman and Nicobar Islands:**
 - In South, North and Middle Andaman, apply *trichoderma* @ 2.5 kg/ha mixed with FYM as soil application for disease control in vegetables.
 - In Nicobar, remove the plants infected with viral symptom such as curling of leaves, mosaic and bronzing and burn it.
 - In South, North and Middle Andaman, apply irrigation to vegetable crops during evening hours at weekly interval as dry spell is continuing.
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, as temperature conditions are favourable, continue sowing of sunflower, groundnut and summer maize. Continue harvesting of matured early sown mustard in clear weather.
 - In North Eastern Ghat Zone, continue sowing summer sunflower (PAC-36, MSFH-8 & SFH-17) and groundnut (Smurti, Phule Pragati, ICGS-44, TAG-24, TG-3, TMV-2 & TG-38).
 - In North Eastern Plateau, undertake sowing of green gram (PDM-11, PDM-54, Durga) & black gram (PU-30, PU-19, PU-35 & Sarala).
 - In Mid Central Table Land Zone, continue sowing of summer vegetables like pumpkin, bitter gourd, bottle gourd, okra etc.
 - In East and South Eastern Coastal Plain Zone, increased temperature may favour the egg laying of stem borer in rice in the main field. To attract the butterflies, place 4 Pheromon Traps/acre, collect the adults and destroy them by burning them under soil or by burying. Increased difference between daily maximum and minimum

temperature favours the infestation of blast in rice in main fields. Spray Beam @ 1 g in one litre of water on a non rainy day.

- In East and South Eastern Coastal Plain Zone, the prevailing partly cloudy weather may aggravate the infestation of aphids in pulses and powdery mildew in pulses and cole crops. Spray Imidachlopid @ 5 ml or Metacystox @ 20 ml per 10 litres of water to control aphids and spray Sulfex @ 50 g per 10 litre of water to control powdery mildew on a non rainy day.
- In East and South Eastern Coastal Plain Zone, there is chance of mite attack in coconut resulting early fruit drop, small and unusual shape of coconut. Clean the coconut plants by cutting the dried leaves. Spray Neemajal @ 2 litre solution per plant @ 4 ml in 1 litre water on a non rainy day.
- In South Eastern Ghat Zone, variation in day and night temperature may lead to buildup of stem borer in paddy. Monitor the fields, when the insect incidence crosses the ETL level (ETL: 1 eggmass or 1-2 moths/m²), apply granular insecticide Carbofuran 3% @ 12 kg/acre or Cartap hydrochloride 4% @ 10 kg/acre on a non rainy day.

▪ **Bihar:**

- In South Bihar Alluvial zone, continue harvesting of matured potato and mustard and transplanting of sweet potato. Complete planting of spring season Arvi crop. Undertake sowing of summer vegetables.
- In North West Alluvial Plain Zone, continue harvesting of matured mustard and potato and sowing of summer maize, summer vegetables and fodder crop. Apply light irrigation in standing vegetable crops such as pea, tomato, brinjal, chilli, cabbage and onion. Undertake land preparation for sowing of green gram and black gram.
- In North East Alluvial Zone, continue sowing of cucumber, bottle gourd, musk melon, water melon, bitter gourd, ridge gourd and ladies finger and apply light irrigation to already sown onion crop. Undertake harvesting of matured mustard crop and complete sowing of spring sugarcane.
- In North West Alluvial Plain Zone, apply light irrigation in maize and wheat crops which is in grain forming/milking stage.
- In South Bihar Alluvial Zone, there is chance of attack of pod borer in chickpea, apply Profenofos in 1.5ml/ litre of water to protect the crop from pod borer.

▪ **Jharkhand:**

- In Western Plateau Zone, continue sowing of vegetables like sponge gourd, bottle gourd, pumpkin, water melon, musk melon etc utilizing the realized rainfall.
- In South Eastern Plateau Zone, continue sowing of summer moong.
- In South Eastern Plateau, Central and North Eastern Plateau Zone, prevailing high wind speed, humidity and cloudy sky, which favours the movement of loose smut spores hence, there is a chance of spread of disease (loose smut) in wheat in a more speedy way. If loose smut is seen on earhead, uproot the affected plants and bury it deep in the soil.
- In South Eastern Plateau Zone, humid weather during morning hours and later on sunny weather favours infestation of white rust in late sown mustard (at flowering stage) crop and attack of aphids in timely sown crop at pod development stage. Monitor the crops frequently. In early stage, farmers are advised to remove and destroy the infected parts of the plants.
- In South Eastern Plateau Zone, to control hoppers in Mango, Litchi and Jack fruit, spray Metasystox @ 1ml or Kung-fu or Karate or Matador (Lambda Cyhalothrin) @ 2 g along with 0.5 g Carbendazim per litre of water before or just after flowering in to minimize the attack after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

▪ **Animal Husbandry**

- In South, North and Middle Andaman, newly born piglets should be kept under brooding providing artificial light in the form of electric bulbs (40 watt) as required.

CENTRAL INDIA [M.P., CHHATTISGARH]



Cauliflower



Gram



Okra



Wheat

- **Realised Rainfall:** Rainfall occurred in Dindori and Umaria districts of East Madhya Pradesh. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As thundersquall accompanied with hail very likely to occur at isolated places over Madhya Pradesh on 12th; over East Madhya Pradesh on 13th and over Chhattisgarh on 12th, 13th March, farmers are advised to use hail nets/hail caps for orchard crops to protect from mechanical damage. Provide mechanical support to young fruit plants and

staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places.

▪ **Madhya Pradesh:**

- In Malwa Plateau Zone, continue nursery sowing of tomato, brinjal and chilli. Continue harvesting of matured gram, potato, cauliflower and cabbage in clear weather. Continue land preparation for sowing of summer cucurbits and okra.
- In Kymore Plateau and Satpura Hill Zone, continue harvesting of matured lentil, field pea, linseed and sunflower in clear weather. Keep harvested produce at safer places.
- In Central Narmada Valley Zone, continue digging of matured potato. Undertake sowing of okra and cowpea.
- In Nimar Valley Zone, continue sowing of green gram and cucurbits. Continue harvesting of matured wheat.
- In Jhabua Hill Zone, continue harvesting of early sown mustard, gram and matured wheat in clear weather. Continue transplanting of summer vegetables. Undertake land preparation and sowing of summer moong, okra and cucurbits.
- In Vindya Plateau Zone, continue nursery preparation of summer vegetables and sowing of cucurbits, okra, cowpea and cluster bean. Continue harvesting of matured gram in clear weather.
- In Satpura Plateau Zone, continue sowing of okra, groundnut, maize and cucurbits. Continue harvesting of matured potato and undertake harvesting of matured mustard in clear weather.
- In Bundelkhand Zone, continue sowing of vegetables like pumpkin, bitter gourd, okra etc. Continue harvesting of matured lentil, linseed and mustard crops.
- In Bundelkhand Zone, there are chances of attack of sucking pest in mango at flowering stage, spray Dichlorovos 76% @ 2ml/litre of water and monitor onion crop against thrips, if found spray Carbaryl @ 2g/litre of water on a non rainy day.
- Suitable varieties for sowing are given in Annexure III.

▪ **Chhattisgarh:**

- In North Hill Zone, continue sowing of green gram, maize, sunflower and cucurbits and transplanting of summer rice. Continue harvesting of matured mustard, pea, lentil and potato in clear weather.
- In Bastar Plateau Zone, continue sowing of summer moong and urad. Continue harvesting of matured pea.
- In Chhattisgarh Plain Zone, continue preparation of seedlings of cucurbitaceous vegetables in polythene bags and sowing of green gram. Continue harvesting of lathyrus, mustard and toria on bright sunny days.
- Due to humid weather there may be attack of caterpillars in chickpea, spray Profenafos + Cypermethrin @ 400 ml/acre dissolved in 200 litres of water on a non rainy day.

• **Animal Husbandry**

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

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



Wheat



Sugarcane



Cauliflower



Mustard

- **Realised Rainfall:** Rainfall occurred in Bilaspur, Kullu, Lahaul & Spiti and Solan districts of Himachal Pradesh; Muktsar district of Punjab; Kathua, Ramban and Udhampur districts of Jammu & Kashmir; Mirzapur district of East Uttar Pradesh. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As thundersquall/thunderstorm accompanied with hail very likely at isolated places over Jammu division, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi on 11th & 12th, over Uttarakhand from 11th to 13th, over West Rajasthan on 11th, over East Rajasthan on 12th, over West Uttar Pradesh on 12th & 13th, over Uttar Pradesh on 12th March, farmers are advised to use hail nets/hail caps for orchard crops to protect from mechanical damage. Provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane and keep harvested produce at safer places.
- As rain/snow very likely to occur at most/many places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand from 11th to 14th March along with heavy rain/snow very likely at isolated places over Jammu & Kashmir and Himachal Pradesh and rain/thundershowers very likely at most/many places over East Uttar Pradesh on 13th & 14th, over West Uttar Pradesh on 12th & 13th, over Punjab on 11th to 13th and over Haryana, Chandigarh & Delhi on 12th & 13th along with heavy rain likely at isolated places over Uttar Pradesh on 13th, over Punjab on 12th and over Haryana, Chandigarh & Delhi on 12th & 13th March, postpone irrigation, inter-cultural

operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of matured crop and keep already harvested produces at safe places. Provide adequate drainage in standing crop fields in to avoid water stagnation.

▪ **Jammu & Kashmir:**

- In Valley Temperate Zone, maintain drainage channels in garlic/onion to avoid water logging. Undertake nursery sowing of tomato, brinjal, chilli, capsicum, knol khol, kale in hot beds as well as in raised beds under open conditions and continue sowing of cucurbits in polybags after current spells of heavy rain. Continue transplanting of cauliflower, cabbage and knol khol after current spells of heavy rain.
- In Intermediate Zone, continue nursery sowing of cucurbits (Cucumber, Bottle gourd and Bitter gourd), tomato, brinjal and chilli after current spells of heavy rain.
- In Sub Tropical Zone, present weather is congenial for attack of yellow rust, leaf spot and aphid in wheat crop, for control of yellow rust, leaf spot spray Propiconazole (Tilt) @ 0.1% spray 2-3 times and at 15 days interval, for control of aphid spray Rogor 30 EC @ 750 ml in 750 litres of water after current spells of rain.
- In Sub Tropical Zone, present weather is congenial for attack of wilt and blight in rabi gram crop, for control spray Bavistin/Carbendazim @ 3gm. per litre of water after current spells of rain.
- In Intermediate Zone, keep strict vigil on yellow rust infestation in the wheat crop. If observed, spray Propiconazole @ 10ml in 20 litre of water after current spells of rain, repeat the spray after 10-15 days interval if the disease persists. Also if alternaria blight is observed in the mustard crops. apply Mancozeb @ 2.5 g/litre of water and Ridomil MZ @ 2.5 g/litre of water alternately as a curative measure after current spells of rain.
- In Sub Tropical Zone, present weather is congenial for attack of thrips in onion, for control spray Carbaryl @ 2gm per litre of water after current spells of rain.
- In Sub Tropical Zone, present weather is congenial for attack of leaf miner, citrus psyllid and lemon butterfly in citrus plants, for control spray Dimethoate @ 1mg per litre of water after current spells of rain.

▪ **Uttarakhand:**

- In Bhabar and Tarai Zone, continue planting of potato with varieties like Kufri Jyoti, Kufri Ashok & Kufri Anand etc, sugarcane and nursery sowing of brinjal and tomato after current spells of heavy rain .
- In Hill Zone, continue field preparation for sowing of okra, French bean, lady finger and also for planting of potato in mid hill region after current spells of heavy rain.
- In Hill Zone, in the present weather, there may be incidence of thrips in garlic and onion, spray Imidacloprid @ 6 -8 ml in 10 litres of water in garlic and onion after current spells of rain.
- In Hill Zone, keep strict vigil in the wheat crop on yellow rust infestation. If observed, spray Propiconazole @ 10ml in 20 litre of water after current spells of rain, repeat the spray after 10-15 days interval if the disease persists.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, continue sowing of sunflower, fodder crops such as chari and bajra, cucurbits such as cucumber, bitter gourd, bottle gourd and summer squash and nursery sowing of tomato, brinjal, chilli and capsicum after current spells of heavy rain.
- In Mid Hills sub-Humid Zone, continue nursery preparation of tomato, brinjal and capsicum after current spells of heavy rain.
- In High Hill Temperate Dry zone, maintain desired moisture in nursery beds of poly houses of seedlings of Chinese cabbage, spinach and coriander and vegetable crops in lower region to protect from cold.
- In Sub-Montane and Low Hills Sub-Tropical Zone, under prevailing weather conditions, there may be chances of attack of yellow rust and aphids in wheat and mustard crop respectively and purple blotch in garlic and onion. For control of yellow rust, spray Tilt @ 1ml per litre of water and spray Cypermethrin @ 750 ml per 750 litre of water per hectare for aphids and spray Mancozeb or Redomil @ 2.5 g per litre of water to control purple blotch in garlic and onion after current spells of rain.
- In Mid Hills sub-Humid Zone, weather is conducive for attack of aphids and cabbage butterfly in cole crops, apply Malathion @15ml per 15 litre of water after current spells of rain.
- In Sub-Montane and Low Hills Sub-Tropical Zone, under prevailing weather conditions, there are incidence of purple blotch/stumpy leave in onion and garlic, spray Mancozeb or Redomil @ 2.5 g per litre of water after current spells of rain.

▪ **Rajasthan:**

- In East Rajasthan, continue sowing of Zaid green gram, Zaid groundnut, Okra, Zaid sorghum (fodder), Zaid pearl millet (fodder) and early summer cucurbits like bottle gourd, round gourd, bitter gourd, water melon and musk melon in Semi-Arid Eastern Plain Zone
- In Sub Humid Southern Plain and Aravali Hill Zone, continue sowing of summer okra, field preparation for sowing of summer groundnut.
- In West Rajasthan, in Arid Western Zone, continue field preparation for sowing of guar crop, in Barmer, Churu, Jalore, Jodhpur and Pali districts.
- In Transitional Plain Zone of Inland drainage, undertake sowing of zaid moong, vegetables like loki, torai, kerela, tinda,(variety Bikaneri green, dilpasand) kakri (variety Lakhnau ageti and Arkasital), kharbuja (variety Durgapura madhu, Punjab sunehri, Punjab hybrid and pusa madhuras) tarbuja (variety sugar baby, Durgapura mitha, Durgapura lal) and khira

- In Transitional Plain Zone of Inland drainage, due to change in temperature there is a chance of infestation of aphids on mustard and cumin, rust in wheat and barley also there is a chance of attack of pod borer in gram, spray Dimethoate 30 EC or Methyl Demeton 25 EC @1 litre/ha dissolved in water to control aphids, dust Sulphur powder @ 25 kg per ha to control rust in wheat and barley and spray Azadirachtin @ 5 ml per litre water at the time of flowering and pod formation or Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 litre/ha dissolved in 500 litre of water. Undertake plant protection measures on a non rainy day.
- In Semi Arid Eastern Plain Zone, prevailing weather is conducive for attack of pod borer in gram at pod formation stage, for control, dust Methyl Parathion 2% or dust Carbaryl 5% @ 25 kg per hectare on a non rainy day.
- In Flood Prone Eastern Plain Zone, due to increase in temperature, there is a chance of attack of aphids and thrips in chilli, tomato and brinjal, spray 0.1% Malathion solution on a non rainy day at 10 days interval.
- In Arid Western Plain Zone, prevailing weather is conducive for increase in attack of aphids and other sucking pest in gram and mustard crop, for control spray Thiamethoxam 25 WG @ 100 g or Dimethoate 30 EC @ 1200 ml per hectare on a non rainy day.
- In Arid Western Plain Zone, prevailing weather is conducive for attack of heliothis infestation in gram, for control spray Quinalphos 25 EC @ 1200 ml per hectare or Indoxacarb @ 200 ml per hectare along with water at the time of flowering on a non rainy day and if required, repeat it after 15 days interval.
- **Punjab, Haryana and Delhi:**
 - In Western Plain Zone of Punjab, continue sowing of okra, spring maize and planting of sugarcane.
 - In Central and Undulating Plain Zone of Punjab, undertake planting of sugarcane.
 - In Central, Western and Undulating Plain Zone of Punjab, continue planting of peach, plum, pear, pomegranate and ber plants.
 - In Western Zone of Punjab, prepare the field for transplanting summer vegetables of chilli, tomato, bell pepper and planting of evergreen fruit plants of kinnow, lemon, guava ber and Amla.
 - In Western Zone of Haryana, continue sowing of green gram and black gram. In Eastern Zone, complete the planting of sugarcane after current spells of heavy rain.
 - In Western Semi-Arid Zone of Delhi, undertake sowing of green gram, black gram and transplanting of marigold after current spells of heavy rain.
 - In Central and Undulating Plain Zone of Punjab, there is chance for occurrence of yellow rust in wheat fields in the present weather condition. Monitor the crop and if symptoms are noticed, spray with Tilt/Shine/Bumper/Compass/Markzole @ 200 ml in 200 litres of water/acre after current spells of rain.
 - In Central, Western, Sub-Montane and Undulating Plain Zone of Punjab, there may be chances of aphids in mustard crop; to control spray 40g Actara 25 WG or 400 ml Rogor 30EC in 80-125 litre of water per acre. Also in Undulating Plain Zone of Punjab, there may be chances of *alternaria* blight in mustard, spray Indofil M 45 @ 25 gm/acre in 100 litres of water after current spells of rain.
 - In Western Plain Zone of Punjab, in the present weather, army worms may attack wheat and barley, spray Nuvan 85 SL (dichlorvos) or 400 ml Ekalux 25 EC (quinalphos) in 80-100 litres of water per acre after current spells of rain.
 - Due to favourable weather condition, there may be attack of pod borer in gram in Western Zone of Haryana, spray Carbaril 50 W.P. @ 400 gram or Monocrotophas 36 SL @ 200 ml per 100 liter water per acre and there may be attack of stalk rot in mustard crop, spray of Carbendzin 0.1% solution after current spells of rain.
- **Uttar Pradesh:**
 - In Central Pain Zone, continue sowing of summer fodder crops, planting of autumn sugarcane and sowing of urad, mung, lobia, bhindi as inter crop in sugarcane, land preparation and sowing of cowpea, maize. transplanting of onion, nursery sowing and transplanting of tomato, chili. Continue sowing of bhindi, tinda, cucurbits, water melon and bottle guard after current spells of heavy rain.
 - In Eastern Plain Zone, undertake sowing of bhindi, tinda, torai, cucurbits, and bottle guard, continue sowing of lobia ,maize urad, mung and cucurbits and transplanting of onion after current spells of heavy rain.
 - In Western Plain Zone, continue transplanting of tomato, chilli and sowing of bhindi, cucurbits. planting of autumn sugarcane and sowing of sunflower, urad, mung, maize after current spells of heavy rain.
 - In Bundelkhand Zone, continue harvesting of matured mustard, gram, pea, lentil in clear weather and keep the harvested produce at safer places. Continue sowing of cucurbits, transplanting of cabbage, cauliflower, tomato, brinjal and chilli and land preparation for sowing of groundnut after current spells of heavy rain.
 - In Central Plain Zone, due to prevailing weather condition, there may be chances of attack of sucking pest/aphids in mustard, for control spray Dimethoate 30 EC @ 1 litre or Monocrotophos 36 S.L. @ 1 litre or Chlorpyrifos 20 E.C. @ 1 litre in 700 to 800 litres of water per hectare after current spells of rain.
 - In Central Plain Zone, due to prevailing weather condition, there may be chances of attack of pod borer in gram at pod formation stage, for control spray Monocrotophos @ 0.75 litre in 700 to 800 litres of water per hector after current spells of rain.
 - In Central Plain Zone, due to prevailing weather condition, there may be chances of attack of fruit borer in brinjal and tomato for control, spray Carbaryl @ 2 gm. per litre of water after current spells of rain.
 - In North Eastern Plain Zone, due to prevailing weather condition, there may be chances of attack of pod borer in arhar, for control spray 0.2 % Emidacloprid @ 400 ml in 200 litres of water per acre after current spells of rain.
 - Suitable varieties for sowing are given in Annexure III.

- **Horticulture:**
 - In North Eastern Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of mango hopper and mealy bug in mango trees for control spray mixture of 0.2 % Emidacloprid @ 400 ml and 0.2 % Carbendazim @ 400 g per 200 litres of water per 20 plants after current spells of rain.
 - In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of incidence of leaf spot and rot in banana, for control, spray Bavestin or Carbendazim @ 1 g per litre of water after current spells of rain.
 - In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of maggot in mango, for control, spray 17.8 % Emidacloprid S.L. @ 1 ml in 3 litres of water or 25 % Quinalphos EC @ 2 ml per litre of water after current spells of rain.
 - In Central Plain Zone of Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of canker in citrus fruits, for control, spray Blitox 50 (0.25%) after current spells of rain.
 - In Central Plain Zone of Uttar Pradesh, undertake transplanting of papaya plants in new orchard after current spells of heavy rain.
- **Animal Husbandry**
 - In High Hill Temperate Dry Zone and in Sub-Montane and Low Hills Sub-Tropical Zone of Himachal Pradesh, give daily 40-50g Minerals mixture per cow and protect newly born calves to protect from cold.
- **Floriculture**
 - In Sub Montane and Low Hills Sub Humid Zone of Himachal Pradesh, as there is a chance of attack of aphids in winter flower plants, spray Malathion @ 0.05% for the control.

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

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	24.02.16		02.03.16		09.03.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	
Changlang	19.8	-68	1.2	-98	16.5	-75
Dibang Valley	62.0	-3	15.0	-59	5.0	-92
East Kameng	0.2	-99	0.0	-100	0.0	-100
East Siang	38.8	91	1.7	-91	23.8	1
Kurung Kumey	**	**	**	**	**	**
Lohit	92.2	217	11.1	-52	89.1	216
Lower Dibang Valley	107.0	67	3.8	-90	4.0	-94
Lower Subansari	**	**	**	**	**	**
Papumpare	15.2	-14	3.5	-77	20.3	107
Tawang	12.0	-2	6.0	-8	48.0	478
Tirap	21.0	-24	4.2	-74	14.0	-51
Upper Siang	83.4	42	11.6	-76	48.8	-44
Upper Subansari	18.6	17	0.0	-100	27.4	191
West Kameng	0.0	-100	0.0	-100	1.6	-81
West Siang	42.0	103	2.0	-88	22.0	-9
Assam&Meghalaya						
Assam						
Baksa	0.0	-100	0.0	-100	5.4	20
Barpeta	0.0	-100	0.0	-100	8.9	98
Bongaigaon	0.0	-100	0.0	-100	2.2	-63
Cachar	21.4	2	19.1	17	4.2	-82
Chirang	8.2	-39	0.0	-100	1.4	-76

Darrang	**	**	**	**	**	**
Dhemaji	**	**	4.0	-69	15.0	44
Dhubri	0.3	-89	0.0	-100	0.0	-100
Dibrugarh	23.9	77	8.1	-45	42.7	151
Goalpara	0.0	-100	0.0	-100	0.0	-100
Golghat	0.0	-100	1.2	-79	2.1	-72
Hailakandi	28.1	25	35.2	300	0.0	-100
Jorhat	0.7	-93	0.8	-89	21.1	83
Kamrup(Rural)	0.0	-100	0.0	-100	0.1	-98
Kamrup(Metro)	0.0	-100	0.0	-100	1.7	-73
Karbi Anglong	0.0	-100	0.4	-94	0.6	-92
Karimganj	30.9	239	7.6	-28	9.5	-68
Kokrajhar	0.0	-100	0.0	-100	0.3	-92
Lakhimpur	32.0	205	0.0	-100	72.5	597
Morigaon	0.0	-100	0.0	-100	0.2	-96
N.C.Hills	19.5	17	3.4	-77	0.0	-100
Nowgong	0.0	-100	14.2	209	3.4	-26
Nalbari	0.0	-100	0.0	-100	5.5	-13
Sonitpur	0.1	-99	0.0	-100	3.3	-44
Sibsagar	2.1	-82	5.7	6	42.7	209
Tinsukia	37.5	148	4.9	-72	61.0	261
Udalgiri	0.0	-100	0.0	-100	3.9	-58
Meghalaya						
East Garo Hills	0.0	-100	0.0	-100	0.0	-100
East Khasi Hills	0.0	-100	5.5	-21	1.9	-94
Jaintia Hills	0.0	-100	5.0	-29	13.0	-22
Ribhoi	0.0	-100	0.0	-100	0.5	-87
South Garo Hills	**	**	0.0	-100	0.0	-100
West Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	2.0	-76	1.9	-94
NMMT						
Mizoram						
Aizwal	9.7	-11	1.5	-86	4.5	-62
Champhai	**	**	**	**	**	**
Kolasib	**	**	0.0	-100	0.0	-100
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	14.0	-25	8.0	321	0.0	-100
Serchhip	42.0		6.0	-18	0.0	-100
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	0.0	-100	0.0	-100
Churachandpur	**	**	**	**	**	**
Imphal east	7.9	32	10.2	-15	0.0	-100
Imphal west	27.8	341	15.2	21	24.2	70
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**

Ukhrul	**	**	**	**	0.0	-100
Nagaland						
Dimapur	0.5	-38	2.6	8	0.0	-100
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	2.0	-74	3.8	-56
Longleng	**	**	**	**	**	**
Mokokchung	0.0	-100	2.0	-66	1.0	-81
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	**	**	**	**	8.0	-8
Tuensang	**	**	**	**	**	**
Wokha	1.0	-88	1.0	-93	1.0	-93
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	7.7	-54	36.0	275	1.5	-89
NorthTripura	77.4	567	42.1	141	17.5	25
SouthTripura	14.6	10	5.2	-53	0.7	-89
West Tripura	5.6	-54	12.4	47	1.6	-79
Himachal Pradesh						
Bilaspur	9.6	-45	0.0	-100	35.6	158
Chamba	21.4	-5	0.0	-100	19.8	-46
Hamirpur	11.5	-29	0.0	-100	19.5	47
Kangra	12.9	-31	0.1	-99	17.0	7
Kinnaur	27.0	-3	0.0	-100	2.1	-88
Kullu	40.2	73	0.4	-99	28.3	6
Lahaul and Spiti	18.3	-44	0.0	-100	3.3	-90
Mandi	19.5	12	2.5	-84	20.0	42
Shimla	16.3	-13	2.3	-86	19.0	33
Sirmaur	3.0	-74	0.0	-100	5.3	-28
Solan	17.9	1	0.0	-100	23.5	118
Una	9.4	-8	0.0	-100	10.5	-4
Punjab						
Amritsar	7.2	-17	0.0	-100	4.0	-38
Barnala	13.0	251	0.0	-100	0.0	-100
Bhatinda	7.5	15	0.0	-100	10.0	317
Faridkot	12.0	314	0.0	-100	3.5	21
Fatehgarh Saheb	0.0	-100	0.0	-100	4.0	-29
Ferozpur	2.8	-30	0.0	-100	0.4	-90
Gurdaspur	4.9	-59	0.0	-100	7.3	-40
Hoshiarpur	4.6	-55	0.0	-100	1.3	-88
Jalandhar	8.9	4	0.0	-100	1.6	-77
Kapurthala	5.8	33	0.0	-100	2.5	-62
Ludhiana	5.2	-36	0.0	-100	3.0	-53
Mansa	4.2	5	0.0	-100	6.8	278
Moga	2.6	-29	0.0	-100	4.2	50
Muktsar	6.0	43	0.0	-100	24.2	612
Nawashahar	4.6	-60	0.0	-100	5.1	-40
Patiala	3.1	-62	0.0	-100	16.0	213
Ropar	2.3	-79	0.0	-100	1.3	-71

Sangrur	6.0	6	0.0	-100	12.1	317
Mohali	0.0	-100	0.0	-100	2.0	-63
TarnTaran	3.0	-53	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	1.0	-84	0.0	-100	6.0	34
Bhiwani	0.0	-100	0.0	-100	6.3	384
Chandigarh	1.1	-89	0.0	-100	4.6	-13
Faridabad	0.0	-100	0.0	-100	3.0	-23
Fatehabad	0.0	-100	0.0	-100	5.7	608
Gurgaon	0.0	-100	0.0	-100	5.2	174
Hissar	1.3	-72	0.0	-100	19.3	1507
Jhajar	0.0	-100	0.0	-100	4.0	102
Jind	0.5	-79	0.0	-100	11.0	511
Katihah	1.8	-58	0.0	-100	5.4	146
Karnal	0.4	-92	0.0	-100	4.2	27
Kurukshetra	0.3	-96	0.0	-100	3.8	1
Mahendragarh	0.0	-100	0.0	-100	5.3	78
Mewat	0.0	-100	0.0	-100	10.5	855
Palwal	0.0	-100	0.0	-100	2.0	67
Panchkkula	2.1	-79	0.0	-100	6.0	13
Panipat	0.8	-81	0.0	-100	1.2	-20
Rewari	0.0	-100	0.0	-100	3.6	200
Rohtak	0.2	-97	0.0	-100	4.6	5
Sirsa	5.0	32	0.0	-100	5.0	233
Sonepat	1.2	-73	0.0	-100	5.4	93
Yamunanagar	0.1	-98	0.0	-100	6.7	42
Delhi						
Central Delhi	1.0	-74	0.0	-100	4.0	33
East Delhi	0.0	-100	0.0	-100	3.0	0
New Delhi	1.3	-67	0.0	-100	5.2	73
North Delhi	1.0	-74	0.0	-100	4.2	40
North East Delhi	0.0	-100	0.0	-100	4.0	33
North West Delhi	1.5	-61	0.0	-100	3.5	17
South Delhi	0.5	-87	0.0	-100	3.9	28
South West Delhi	1.6	-58	0.0	-100	7.0	132
West Delhi	0.0	-100	0.0	-100	5.0	67
Jammu & Kashmir						
Anantnag	27.0	-4	0.0	-100	3.9	-89
Badgam	27.0	56	0.0	-100	2.0	-91
Bandipore	**	**	**	**	**	**
Baramula	23.9	-39	0.0	-100	3.1	-88
Doda	15.2	-69	0.0	-100	5.8	-88
Ganderbal	9.6	-44	0.0	-100	4.4	-77
Jammu	13.2	-34	0.0	-100	11.5	-18
Kargil	**	**	**	**	**	**
Kathua	6.2	-75	0.0	-100	20.9	15
Kistwar	**	**	**	**	**	**
Kulgam	25.2	-10	0.0	-100	1.6	-96

Kupwara	24.7	-26	0.0	-100	4.0	-91
Ladakh(Leh)	1.3	-22	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	31.5	142	0.0	-100	3.1	-85
Rajouri	34.4	69	0.0	-100	15.0	46
Ramban	22.1	-55	0.0	-100	17.1	-63
Reasi	23.7	-24	0.0	-100	30.9	14
Samba	7.2	-64	0.0	-100	5.2	-63
Shopian	**	**	**	**	**	**
Srinagar	28.1	65	0.0	-100	3.0	-84
Udhampur	11.6	-63	0.0	-100	42.0	55
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	2.2	-43
Balaghat	0.0	-100	3.6	6	0.6	-73
Chhatarpur	0.0	-100	0.0	-100	3.1	285
Chindwara	0.0	-100	9.6	167	11.1	235
Damoh	0.0	-100	0.0	-100	3.0	67
Dindori	0.0	-100	0.0	-100	20.2	330
Jabalpur	0.0	-100	0.0	-100	19.3	1106
Katni	0.0	-100	2.0	-26	0.0	-100
Mandla	0.0	-100	4.3	-13	11.5	283
Narsingpur	0.0	-100	0.4	-85	1.0	-9
Panna	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	3.1	179
Sagar	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	4.4	303
Seoni	0.0	-100	18.0	275	17.2	310
Shahdol	0.0	-100	0.0	-100	8.0	220
Sidhi	0.0	-100	0.0	-100	4.6	188
Singrauli	0.0	-100	3.7	208	10.0	355
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	2.6	-50	30.2	1338
West Madhya Pradesh						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	1.5	667
Asoknagar	0.0	-100	0.0	-100	3.0	500
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	8.8	213	0.2	-85
Bhind	0.6	-76	0.0	-100	0.3	-61
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.2	100
Guna	0.0	-100	0.0	-100	0.1	-92
Gwalior	0.0	-100	0.0	-100	7.8	761
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	2.4	33

Indore	0.0	-100	0.0	-100	0.0	200
Jhabua	0.0	-100	0.0	-100	0.3	200
Khandwa	0.0	-100	0.7	-17	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	1.0	-17
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.3	-77
Rajgarh	0.0	-100	0.0	-100	0.1	-89
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.2	-67
Vidisha	0.0	-100	0.0	-100	0.4	-43
Chhattisgarh						
Bastar	0.0	-100	2.2	-17	0.9	-69
Bijapur	0.0	-100	5.1	537	0.0	-100
Bilaspur	0.0	-100	3.7	-19	7.8	170
Dantewara	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.8	-65	0.0	-100
Durg	0.0	-100	23.4	1069	0.0	-100
Janjgir	0.0	-100	0.5	-83	0.0	-100
Jashpurnagar	0.0	-100	14.9	122	0.5	-86
Kanker	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	18.7	273	19.0	805
Koriya	0.0	-100	0.0	-100	**	**
Kawardha	0.0	-100	5.4	46	1.0	-50
Mahasumund	0.0	-100	5.5	83	0.0	-100
Narayanpur	0.0	-100	6.6	83	0.0	-100
Raigarh	0.0	-100	4.7	27	**	**
Raipur	0.0	-100	2.2	-26	0.4	-83
Rajnandgaon	0.0	-100	29.6	919	0.0	-100
Surguja	0.0	-100	3.0	-22	10.9	372
East Uttar Pradesh						
Allahabad	0.0	-100	0.0	-100	11.0	687
Ambedkar Nagar	0.0	-100	0.0	-100	3.0	76
Azamgarh	0.0	-100	0.0	-100	6.6	136
Bahraich	0.7	83	0.0	-100	2.7	-21
Ballia	0.0	-100	0.0	-100	2.7	128
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	1.9	208
Barabanki	0.0	-100	0.0	-100	4.1	139
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	3.0	50
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	17.3	3353
Gazipur	0.0	-100	0.0	-100	3.0	75
Gonda	0.0	-100	0.0	-100	0.3	-86
Gorakhpur	0.0	-100	0.0	-100	0.0	-100
Hardoi	0.4	-89	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	6.1	370
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.3	-94	0.0	-100	9.3	617
Kanpur Dehat	0.0	-100	0.0	-100	1.0	43
Kaushambi	0.0	-100	0.0	-100	4.9	600
Kheri	1.9	-53	0.0	-100	0.0	-100
Kushi nagar	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.2	-96	0.0	-100	2.1	38
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	22.0	948
Pratapgarh	0.0	-100	0.0	-100	15.0	1150
RaiBareilly	0.1	-99	0.0	-100	3.7	308
Sahuji Maharajnagar	0.0	-100	0.0	-100	1.5	150
Sant Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	26.0	1200
Shrawasti	**	**	**	**	**	**
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	1.9	-33	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	9.6	229
Sultanpur	0.0	-100	0.0	-100	4.3	381
Unnao	0.0	-100	0.0	-100	3.0	131
Varanasi	0.0	-100	0.0	-100	17.3	915
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	6.6	187
Aligarh	0.3	-93	0.0	-100	3.3	108
Auraiya	2.0	-56	0.0	-100	1.0	-29
Badaun	2.8	-35	0.0	-100	5.2	108
Baghpat	0.4	-90	0.0	-100	1.3	-24
Bareilly	3.4	-33	0.0	-100	1.5	-46
Bijnor	0.0	-100	0.0	-100	1.8	-63
Bulandsahar	0.0	-100	0.0	-100	1.3	-30
Etah	0.0	-100	0.0	-100	13.7	469
Etawah	1.5	-42	0.0	-100	0.0	-100
Firozabad	0.7	-79	0.0	-100	2.7	47
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	1.2	-43
Hamirpur	0.0	-100	0.0	-100	12.3	1956
Jalaun	0.0	-100	0.0	-100	0.7	33
Jhansi	0.0	-100	0.0	-100	0.3	-50
Jotiba Phule Nagar	0.5	-90	0.0	-100	2.0	-23
Kanshiramnagar	0.0	-100	0.0	-100	5.0	100
Lalitpur	0.0	-100	0.0	-100	0.0	-100

Mahamaya Nagar	0.0	-100	0.0	-100	1.5	-25
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	1.2	-59	0.0	-100	3.1	63
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.7	-84	0.0	-100	1.4	-60
Moradabad	3.5	-39	0.0	-100	2.0	-27
Muzzaffarnagar	2.0	-64	0.0	-100	1.8	-31
Pilibhit	3.7	-22	0.0	-100	0.0	-100
Rampur	2.1	-66	0.0	-100	1.9	-43
Saharanpur	0.0	-100	0.0	-100	5.3	27
Shahjahanpur	4.7	-1	0.0	-100	0.0	-99
Uttarakhand						
Almora	5.8	-46	0.0	-100	0.8	-92
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	16.2	-24	0.0	-100	9.3	-42
Champawat	4.5	-57	0.0	-100	0.0	-100
Dehradun	2.0	36	0.0	-100	1.5	-84
Garhwal Pauri	2.7	-70	0.0	-100	0.0	-100
Garhwal Tehri	8.7	-24	0.0	-100	2.5	-81
Haridwar	4.8	-43	0.0	-100	0.8	-85
Nainital	9.7	-4	0.0	-100	0.0	-100
Pithorgarh	13.8	-20	3.6	-74	4.1	-72
Rudraprayag	10.7	-52	0.1	-99	6.8	-66
Udham Sing Nagar	0.3	-94	0.0	-100	1.3	-63
Uttarkashi	8.6	-52	6.8	-44	8.9	-55
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	0.9	-67	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.3	-80	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
Katihar	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	3.2	357	**	**
Kishanganj	0.0	-100	0.0	-100	0.0	-100
Lakhisarai	0.0	-100	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100
Monghyar	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	5.9	351	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	17.5	1650
Rohtas	0.0	-100	1.7	-51	12.0	606
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	2.4	-12	3.5	118
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	15.4	294	2.1	-26
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.0	-100	3.5	-49	3.1	-10
Garhwa	0.0	-100	0.0	-100	95.0	5488
Giridih	0.0	-100	14.9	367	2.2	21
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	42.3	540	11.8	246
Hazaribagh	0.0	-100	0.0	-100	4.8	60
Jamtara	0.0	-100	5.5	150	1.6	-45
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	17.3	302
Lohardagga	0.0	-100	0.0	-100	11.5	149
Pakur	0.0	-100	0.0	-100	2.1	-28
Palamau	0.0	-100	0.0	-100	6.2	210
Ramgarh	0.0	-100	0.0	-100	9.0	329
Ranchi	0.0	-100	0.8	-89	9.0	118
Sahebganj	0.0	-100	0.0	-100	8.4	394
Saraikela	0.0	-100	3.6	-42	0.0	-100
Simdega	0.0	-100	26.1	235	13.1	275
West Singbhum	0.0	-100	5.2	-22	0.0	-100
East Rajasthan						
Ajmer	1.5	279	0.0	-100	0.2	125
Alwar	1.0	-71	0.0	-100	14.4	932
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.7	122
Bharatpur	0.0	-100	0.0	-100	0.2	-87
Bhilwara	0.1	-92	0.0	-100	2.6	761
Bundi	0.0	-100	0.0	-100	0.3	-17
Chittorgarh	0.0	-100	0.0	-100	1.3	200

Dausa	0.0	-100	0.0	-100	4.8	243
Dholpur	0.0	-100	0.0	-100	9.3	567
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	1.9	-19	0.0	-100	1.7	247
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.4	-88	0.0	-100	7.9	465
Karauli	0.2	-92	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	5.4	1244
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	1.1	-48	0.0	-100	10.4	848
Sirohi	0.0	-100	0.0	-100	1.7	200
Tonk	0.0	-100	0.0	-100	1.1	278
Udaipur	0.0	-100	0.0	-100	1.3	200
West Rajasthan						
Barmer	0.1	-67	0.0	-100	0.0	-100
Bikaner	2.5	10	0.0	-100	7.6	856
Churu	2.8	15	0.0	-100	10.4	943
Hanumangarh	5.0	52	0.0	-100	8.7	1145
Jaisalmer	1.1	10	0.0	-100	2.4	2271
Jalore	0.0	-100	0.0	-100	0.1	200
Jodhpur	1.0	48	0.0	-100	1.4	381
Nagaur	0.1	-92	0.0	-100	2.4	300
Pali	0.2	-50	0.0	-100	1.9	200
Sri Ganganagar	7.8	200	0.0	-100	2.7	67
Gujarat Region						
Ahmedabad	0.0	-100	0.0	-100	1.2	200
Anand	0.0	-100	0.0	-100	0.3	200
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	0.6	200	0.0	-100
Broach	0.0	-100	0.0	-100	1.1	200
DNH	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	**	**	0.0	-100	0.0	-100
Dangs	0.0	-100	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	1.6	200
Kheda	0.0	-100	0.0	-100	0.5	200
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	1.4	200
Panchmahal	0.0	-100	0.0	-100	0.7	200
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	1.9	200
Tapi	0.0	-100	0.0	-100	1.8	200
Valsad	0.0	-100	0.0	-100	0.4	200
S K & Diu region						
Amreli	0.0	-100	0.0	-100	0.1	200

Bhavnagar	0.0	-100	0.0	-100	0.1	200
Diu	0.0	-100	0.0	-100	0.4	200
Jamnagar	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.3	200
Kutch	0.0	-100	0.0	-100	0.0	-100
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
Maharashtra						
Konkan & Goa						
Mumbai City	0.0	-100	0.0	-100	0.0	-100
Mumbai Suburban	0.0	-100	0.0	-100	10.0	200
North Goa	0.0	-100	0.0	-100	0.0	-100
Raigad	0.0	-100	0.0	-100	4.4	200
Ratnagiri	0.0	-100	0.1	200	0.1	200
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	6.5	200
Madhya Maharashtra						
Ahmednagar	0.0	-100	0.1	-38	1.2	96
Dhule	0.0	-100	1.5	200	2.5	317
Jalgaon	0.0	-100	3.2	688	0.4	-57
Kolhapur	0.0	-100	1.4	364	4.4	532
Nandurbar	0.0	-100	0.6	200	1.3	200
Nasik	0.0	-100	3.5	1669	8.4	1998
Pune	0.0	-100	2.9	2843	2.1	200
Sangli	0.0	-100	5.0	2380	10.4	1976
Satara	0.0	-100	10.8	3508	1.9	526
Solapur	0.0	-100	1.2	71	4.9	2359
Marathwada						
Aurangabad	0.0	-100	1.0	14	6.7	1233
Beed	0.0	-100	12.4	1141	2.8	458
Hingoli	**	**	10.3	832	1.2	11
Jalna	0.0	-100	5.1	535	1.4	254
Latur	0.0	-100	14.6	1223	13.8	626
Nanded	0.0	-100	8.9	1168	1.6	-34
Usmanabad	0.0	-100	9.4	619	8.4	2003
Parbhani	0.0	-100	9.7	782	0.2	-79
Vidarbha						
Akola	0.0	-100	0.1	-94	0.0	-100
Amraoti	0.0	-100	11.4	777	1.9	16
Bhandara	0.0	-100	10.4	352	0.2	-94
Buldhana	0.0	-100	8.2	725	0.0	-100
Chandrapur	0.0	-100	24.4	875	7.1	104
Gadchiroli	0.0	-100	23.0	1540	0.0	-100
Gondia	0.0	-100	12.1	278	0.4	-86
Nagpur	0.0	-100	19.9	587	4.2	8
Wardha	0.0	-100	15.1	344	11.5	503

Washim	0.0	-100	21.3	1673	0.7	-35
Yeotmal	0.0	-100	9.8	603	8.0	347
Odisha						
Angul	0.0	-100	24.2	285	0.0	-100
Balasore	5.9	-40	45.1	402	0.8	-90
Bargarh	0.0	-100	10.8	136	0.0	-100
Bhadrak	0.0	-100	39.9	587	0.0	-100
Bolangir	0.0	-100	8.6	139	0.0	-100
Boudh	0.0	-100	1.3	-77	0.0	-100
Cuttack	0.0	-100	1.1	-84	0.0	-100
Deogarh	0.0	-100	16.2	305	0.0	-100
Dhenkanal	0.0	-100	36.9	505	0.0	-100
Gajapati	0.0	-100	3.6	-49	0.0	-100
Ganjam	0.0	-100	17.3	321	0.0	-100
Jagatsingpur	0.0	-100	1.1	-80	0.0	-100
Jajpur	0.0	-100	31.9	177	0.0	-100
Jharsuguda	0.0	-100	19.5	195	15.2	311
Kalahandi	0.0	-100	2.3	-52	0.0	-100
Kandhamal	0.0	-100	3.4	-42	0.0	-100
Kendrapara	0.0	-100	8.5	-11	0.0	-100
Keonjhar	0.5	-95	58.3	657	2.1	-85
Khurda	0.0	-100	3.5	-49	0.0	-100
Koraput	0.0	-100	0.0	-100	0.0	-100
Malkangiri	0.0	-100	8.8	200	0.0	-100
Mayurbhanj	2.8	-53	34.4	189	0.7	-90
Nawapara	0.0	-100	2.4	-35	0.0	-100
Nawarangpur	0.0	-100	6.1	371	0.0	-100
Nayagarh	0.0	-100	13.6	119	0.0	-100
Puri	0.0	-100	1.5	-68	0.0	-100
Rayagada	0.0	-100	7.6	86	0.0	-100
Sambalpur	0.0	-100	6.9	72	0.1	-99
Sonepur	0.0	-100	15.0	285	0.0	-100
Sundargarh	0.0	-100	12.6	120	0.6	-83
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	1.9	-83	1.7	-86	0.0	-100
North & Middle Andaman	0.0	-100	0.0	-100	0.0	-100
South Andaman	0.0	-100	0.0	-100	0.0	-100
GWB						
Bankura	0.0	-100	3.5	-1	3.6	6
Birbhum	0.0	-100	6.0	150	0.1	-98
Burdwan	0.0	-100	29.0	780	0.3	-92
East Midnapore	0.0	-99	57.8	750	0.0	-100
Hooghly	1.7	-84	22.2	788	0.0	-100
Howrah	0.0	-100	101.4	1744	0.0	-100
Kolkata	0.0	-100	92.0	1143	0.2	-94
Murshidabad	0.0	-100	6.0	650	1.0	-76
Nadia	1.7	-55	40.6	1663	0.0	-100

24 Pargana (N)	2.6	-52	74.8	2099	0.0	-100
Purulia	0.0	-100	10.4	112	0.6	-88
24 Pargana (S)	0.0	-100	60.4	924	0.2	-98
West Midnapore	0.2	-95	37.2	464	4.9	-22
SHWB & Sikkim						
Cooch Behar	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	0.9	-80	1.8	-87
East Sikkim	0.5	-95	1.4	-87	67.0	411
Jalpaiguri	0.0	-100	0.7	-84	8.3	98
Malda	0.0	-100	0.0	-100	1.9	-14
North Dinajpur	**	**	**	**	**	**
North Sikkim	0.0	-100	16.3	-26	48.3	38
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	2.0	-82	10.5	-20
West Sikkim	0.0	-100	1.0	-95	34.0	-3
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	3.0	406
Belagavi	0.0	-100	1.2	196	4.5	1013
Bidar	0.0	-100	1.8	41	12.8	884
Dharwad	0.0	-100	0.1	-92	0.0	-100
Gadag	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.4	100	0.0	-100
Kalaburgi	0.0	-100	1.2	189	8.5	1114
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	8.4	956
Yadgir	0.0	-100	0.0	-100	0.4	33
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	1.3	163	0.8	-78
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	0.8	-14	1.7	-57
Kolar	0.0	-100	0.0	-100	0.0	-100
Mandya	0.0	-100	0.1	-90	0.0	-100
Mysuru	0.0	-100	2.1	433	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	5.0	-35	12.2	104	0.0	-100
Kannur	0.0	-100	0.0	-100	0.2	-92
Ernakulam	3.1	-54	39.8	1036	0.0	-100
Idukki	0.0	-100	3.4	-53	0.0	-100
Kasaragod	0.5	-17	0.0	-100	0.0	-100
Kollam	14.7	45	6.5	-16	2.7	-79
Kottayam	7.9	-3	13.0	321	0.0	-100
Kozhikode	0.0	-100	0.0	-100	9.9	210
Malappuram	1.8	-37	0.0	-100	0.0	-100
Palakkad	0.0	-100	0.0	-100	0.0	-100
Pathanamthitta	2.2	-88	1.0	-91	0.0	-100
Thiruvananthapuram	0.1	-99	0.0	-100	0.0	-100
Thrissur	0.0	-100	0.0	-100	0.0	-100
Wayanad	0.0	-100	0.0	-100	0.0	-100
Tamil Nadu						
Ariyalur	0.0	-100	0.0	-100	0.0	-100
Chennai	0.0	-100	0.0	-100	0.0	-100
Coimbatore	0.0	-100	0.0	-100	0.0	-100
Cuddalore	0.1	-98	0.0	-99	0.0	-100
Dharmapuri	0.0	-100	0.0	-100	0.0	-100
Dindigul	0.2	-95	0.0	-99	0.0	-100
Erode	0.0	-100	0.0	-100	0.0	-100
Kanchipuram	0.0	-100	0.0	-100	0.0	-100
Kanyakumari	4.2	-38	0.0	-92	0.0	-100
Karikal	0.1	-99	0.0	-100	1.0	-85
Karur	0.0	-100	0.0	-100	0.5	-87
Krishnagiri	0.0	-100	0.0	-100	0.0	-100
Madurai	0.0	-100	0.0	-99	0.0	-100
Nagapattinam	0.2	-98	0.0	-100	0.0	-100
Namakkal	0.0	-100	0.0	-100	0.0	-100
Nilgiris	0.0	-100	0.0	-100	0.0	-100
Perambalur	0.0	-100	0.0	-100	0.0	-100
Puducherry	0.0	-100	0.0	-100	0.0	-100
Pudukottai	0.0	-100	0.0	-100	0.0	-100
Ramanathapuram	0.0	-100	0.0	-26	0.0	-100
Salem	0.0	-100	0.0	-100	0.0	-100
Sivaganga	0.0	-100	0.0	-43	0.0	-100
Thanjavur	0.0	-100	0.0	-93	0.0	-100
Theni	0.0	-100	0.0	-70	0.0	-100
Tirunelveli	3.1	-69	0.0	-44	0.0	-100
Tirupur	0.0	-100	0.0	-100	0.0	-100
Tiruvallur	0.0	-100	0.0	-100	0.0	-100
Tiruvannamalai	0.0	-100	0.0	-100	0.0	-100
Tiruvarur	0.0	-100	0.0	-100	0.0	-100
Toothukudi	0.9	-89	0.0	-31	0.0	-100
Trichy	0.0	-100	0.0	-100	1.4	-68
Vellore	0.0	-100	0.0	-100	0.0	-100

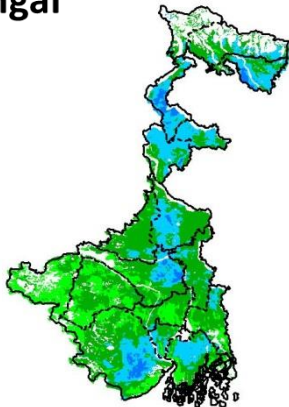
Villupuram	0.2	-92	0.0	-100	0.0	-100
Virudhunagar	0.0	-100	0.0	-100	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	0.5	-87	0.0	-100
Guntur	0.0	-100	0.0	-100	0.0	-100
Krishna	0.0	-100	1.1	33	0.0	-100
Nellore	0.0	-100	0.0	-100	0.0	-100
Prakasam	0.0	-100	0.0	-100	0.0	-100
Sirkakulam	0.0	-100	7.4	113	0.1	-97
Visakhapatnam	0.0	-100	10.4	510	2.1	-29
Vizianagram	0.0	-100	1.5	-45	0.0	-100
West Godavari	0.0	-100	0.9	-57	1.8	-40
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	12.5	494	3.9	57
Hyderabad	0.0	-100	0.0	-100	0.2	-90
Karimnagar	0.0	-100	20.7	1052	0.8	-59
Khammam	0.0	-100	13.4	645	0.0	-100
Mehabubnagar	0.0	-100	0.1	-74	0.8	18
Medak	0.0	-100	0.1	-95	2.6	43
Nalgonda	0.0	-100	0.0	-100	0.0	-100
Nizamabad	0.0	-100	9.8	878	3.3	119
Rangareddy	0.0	-100	0.0	-100	1.2	51
Warangal	0.0	-100	17.1	2038	0.0	-100

Legends

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

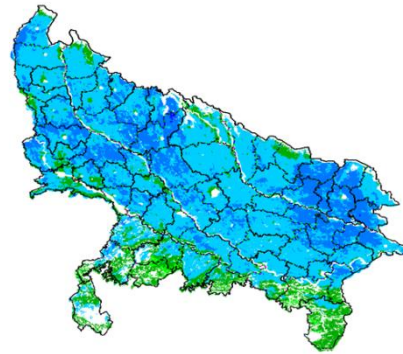
**INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON
9th March 2016 FOR DIFFERENT STATES**

West Bengal



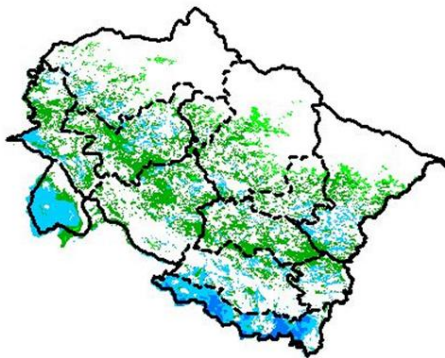
Agricultural vigour is good in central and Northern part of West Bengal, whereas rest of the state shows moderate NDVI.

Uttar Pradesh



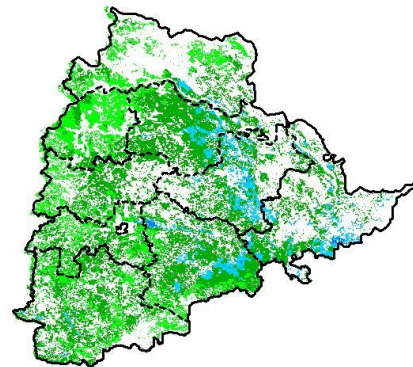
Agricultural vigour is very good in major parts of Uttar Pradesh. whereas few patches in southern part shows moderate values of NDVI.

Uttarakhand



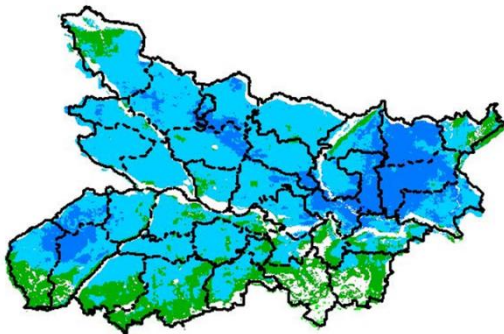
Agricultural vigour is moderate over entire state of Uttarakhand, whereas few patches in south and west part shows very good values of NDVI.

Telangana



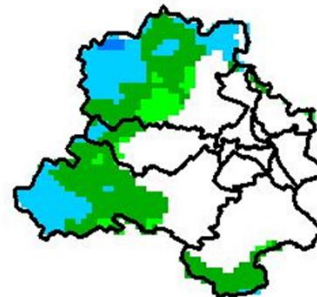
Agriculture vigour is moderate over most parts of Telangana. Few patches in eastern region shows good values of NDVI

Bihar



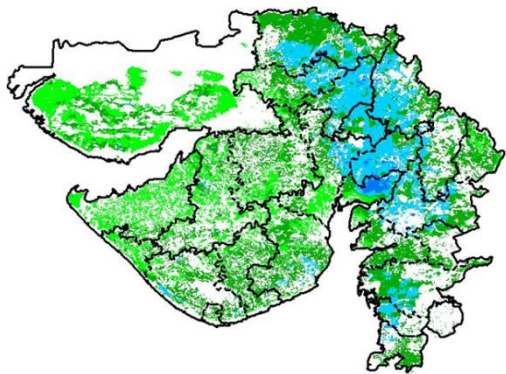
Agriculture vigour is very good over major parts of Bihar whereas south western part shows patches of moderate NDVI values.

Delhi



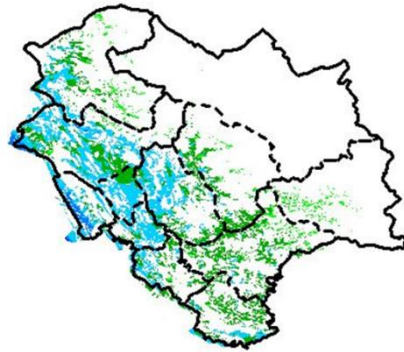
Agriculture vigour is moderate all over Delhi, whereas few patches over west show very good vigour of NDVI.

Gujarat



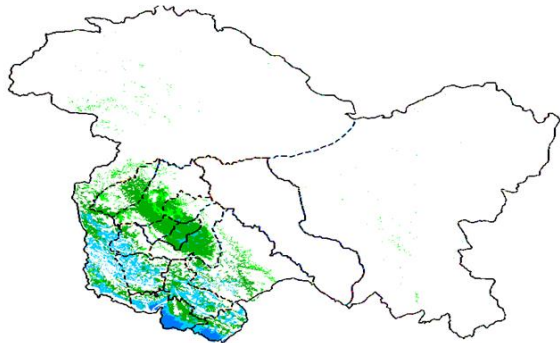
Agriculture vigour is moderate in Kutch and Saurashtra whereas, good agricultural vigour is observed over Gujarat region.

Himachal Pradesh



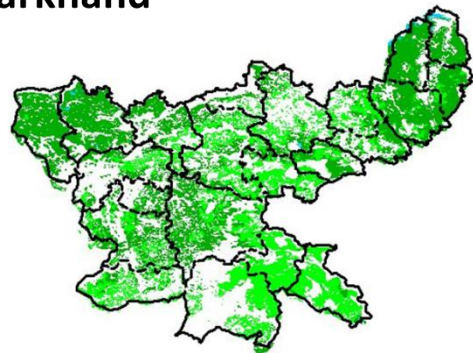
Agriculture vigour is good over western and southern parts of Himachal Pradesh, whereas rest of the state shows moderate values of NDVI.

Jammu & Kashmir



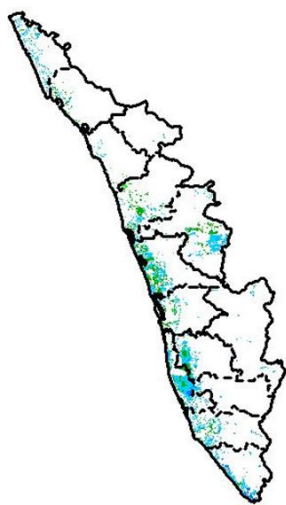
Agriculture vigour is good over entire state of Jammu & Kashmir.

Jharkhand



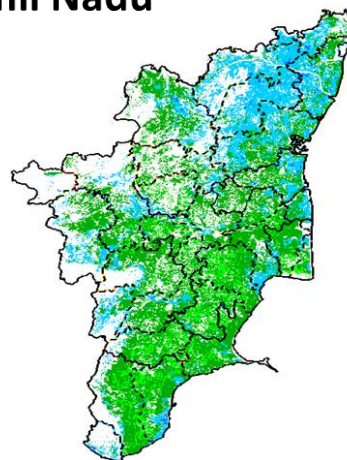
Agriculture vigour is moderate over entire state of Jharkhand.

Kerala



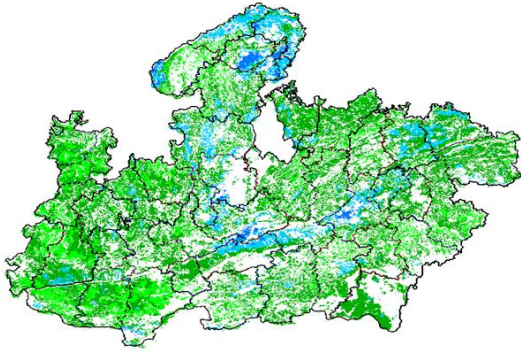
Agriculture good over Kerala. vigour is entire state of

Tamil Nadu



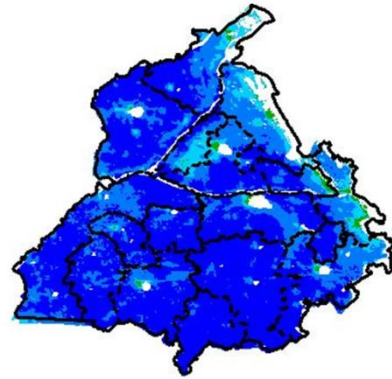
Agricultural vigour is good over major part of Tamilnadu.

Madhya Pradesh



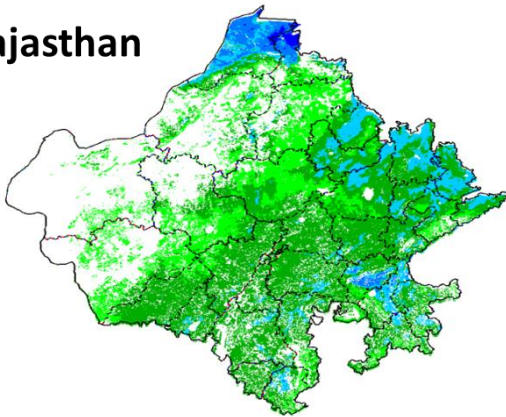
Agriculture vigour shows very good values over northern and central part of Madhya Pradesh in patches and rest of the state shows moderate values of NDVI.

Punjab



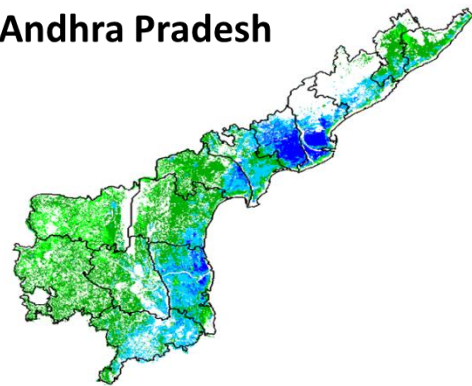
Agricultural vigour is very good over entire state of Punjab.

Rajasthan



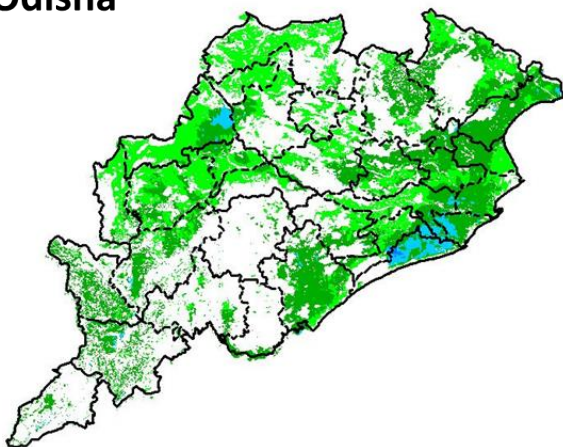
Agriculture vigour is moderate in central part, good agricultural vigour is observed over eastern region and very good in northern parts of Rajasthan.

Andhra Pradesh



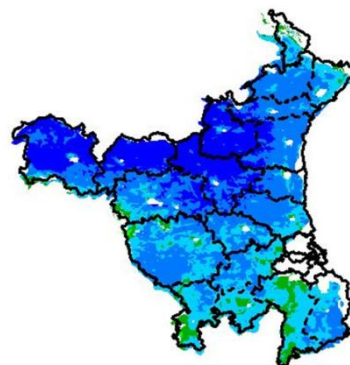
Agriculture vigour is very good over north-eastern part of Andhra Pradesh whereas western parts shows moderate values.

Odisha



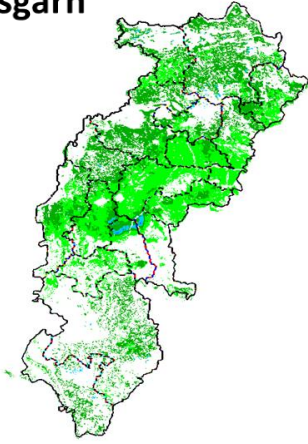
Agricultural vigour is good in patches of coastal parts of Odisha where rest region shows moderate values of NDVI

Haryana



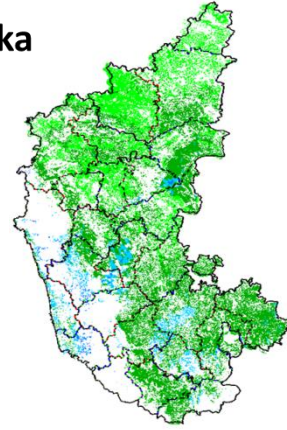
Agriculture vigour is very good over northern parts of Haryana and good values are observed in southern parts of state.

Chhattisgarh



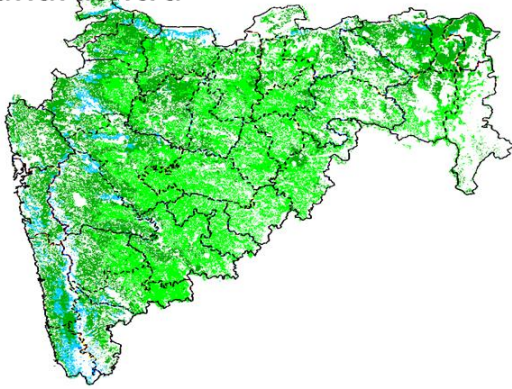
Agriculture vigour is moderate in state of Chhattisgarh.

Karnataka



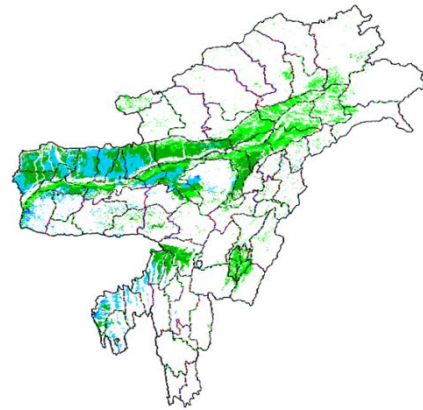
Agriculture vigour is good over southern part of Karnataka state. Rest of the state shows moderate values of NDVI.

Maharashtra

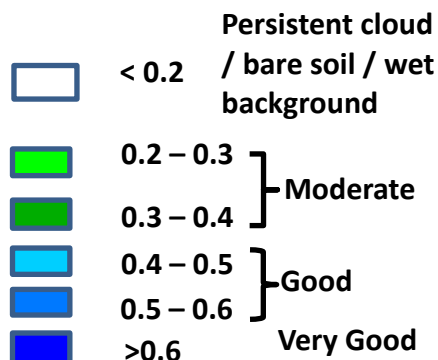


Agricultural vigour is good over Coastal Maharashtra, whereas Moderate values of NDVI are observed over entire state of Maharashtra.

North East Region



Agriculture vigour is good in patches in Assam whereas, NDVI is moderate over rest of the regions of North-East.



Annexure III

Tamil Nadu

Sesame: TMV 4, TMV 7 and VRI 1

Assam

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

Early *ahu* rice (for low lying area) : IR-50, Pusa 2-21, Rasi, Culture -1, Luit, Kopilee (Semi-dwarf varieties); Rongadoria, Dubaichenga, Nilajee (Tall varieties)

Capsularis jute: JRC 321 and UPC 94.

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

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

Sugarcane: Kolong, Luhit, Dhansiri, Co 1148.

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti.

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

Sponge gourd: Pusa Chikni or other local varieties.

Bihar:

Spring maize: Suwan, Deevki, Ganga-11, Shaktiman-1 and Shaktiman-2.

Green gram: Pusa Vishal, Samrat, SML-668, Sona.

Black gram: Pant U-19 and Pant Urd-31, Ultra and Navin.

Odisha

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

Groundnut: Smruti, AK 12-24 TAG

Jharkhand

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

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

Linseed: Sweta, Shubhra, T-397

Field Pea: Rachna, DDR-23, Swarnrekha

Onion: N-53, Pusa red, Arka niketan, Arka kalia

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

Jammu & Kashmir

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

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

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

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

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

Uttarakhand

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

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

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

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

Himachal Pradesh

Cauliflower: snowball and Giant snowball.

Radish: Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot: Pusakesar

Fenugreek : I.C. 74, kasoori.

Peas : Mater ageta-6 (early variety).

Cabbage: Pride of India, golden achor and hybrid

East Uttar Pradesh

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

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

Cauliflower: pusa Dipali.

Okra: Pusa Sawani, Varsa Uphar, Azad kranti.

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

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

Cabbage: Japani, Pusa Dieepali, Pusa Kartiki

Potato: Kufri Chandramukhi, Kufri Sadabahar, Kufri Ashoka, Kufri Jawahar, Kufri Lalima, Kufri Bahar, Kufri Badshah, Kufri Satlaj, Kufri Anand, Kufri Chipsona-1, Kufri Chipsona-3, Kufri Sinduri, Kufri Surya.

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

cowpea: Lobia-263 & Pusa phaguni

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

Grapes: parlet, beauty seedless, pusa seedless.

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

Urad: TA-9, narendra urad-1, Azad urad-1, Uttara, azad urad-2, shekhar-2

Mung: k-851 and JM-721.

West Uttar Pradesh

Ladies finger: VRO-6, VRO-5.

Pigeon pea: T-21, UPAS 120.

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

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

Onion: pusa red, pusa white.

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

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

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

Punjab

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

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

Onion: Punjab Naroya, Punjab White and PRO 6.

Radish: Punjab Pasand and Japanese white.

Turnip: L-1.

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

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

Delhi

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

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

Lentil: Pusa Masoor -5 (L-4594).

Radish: Japani White, Hill queen, French Radish;

Spinach: Pusa Bharti.

Amaranth: Pusalal Chaulai, Pusa Kiran.

Ladyfinger: Pusa A-4.

Pea: Azad Matar-1, Pant Matar-3 and Bournville.

Carrot: Pusa Mridula, Japanese White and Pusa Himani.

Radish: Japani White, Hill queen, French Radish.

Spinach: All Green, Pusa Bharti;

Fenugreek: Pusa Kasuri;

Coriander: Pant Haritama, Hybrids.

Turnip: Pusa Swati, Local Red variety.

West Rajasthan

Isabgol: RI 89 & GI-2.

Fenugreek: RMt 1 & RMt 305.

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

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

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

Oat: OS 6, OS 9.

Berseem: BL 10, BL 22.

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

Radish: Pusa Rashmi.

Carrot: Pusa Keshar.

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

Tinda: Bikaneri green, dilpasand

Cucurbit: Lakhnau ageti and Arkasital,

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

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

East Rajasthan

Muskmelon Sugar baby: Durgapura madhu, Punjab sunehri, 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.

Kakri: Lucknow ageti and arka sheetal.

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

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

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

Radish: PusaChetki, Japanese white & hill queen.

Carrot: PusaKeshar

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

Gram: RSG-888,895 (Anubhav), CSJD-884 (Aakash), RSG-44, Pusa-209, C-235, H-208, Pratap raj chana, RSG-888, Dahod yellow, ICCV-10 and Pratap Chana-1.

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

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

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

Berseem: Muskavivardan and PusaJiant.

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

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

Gujarat

Summer Groundnut: GG2, GG 4 and GG20.

Summer Sesame: G.Til-1, G.Til-2, G.Til-3.

Brinjal: Junagadh oblong, Junagadh long, Guj. Bringle-2.

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

Ridge gourd: Pusa nasdar, Jaipuri.

Bottle gourd: Junagadh tender long, Pusa summer prolific long.

Sponge gourd: Pusa chikni.

Bitter gourd: Priya, Pusa domosmi.

Cluster bean: Pusa sadabahar, Pusa navbahar, IC-11388.

Water melon: Sugar baby, Arka jyoti.

Pearl millet: GHB-526 and GHB-558.

Green gram: GM-2, 3, GM- 4.

Black gram: Guj-1, T-9.

Madhya Pradesh

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

Moong: HUM -1, PDM -139, TJM-3, SML-668.