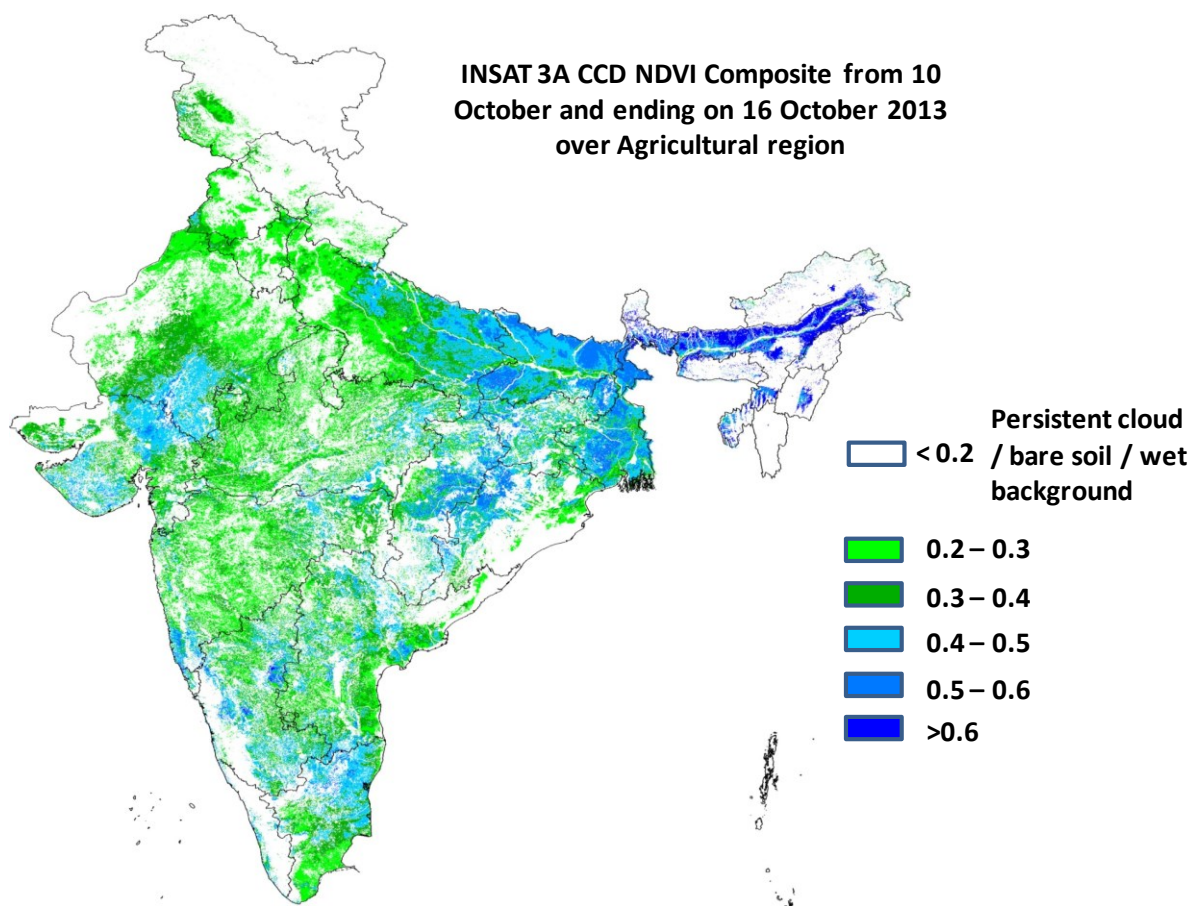
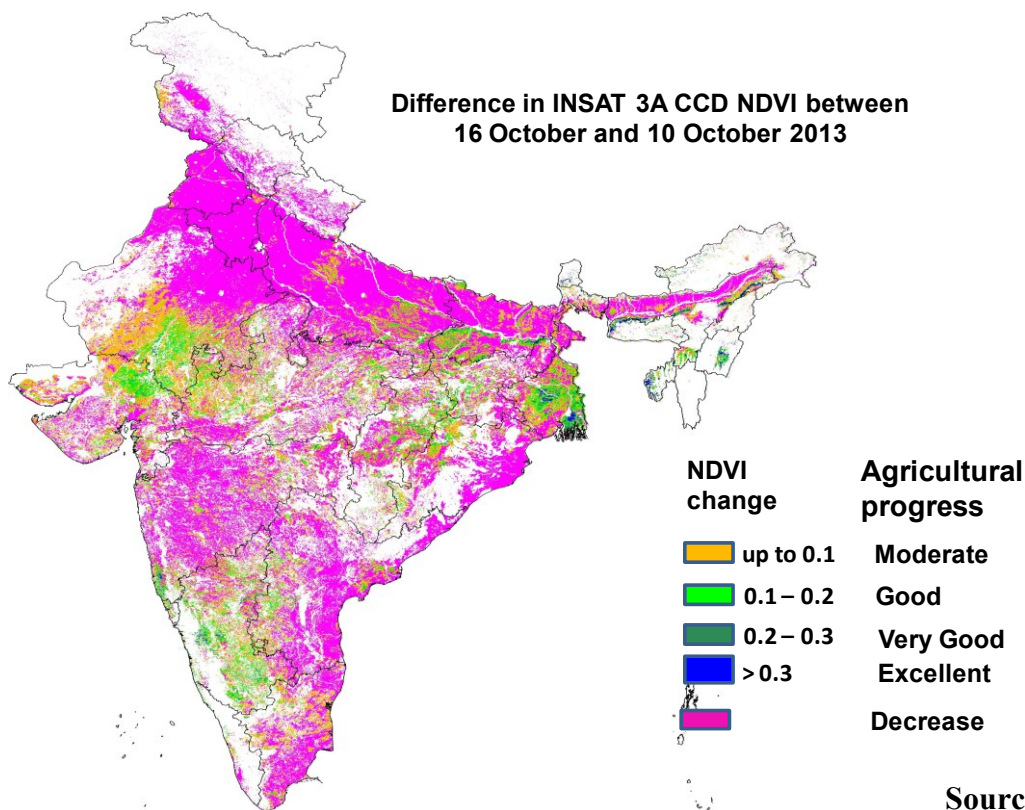


Crop condition based on Rainfall and INSAT 3A CCD NDVI **



Source: SAC, Ahmedabad

Overall Agricultural Situation: Agricultural conditions is in general good to very good over eastern UP, north and eastern Bihar, pockets of West Bengal and parts of middle Chhattisgarh, eastern MP, pockets of north Gujarat, pockets of Tamil Nadu as NDVI vigour showed the range from 0.4 to 0.6 upto 16th October. The crop conditions are moderate over large part of Rajasthan, central part of UP, M.P, Maharashtra and central part of AP. The whole costal belt of Orissa and adjoining AP is showing very less NDVI which could be due to inundation of water due to rainfall during cyclone.

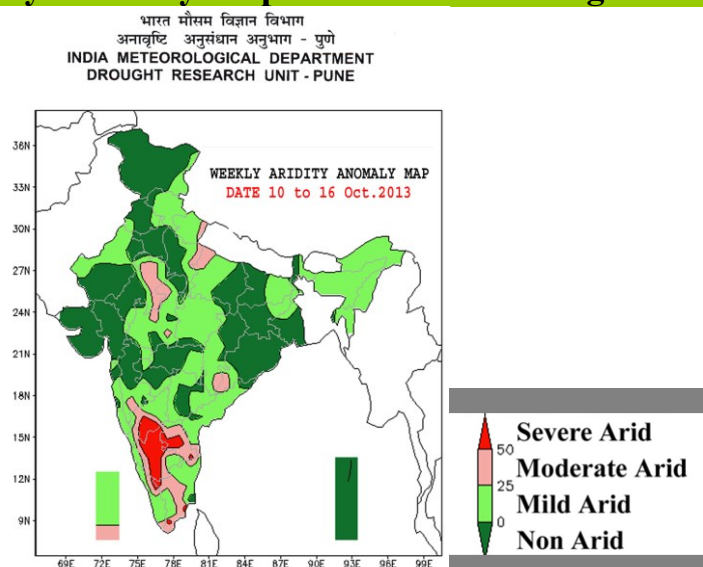


Source: SAC Ahmedabad

Progress of crop performance during last week: Agricultural progress between 16th October and 9th October 2013 was found to be moderate over western Gujarat and adjoining Rajasthan, pockets of eastern UP, Chhattisgarh and central west Bengal. Rest of India showed decrease in NDVI which may be due to start of crop ripening. Coastal belt of Orissa and AP showed decrease in NDVI from previous week which may be due to persistent cyclonic rainfall during the past week.

**** Prepared jointly by Space Application Centre, Ahmedabad and Agricultural Meteorology Division, India Meteorological Department, Pune**

Aridity Anomaly Map for the week ending 16.10.2013

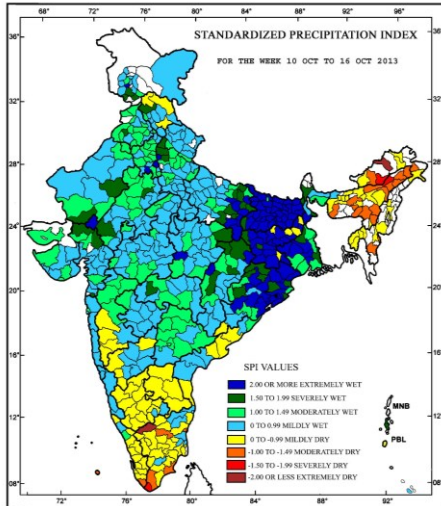


During the week (10- 16 October, 2013) the aridity anomaly map indicated the following aridity conditions over the country:

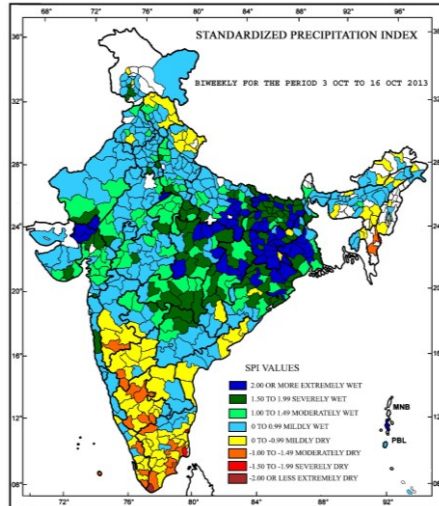
- Areas mainly affected by moderate arid conditions:**
 Northwestern parts of East Uttar Pradesh, northeastern parts of West Uttar Pradesh; central and eastern parts of East Rajasthan, adjoining northern , western and eastern parts of West Madhya Pradesh; some southeastern parts of Madhya Maharashtra, some central parts of North Interior Karnataka, some western and southeastern parts of South Interior Karnataka, some eastern parts of Kerala, some central and southeastern parts of Tamil Nadu, most of the parts of Rayalaseema; southern parts of Lakshadweep.
 Isolated areas around Bhopal (West Madhya Pradesh) and Jagdalpur (Chattisgarh)..
- Areas mainly affected by severe arid conditions:**
 Southeastern parts of North Interior Karnataka, major parts of South Interior Karnataka, central and western parts of Rayalaseema. Isolated areas around Tirupathi (Rayalaseema), Tondi and Palayamkottai (Tamil Nadu) . Rest of the area of the country is under mild to non-arid conditions.

Standard Precipitation Index weekly, fortnightly and seasonal

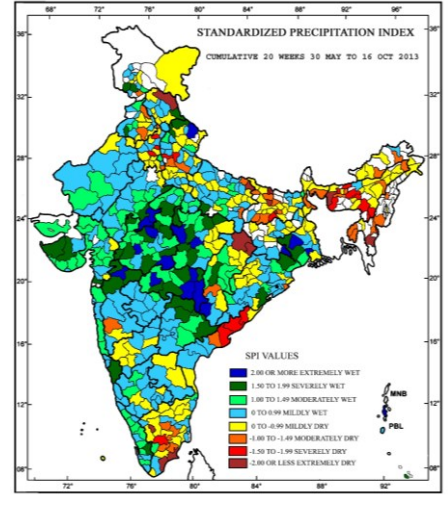
MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



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INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



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Weekly SPI values:

- Extremely wet/severely wet conditions over many parts of Odisha, Jharkhand, West Bengal, Bihar and some parts of Andhra, East Uttar Pradesh.
- Extremely dry/severely dry conditions were observed over some parts of Arunachal Pradesh, Tamil Nadu.

Cumulative SPI values (bi-weeks):

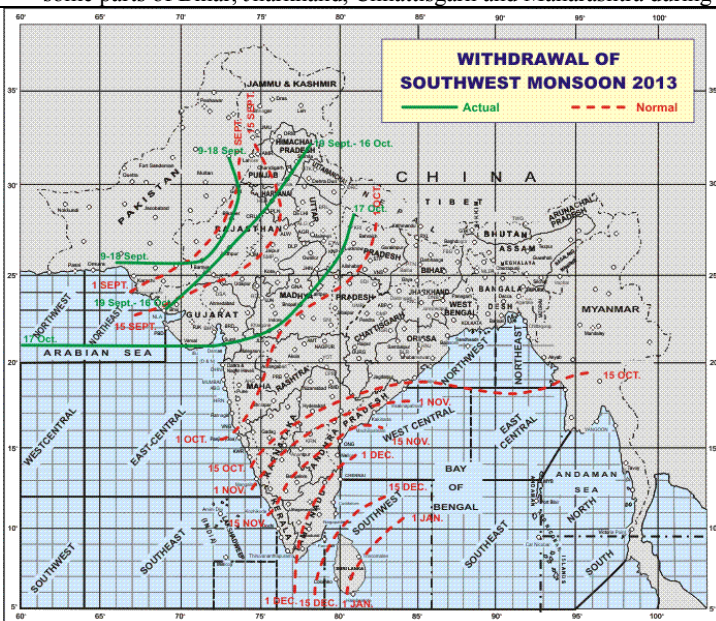
- Extremely wet/severely wet conditions over many parts of West Bengal, Jharkhand and some parts of East Uttar Pradesh, Bihar, Chhattisgarh, North Gujarat.
- Extremely dry/severely dry conditions were observed over some parts of Tamil Nadu.

Cumulative SPI values of nineteenth weeks (i.e. since the beginning of southwest monsoon)

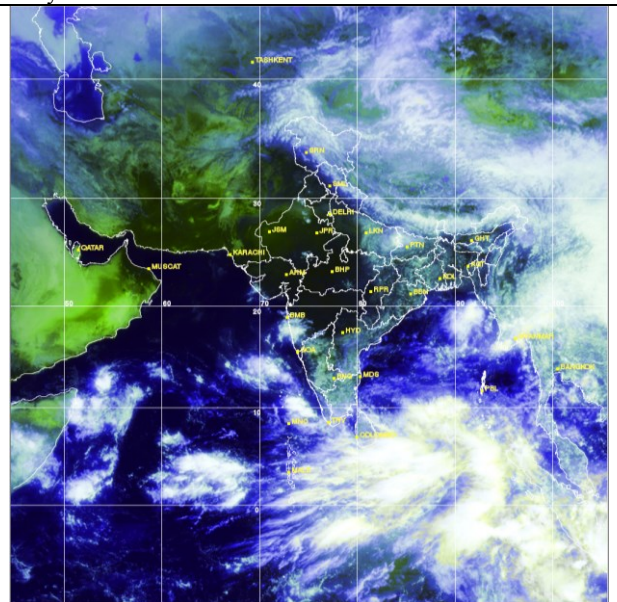
- Extremely wet/severely wet conditions over some part of Uttarakhand, Madhya Pradesh, West Bengal, Chhattisgarh.
- Extremely dry/severely dry conditions were observed over some parts of Tamil Nadu, Assam, Himachal Pradesh, Bihar.

Withdrawal of Southwest Monsoon 2013

- The **southwest monsoon** has further withdrawn from remaining parts of Himachal Pradesh, Haryana, Chandigarh & Delhi, Rajasthan; entire Uttarakhand, west Uttar Pradesh and most parts of west Madhya Pradesh, Gujarat state and north Arabian Sea and some parts of east Uttar Pradesh.
- The withdrawal line continue to pass through Lat 28.0° N/ Long. 81.0°E Kheri, Kanpur, Bhopal, Khargone, Surat, Veraval, Lat. 21.0° N/ Long. 65.0°E and Lat 21.0° N/ Long. 60.0° E.
- Conditions are indicative of further withdrawal of **southwest monsoon** from remaining parts of Uttar Pradesh, Madhya Pradesh and Gujarat; some parts of Bihar, Jharkhand, Chhattisgarh and Maharashtra during next 23 days.



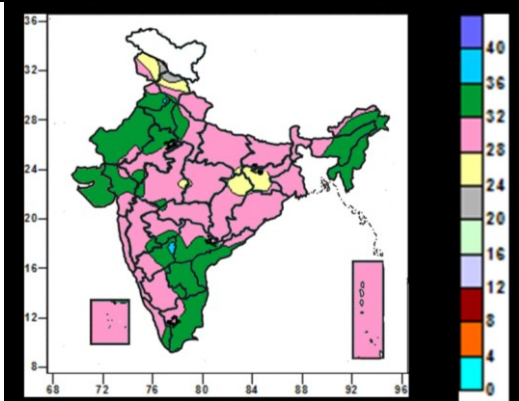
Withdrawal of Southwest Monsoon 2013



Satellite image dated 18.10.2013, 0530 UTC

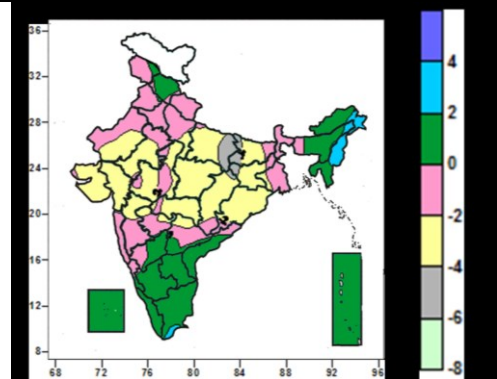
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 16.10.2013

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 16.10.2013



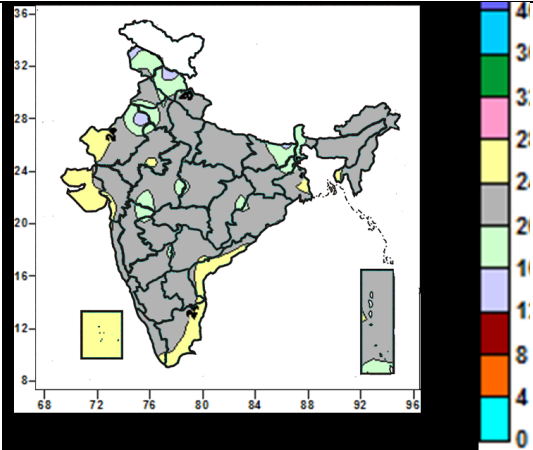
- 36 to 40 $^{\circ}\text{C}$ over some parts of North Interior Karnataka.
- 28 to 36 $^{\circ}\text{C}$ over entire country (except many parts of Jammu & Kashmir, Jharkhand, some parts of Himachal Pradesh, East Uttar Pradesh, Madhya Pradesh, Chattisgarh, North Interior Karnataka).
- 20 to 28 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, Jharkhand, some parts of Himachal Pradesh, East Uttar Pradesh, Madhya Pradesh, Chattisgarh.

Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 16.10.2013



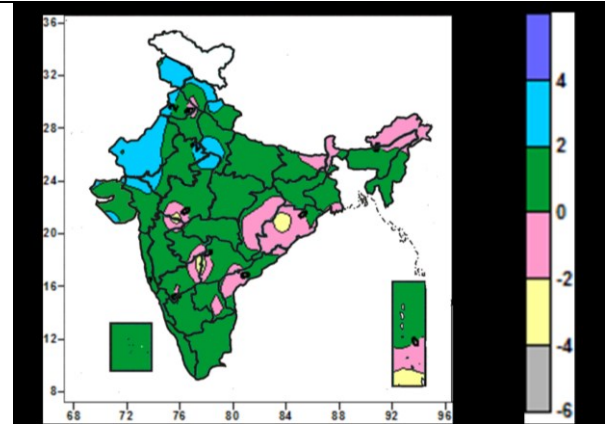
- 2 to 4 $^{\circ}\text{C}$ over many parts of Nagaland, Manipur, some parts of Arunachal Pradesh, Mizoram, Tamil Nadu.
- -2 to 2 $^{\circ}\text{C}$ over all parts of country (except many parts of Nagaland, Manipur East Uttar Pradesh, Bihar, Jharkhand, Rajasthan, Gujarat, Saurashtra & Kutch, central India, Orissa, Vidarbha, some parts of West Uttar Pradesh, Gangetic West Bengal, Madhya Maharashtra, Marathwada, Telanagana, Arunachal Pradesh, Mizoram, Tamil Nadu).
- -6 to -2 $^{\circ}\text{C}$ over many parts of East Uttar Pradesh, Bihar, Jharkhand, Rajasthan, Gujarat, Saurashtra & Kutch, Central India, Orissa, Vidarbha, some parts of West Uttar Pradesh, Gangetic West Bengal, Madhya Maharashtra, Marathwada, Telanagana.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 16.10.2013



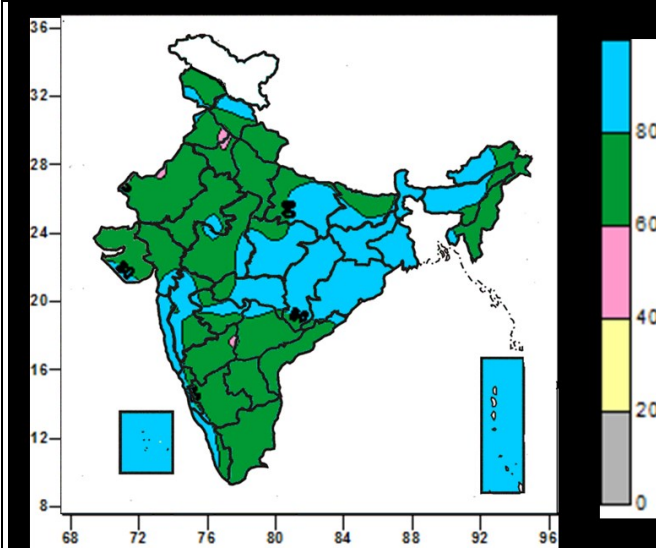
- 20 to 28 $^{\circ}\text{C}$ over all parts of country (except many parts of Jammu & Kashmir, Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, some parts of Rajasthan, Punjab, Haryana, Bihar, Central India, Orissa, Madhya Maharashtra, Marathwada, North Interior Karnataka).
- 12 to 20 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, some parts of Rajasthan, Punjab, Haryana, Bihar, Central India, Orissa, Madhya Maharashtra, Marathwada, North Interior Karnataka.

Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 16.10.2013



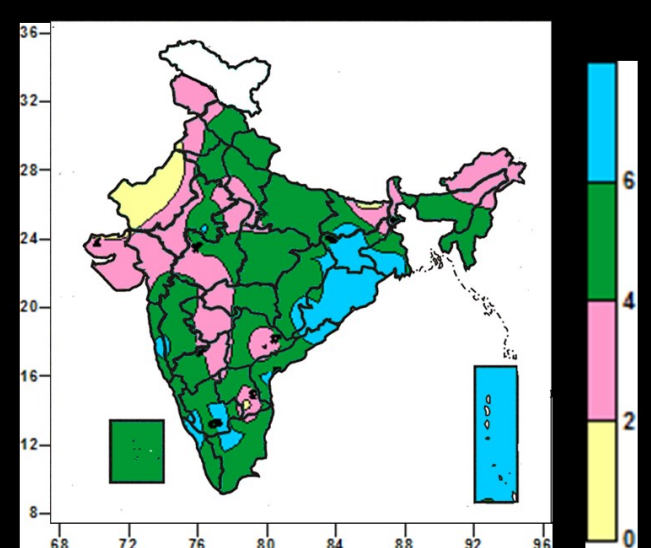
- 2 to 6 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, West Rajasthan, some parts of Himachal Pradesh, Punjab, East Rajasthan, West Uttar Pradesh, west Madhya Pradesh, Gujarat, Saurashtra & Kutch.
- -2 to 2 $^{\circ}\text{C}$ over all parts of country (except many parts of Jammu & Kashmir, West Rajasthan, some parts of Himachal Pradesh, Punjab, East Rajasthan, West Uttar Pradesh, west Madhya Pradesh, Gujarat, Saurashtra & Kutch, Orissa, North Madhya Maharashtra, North Interior Karnataka, Andaman & Nicobar Islands).
- -4 to -2 $^{\circ}\text{C}$ over some parts of Orissa, West Madhya Pradesh, North Madhya Maharashtra, North Interior Karnataka, Andaman & Nicobar Islands.

Relative Humidity (%) over India for the week ending 16.10.2013



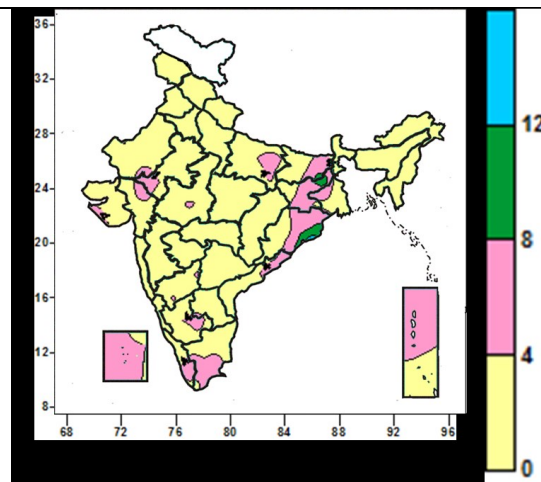
- 60 to 100% over entire country (except some parts Punjab, Haryana, West Rajasthan, North Interior Karnataka).
- 40 to 60% over some parts of Punjab, Haryana, West Rajasthan, North Interior Karnataka.

Cloud amount (okta) over India for the week ending 16.10.2013



- 6 to 8 okta over many parts of Jharkhand, Orissa, Andaman & Nicobar Islands, some parts of Bihar, Gangetic Wet Bengal, Chattisgarh, Coastal Andhra Pradesh, East Rajasthan, Konkan, Coastal & South Interior Karnataka, Tamil Nadu.
- 2 to 6 okta over entire country (except many parts of Jharkhand, Orissa, East Rajasthan, Andaman & Nicobar Islands, some parts of Bihar, Gangetic Wet Bengal, Chattisgarh, Coastal Andhra Pradesh, Konkan, Coastal & South Interior Karnataka, Raylaseema, Tamil Nadu).
- 0 to 2 okta over many parts of East Rajasthan, some parts of Bihar, Raylaseema.

Wind speed (knots) over India for the week ending 16.10.2013



- 8 to 12 knots over some parts of Bihar, Jharkhand, Coastal Orissa.
- 4 to 8 knots over many parts of Jharkhand, Lakshadweep Andaman & Nicobar Islands, some parts of East Uttar Pradesh, Rajasthan, Bihar, Gangetic West Bengal, Coastal Orissa, Gujarat, Saurashtra & Kutch, Coastal Andhra Pradesh, Raylaseema, Interior Karnataka, Tamil Nadu, Kerala.
- 0 to 4 knots over entire country (except Jharkhand, Lakshadweep Andaman & Nicobar Islands, some parts of East Uttar Pradesh, Rajasthan, Jharkhand, Bihar, Gangetic West Bengal, Coastal Orissa, Gujarat, Saurashtra & Kutch, Coastal Andhra Pradesh, Raylaseema, Interior Karnataka, Tamil Nadu, Kerala).

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 21st October, 2013)

- Rain/thundershowers would occur at many places over coastal & south interior Karnataka, Kerala, Tamilnadu, Andaman & Nicobar Islands and Lakshadweep.
- Rain/thundershowers would occur at a few places over northeastern states and Sub-Himalayan West Bengal & Sikkim during next 48 hours and at isolated places thereafter.
- Rain/thundershowers would occur at a isolated places over Odisha, Gangetic West Bengal, north interior Karnataka and Andhra Pradesh.
- Rain/thundershowers would occur at isolated places over Jammu & Kashmir, east Uttar Pradesh, Bihar, Jharkhand, Konkan & Goa and Madhya Maharashtra during next 48 hours and mainly dry thereafter.
- Weather would be mainly dry over rest of the country.
- Fall In minimum temperature by 23° C during next 3 days over northwest and adjoining central India.

Weather Warning during next 3 days

18 October: Isolated heavy rainfall would occur over coastal Karnataka, south interior Karnataka, Tamilnadu, Kerala and Lakshadweep.

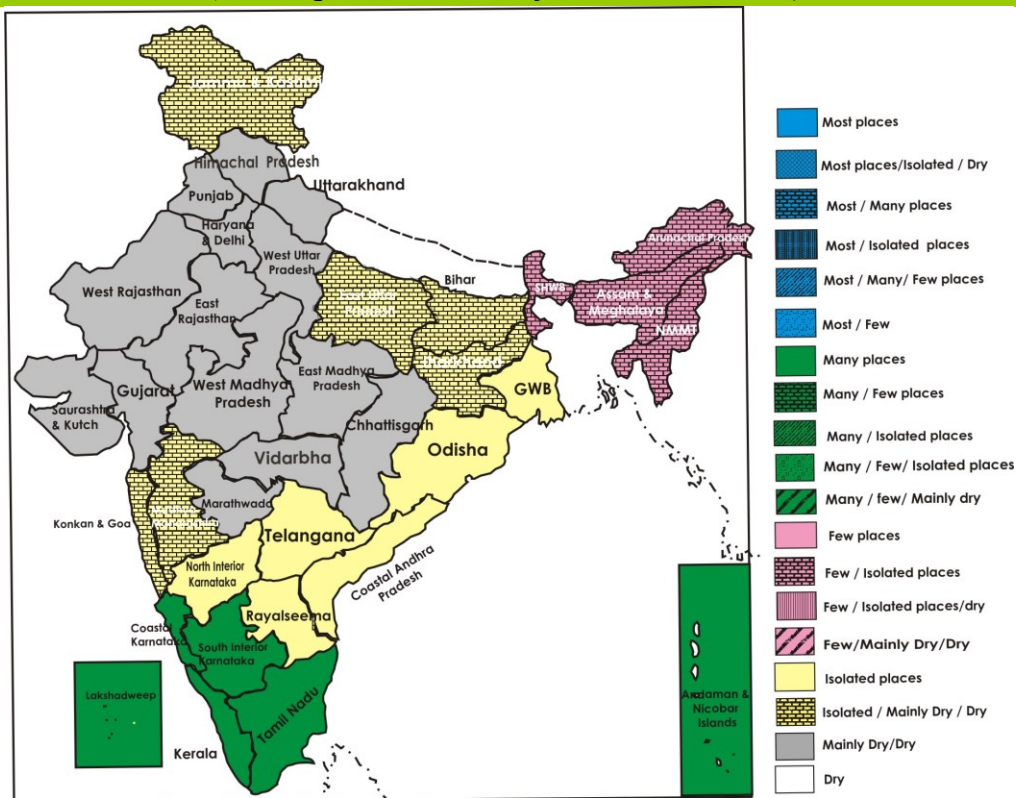
19 October: Isolated heavy rainfall would occur over coastal Karnataka, south interior Karnataka, Tamilnadu, Kerala and Lakshadweep.

20 October: Isolated heavy rainfall would occur over coastal Karnataka, south interior Karnataka, Tamilnadu, Kerala, Andaman & Nicobar Islands and Lakshadweep.

Weather Outlook for subsequent 4 days from 21st to 25th October, 2013

- Increase in rainfall activity over south peninsular India and Andaman & Nicobar Islands.
- Rain/thundershower would occur at isolated places over northeastern states and adjoining eastern India.
- Weather would be mainly dry over most parts of northwest, central and west India.

Weather Forecast Map
(Valid upto 0830 hours of 21st October, 2013)

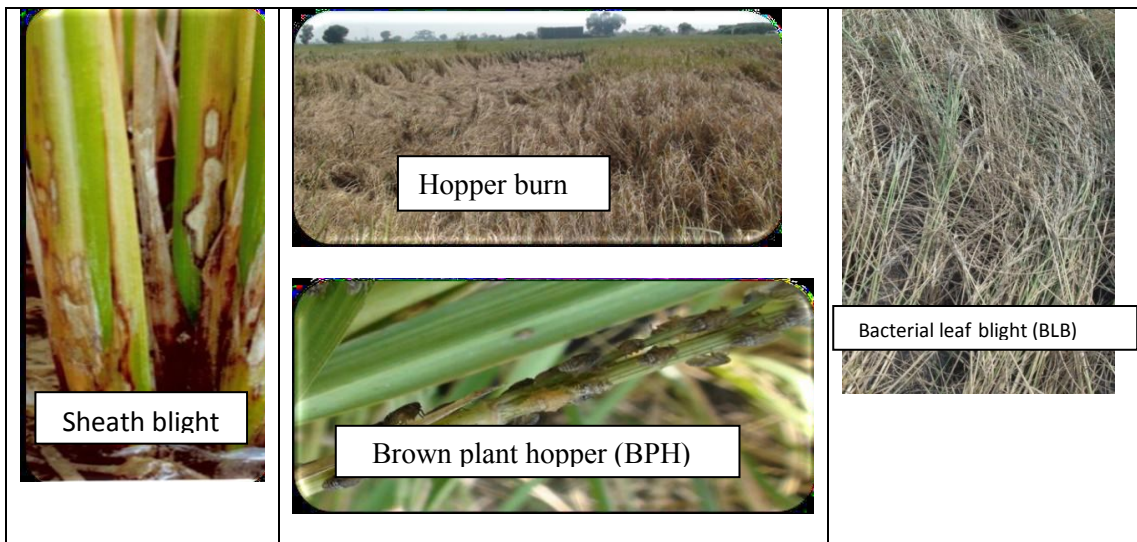


Pest and disease forewarning in rice due to cyclone “PHAILIN”

Due to prolonged rains certain pests are becoming serious in rice in eastern States of the country along with north Coastal Andhra Pradesh. There is an immediate need to monitor the pest and take appropriate intervention as described below:

Pest	Threshold level	Action needed
BPH	>10 insect/hill	Spray buprofezin 25% SC @800 ml/ha or dinotefuran 20SG 150 g/ha or ethofenprox 25 %WG 100g/ha thiamethoxam 25% WG 100 g/ha.
	10 or <10 insect/hill	If possible, drain out water from the field for 2-3 days.
Bacterial leaf blight (BLB)	2-5%	Spray streptocycline @ 100-150 ppm
Sheath Blight	2-5%	Hexaconazole 5% EC @1000 ml/ha or validamycin 3%L 2000 ml/ha or tricyclazole 75% SP 300-400 g/ha.

Note: spraying may be taken up only if the threshold levels crossed.



Salient Advisories

East Region:

- In East and South Eastern Coastal Plain Zone of Odisha, lodging and uprooting of crops occurred due to strong winds and heavy rains causing flash floods. Orchard crops like coconut, cashew and mango were damaged due to uprooting. The following contingency measures are suggested-
 - Drain out excess water from the rice fields.
 - Completely drain out water from non-paddy crops, spray 2% salt solution to standing crop at maturity.
 - Harvest matured crops and keep on aerated safe places.
 - Apply second top dressing of nitrogen or foliar spray of urea to long duration rice after flowering.
 - Undertake propping in sugarcane crop again.
 - Undertake rainfed *rabi* pulses like green gram, black gram and oilseeds like groundnut, mustard, sunflower after receding of flood water.
 - Undertake growing *rabi* maize in coastal areas and potato after receding of flood water.
- Due to heavy rainfall due to the cyclonic storm, there is flash flood in some areas of Howrah, Hoogly, Purba Medinipur and Paschim Medinipur which may cause damage to the crops like rice and vegetables. There is also possibility of damage to the floricultural crops in Purba Medinipur. Drain out excess water from the rice fields. Completely drain out water from the fields of betel vines, vegetables and pulses. Strait up the lodged crops, if possible. Harvest matured crops and keep in aerated safe place and dry with fans.
- In North West Alluvial Plain Zone of Bihar, heavy rainfall occurred in Samastipur and adjoining districts of north Bihar which caused stagnation of water in the crop fields. Remove excess water from the fields of vegetables, tobacco and arhar crops. Postpone field preparation and sowing of rapeseed and mustard and resume after 20th October.
- In Central & North Eastern Plateau Zone of Jharkhand, postpone planting of potato and marigold, nursery sowing of tomato, cabbage and cauliflower, sowing of bell pepper and resume after 20th October. Remove excess water from rice field and maintain 7 – 10 cm water level in rice crop.
- In South Eastern Plateau Zone of Jharkhand, postpone sowing of green pea, toria, nursery raising of winter season vegetables like brinjal, cabbage, cauliflower, tomato, capsicum etc. and resume after 20th October.

South Region

- In Coastal Andhra Pradesh, drain out excess water from the rice fields as early as possible. Apply booster dose of urea @ 25 kg and potash @ 10-15 kg per acre or spray multi-K (13-0-45) @ 10 g / litre of water. In maize, undertake straightening of the crop and earthing up where ever possible. In cotton, spray with COC @ 3 g + Streptocycline @ 0.1 g / litre. Drain out excess water from sugarcane and straightening of cane and propping up may be done followed by application of booster dose of fertilizers.
- In North Coastal Andhra Pradesh continue harvesting of matured groundnut, pulses and maize crops and picking of cotton and keep in aerated safe place.
- Utilizing the residual soil moisture, undertake sowing of sunflower, safflower, *rabi* Jawar and chickpea in the North Dry zone of Karnataka.
- Postpone intercultural operations and spray schedules in the standing crops like red gram, groundnut, rice and maize in Southern Transition Zone of Karnataka.
- Undertake transplanting of *Mundakan* rice in the Northern and Southern Zone of Kerala.
- Undertake transplanting of late samba rice in all the districts of Cauvery Delta Zone of Tamilnadu, *thaladi* rice transplanting in Nagapattinam, Thanjavur, Trivavur and Trichy districts.
- Undertake sowing of sorghum, cowpea, green gram and cluster bean in the Western Zone and maize, cotton, pulses, minor millets, sunflower and pearl millet in the Southern Zone of Tamil Nadu after current spells of heavy rain.

Northeast Region

- Maintain standing water in *sali* rice in Assam and Meghalaya, regular WRC rice in Arunachal Pradesh, *kharif* rice in Manipur and Nagaland, wherever crops are at flowering / grain formation stage. Drain out water from the fields of long duration varieties of *aman* rice in Tripura 10-15 days before harvesting.
- In Hill Zone of Assam, undertake transplanting of winter vegetables.
- In Lower Brahmaputra Valley Zone of Assam, continue sowing of niger, nursery raising of brinjal, mid

cauliflower, early cabbage and kholkhol and land preparation for nursery sowing of onion.

- In Mild Tropical Hill Zone of Mizoram, continue nursery raising of cole crops and tomato.
- In Mild Tropical Hill Zone of Nagaland, continue nursery raising of cabbage and tomato and planting of potato. Continue sowing of maize. Undertake land preparation for sowing of mustard.
- In Mid Tropical Plain Zone of Tripura continue land preparation and planting of potato and sowing of *rabi* maize. Undertake harvesting of short duration varieties of *aman* rice.

West Region

- In Vidarbha, continue intercultural operation, application of fertilizers and plant protection measures in rice and vegetables. Maintain upto 7 cm water level in late maturing rice fields in Bhandara, Gondia, Gadchiroli and Chandrapur districts. Complete the harvesting of already matured soybean.
- Undertake intercultural operations, application of fertilizers and plant protection measures in vegetable fields and mango, cashew and sapota orchards in Konkan. Maintain water level upto 8-10 cm in late maturing rice at grain formation stage. As early maturing variety of rice is at maturity stage, complete harvesting during morning hours and start harvesting of mid late rice varieties.
- In Madhya Maharashtra, maintain water level of 8-10 cm in late maturing rice. Start harvesting of already matured groundnut, jowar and *adsali* and pre-seasonal sugarcane and complete harvesting of matured soybean. Continue sowing of *rabi* jowar and safflower and undertake sowing of rainfed gram, wheat and green pea.
- In Marathwada, start harvesting of already matured groundnut and jowar and complete harvesting of matured soybean. Continue sowing of *rabi* jowar, safflower and rainfed gram. Complete preparatory tillage and undertake planting of pre-seasonal sugarcane.
- Complete harvesting and threshing of early varieties of *kharif* rice and continue land preparation for sowing of *rabi* crops in South Gujarat Heavy Rainfall Zone and for sowing of mustard, gram, carrot, cauliflower and fennel crops in North Gujarat Zone. Carry out sowing of chickpea, mustard and garlic in North Saurashtra Zone and sowing of sweet corn in South Gujarat Zone. Also continue planting of sugarcane.

Central Region

- In Chattisgarh Plain Zone and Baster Plateau zone, drain out excess water from sugarcane, vegetables, maize, ragi and groundnut crop fields. Harvest the matured rice crop.
- In Northern Hill Zone of Chattisgarh, continue sowing of toria, mustard, green peas and planting of potato.
- In Central Narmada Valley Zone, Jhabua Hill Zone of Madhya Pradesh, undertake land preparation for sowing of wheat till 15th November under semi-irrigated condition and from 10th Nov. to 25th November in irrigated situation.
- In Central Narmada Valley Zone and Jhabua Hill Zone of Madhya Pradesh, undertake sowing of safflower and linseed in rainfed condition and planting of potato.

North Region

- In Sub Tropical Zone of Jammu & Kashmir, undertake land preparation for sowing of winter vegetables like potato, radish, carrot, turnip, garlic, methi and spinach and also continue sowing of mustard and harvesting of rice, maize, bajra, moong, mash.
- In Hill Zone of Uttarakhand, undertake harvesting of soybean, urd, ramdan. Undertake sowing of wheat, sarson, continue land preparation for sowing of onion, masoor, garlic, radish, palak, rai, cabbage and planting of potato.
- In Flood Prone Eastern Plain Zone of Rajasthan, continue land preparation for sowing of barley, mustard, planting of potato and transplanting of cauliflower, cabbage.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh continue sowing of winter season green vegetable crops and preparation of nursery of onion and cole crops.
- In Western Plain Zone in Punjab complete planting of autumn sugarcane up to 20th October. Sow raya and mid season pea. Raise seedlings for transplanting of onion.
- In East Uttar Pradesh, undertake harvesting of mature paddy crops on clear weather day. For *rabi* season undertake transplanting of cauliflower, cabbage, brinjal, chilly and tomato, undertake sowing of gram, pea and lentil, continue sowing of toria and potato and continue land preparation for planting of sugarcane. Also, undertake weeding and thinning in toria after proper drainage in the field.
- In Delhi in the areas where paddy crop is about to mature, irrigation should be stopped two weeks before harvesting. Present weather conditions are suitable for planting of winter sugarcane. Undertake sowing of mustard, pea, carrot and gram. Continue planting of potato. Transplanting of mature seedlings of cauliflower,

cabbage, broccoli and tomato may also be done in raised bed.

Detailed Zonewise Agromet Advisories

NORTH INDIA [Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh & Rajasthan]



Rice



Groundnut



Sugarcane



Maize



Jowar

- **Realised Rainfall:** Significant rainfall occurred in Kangra and Una districts of Himachal Pradesh, Allahabad, Ambedkar nagar, Azamgarh, Ballia, Balarampur, Basti, Chandauli, Deoria, Gazipur, Gorakhpur, Jaunpur, Khushinagar, Maharajganj, Mau, Mirzapur, Pratapgarh, Sant Kabir Nagar, Sant Ravidas Nagar, Sidarthnagar, Sonbhadra and Varanasi districts of east Uttar Pradesh, Alligarh, Baghpat, Bijnor, Mahamaya Nagar, Meerut, Moradabad, Muzzafarnagar, Rampur and Saharanpur districts of west Uttar Pradesh, Champawat, Haridwar and Udham Sing Nagar districts of Uttarakhand, Doda, Jammu, Poonch, Reasi, Shopian and Udhampur districts of Jammu & Kashmir, Amritsar, Faridkot, Gurdaspur and Taran Taran districts of Punjab, Rewari and Sonapat districts of Haryana, Alwar, Dausa, Sirohi and Udaipur districts of east Rajasthan during the week ending 16.10.2013.
- **Weather Forecast:** Rain /thundershowers will occur at isolated places over Jammu and Kashmir and east Uttar Pradesh during next 24 hours and mainly dry thereafter. Weather would be mainly dry over rest part of the region.
- **Weather Warning:** Nil
- **Weather Outlook:** Weather would be mainly dry over the region.

Advisory :

- In Sub Tropical Zone of Jammu & Kashmir, undertake land preparation for sowing of winter vegetables like potato, radish, carrot, turnip, garlic, methi and spinach and also continue sowing of mustard and harvesting of rice, maize, bajra, moong, mash.
- In Intermediate zone of Jammu & Kashmir, undertake land preparation for sowing toria, gobi sarson, mustard and continue sowing / planting of potato, sowing of radish, carrot, turnip, garlic, methi and spinach, cauliflower, Knol-khol, onion and also harvesting of matured maize, rice.
- In Valley Temperate Zone of Jammu & Kashmir, undertake planting of garlic, field preparation for sowing of *rabi* crops viz. brown sarson, oat, pea, lentil, vegetables (spinach & methi) and also continue harvesting of rice, maize, kharif pulses.
- In Bhabar and Tarai Zone of Uttarakhand, continue sowing of mustard and rai, vegetables pea, coriander, spinach, radish, fenugreek, etc and planting of autumn sugarcane and continue sowing of tomato in nursery and start sowing of onion, complete harvesting of rice, soybean, moong and urad.
- In Hill Zone of Uttarakhand, undertake harvesting of soybean, urd, ramdan. Undertake sowing of wheat, sarson, continue land preparation for sowing of onion, masoor, garlic, radish, palak, rai, cabbage and planting of potato.
- In Flood Prone Eastern Plain Zone of Rajasthan, continue land preparation for sowing of barley, mustard, planting of potato and transplanting of cauliflower, cabbage.
- In Arid Western Plain Zone of East Rajasthan, continue harvesting of mothbean, pearl millet etc. Also continue land preparation for sowing of *rabi* crops viz. taramira, sarson, mustard and gram upto 25th October. Undertake nursery sowing of chilli, brinjal, tomato.
- In Semi Arid Eastern Plain Zone of Rajasthan, undertake sowing of mustard upto 30th October.
- In High Hill Temperate Dry Zone of Himachal Pradesh, continue harvesting of potato and apply mulching in apple to retain soil moisture as it is in fruit enlargement and ripening stage.
- In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, continue sowing of Gobhi sarson and early peas. Complete harvesting of Kharif maize crop and after sundrying of grain, store the grains at 12% moisture. Make arrangements for early wheat sowing in lower regions.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh continue sowing of winter season green vegetable crops and preparation of nursery of onion and cole crops.
- In Central Plain Zone of Uttar Pradesh continue sowing of peas, Bengal gram, winter maize and winter vegetables like spinach, fenugreek, coriander, radish and carrot and sowing of potato with intercropping of

mustard.

- In Central Plain Zone of Uttar Pradesh, continue harvesting of matured maize at the earliest and maintain water level 3 to 5 cm standing in rice at flowering/early grain formation stage.
- In East Uttar Pradesh, undertake harvesting of mature paddy crops on clear weather day. For rabi season undertake transplanting of cauliflower, cabbage, brinjal, chilly and tomato, undertake sowing of gram, pea and lentil, continue sowing of toria and potato and continue land preparation for planting of sugarcane. Also, undertake weeding and thinning in toria after proper drainage in the field.
- In Delhi in the areas where paddy crop is about to mature, irrigation should be stopped two weeks before harvesting. Present weather conditions are suitable for planting of winter sugarcane. Undertake sowing of mustard, pea, carrot and gram. Continue planting of potato. Transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato may also be done in raised bed.
- In Western Plain Zone in Punjab complete planting of autumn sugarcane up to 20th October. Sow raya and mid season pea. Raise seedlings for transplanting of onion.
- In Central Plain Zone of Punjab complete the harvesting and threshing of rice crop during these days. Do picking of cotton during these days. This is ideal time for sowing of lucerne, oats, senji, gobhi sarson, garlic and desi varieties of radish, carrot and turnip. Start sowing of nursery of tomato and continue planting of potato. The evergreen fruit plants like kinnow, malta, grapefruit, lemon, mango, lichi, amla, ber, jamun, guava and papaya can be planted with earth ball during this period.
- In Sub Montane Undulating Zone of Punjab undertake sowing of the recommended varieties of linseed crop at a depth of 4-5 cm with row-row spacing of 25 cm. Also sow gobhi sarson, taramira & African sarson as pure crop (direct seeding).
- In Western Zone of Haryana start the sowing of raya crops with certified seeds. Harvest ripened bajra and cluster bean crop. Complete the sowing of barseem crop in the prepared field.
- In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, red beetle attack is seen in the cucurbits, spray Malathion @ 1ml per litres of water or Carbaryl @ 2g per litres of water. Fruit fly attack is also seen in cucurbits, spray Malathion @ 1ml + 10 g jaggery per litres of water.
- Due to humid and cloudy weather in Eastern Plain Zone of Uttar Pradesh, there are chances of occurrence of blast disease on rice at panicle initiation stage, spray Quinalphos @ 1 litre/ha or Carbendazim @ 1Kg/ha.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

- **Floriculture**

- In Delhi, undertake marigold plantation in this weather conditions.
- In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, attack of blue beetle is seen in roses and balsam, for control, spray endosulphan @0.1% or cypermethrin @0.05%. weather is conducive for attack of mites in carnation, for control spray Cypermythrin @ 0.05% in 15 days interval.

- **Animal Husbandry**

- In Mid Hills Sub-Humid Zone and Sub-Montane & Low-Hills Sub-Tropical Zone of Himachal Pradesh, vaccinate animals against Foot and Mouth disease.
- In Western Plain Zone in Punjab the crossbred animals are more susceptible to various diseases associated with change in climatic conditions. These animals and their calves are likely to get diarrhoea due to internal parasites. Seek veterinary advice immediately and get the calves dewormed and diarrhoea treated.

CENTRAL INDIA [M.P., CHHATTISGARH]



Rice



Soybean



Sugarcane



Maize



Green gram

- **Realised Rainfall:** Significant rainfall occurred in Balaghat, Chindwara, Narsingpur, Singrauli, Alirajpur, Betul, Burhanpur, Harda, Indore, Khandwa, Khargone and Sheopur Kalani districts of Madhya Pradesh and in all the districts of Chhattisgarh except Bastar, Bilaspur, Dhamtari, Korba and Raipur during the week.
- **Weather forecast:** Weather would be mainly dry over the region during the period.

- **Weather Warning:** Nil
- **Weather Outlook:** Weather would be mainly dry over most part of the region.
- **Advisories:**
 - In Chattisgarh Plain zone and Baster Plateau zone, drain out excess water from sugarcane, vegetables, maize, ragi and groundnut crop fields. Harvest the matured rice crop.
 - In Northern Hill Zone of Chattisgarh, continue sowing of toria, mustard, green peas and planting of potato.
 - In Central Narmada Valley Zone, Jhabua Hill Zone of Madhya Pradesh, undertake land preparation for sowing of wheat till 15th November under semi-irrigated condition and from 10th Nov. to 25th November in irrigated situation.
 - In Central Narmada Valley Zone and Jhabua Hill Zone of Madhya Pradesh, undertake sowing of safflower and linseed in rainfed condition and planting of potato.
 - In Kymore Plateau Zone and Satpura Hill Zone, Gird Zone and Malwa Plateau zone of Madhya Pradesh, continue land preparation for sowing of peas, sarson, masoor and toria.
 - In Bundelkhand Zone, Kymore Plateau Zone and Satpura Hill Zone, Malwa Plateau zone and Nimar Valley Zone of Madhya Pradesh, continue nursery raising of tomato, chilli, brinjal, cabbage and cauliflower. Continue land preparation for sowing of radish, methi, sarsoon, palak, coriander, beet.
 - In Central Narmada Valley Zone of Madhya Pradesh, sugarcane crop is infested by Pyrilla and shoot borer. For control, apply phorate 10 G @ 20 kg/ha.
 - In Chhattisgarh Plain Zone, there is chance of infestation of leaf spot or fumoseren blight in brinjal, spray carbendazim or indofil. Cercospora disease is being observed in chillies. Spray carbendazim or indofil insecticides for control.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III
- **ANIMAL HUSBANDRY & POULTRY**
 - In Madhya Pradesh, vaccinate the catles against H.S., B.Q. and FMD diseases and also deworming in cattles and goats. Use potassium permanganate @ 5 ml per liter of water for infected animals.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]



Rice

Sugarcane

Maize

Groundnut

Turmeric

- **Realised Rainfall:** Significant rainfall occurred in all districts of Sikkim, West Bengal and Bihar and in most of the districts of Odisha except Koraput, Malkangiri, Nawapara and Nawarangpur districts and in most of the districts of Jharkhand except Deoghar, Dumka, Koderma, Sahibganj and Saraikela districts.
- **Weather Forecast:** Rain / thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim during next 48 hours and at isolated places thereafter. Rain / thundershowers would occur at isolated places over Odisha and Gangetic West Bengal. Rain / thundershowers would occur at isolated places over Bihar and Jharkhand during next 48 hours and mainly dry thereafter.
- Weather Warning: Nil.
- Weather Outlook: Rain / thundershower would occur at isolated places over Sub-Himalayan West Bengal & Sikkim. Weather would be mainly dry over rest of the region.
- **Advisories:**
 - In East and South Eastern Coastal Plain Zone of Odisha, lodging and uprooting of crops occurred due to strong winds and heavy rains causing flash floods. Orchard crops like coconut, cashew and mango were damaged due to uprooting. The following contingency measures are suggested-
 - Drain out the excess water from the rice fields.
 - Completely drain out water from non-paddy crops, spray 2% salt solution to standing crop at maturity.
 - Harvest non-harvested matured crops and keep on aerated safe places.
 - Apply second top dressing of nitrogen or foliar spray of urea to long duration rice after flowering.
 - Prop up the sugarcane crop again.
 - Undertake rainfed *rabi* pulses like green gram, black gram and oilseeds like groundnut, mustard, sunflower after receding of flood water.

- Undertake growing *rabi* maize in coastal areas and potato after receding of flood water.
- In North Eastern Plateau Zone of Odisha undertake sowing of mustard, green pea and early *rabi* vegetable crops, pyra crop, use light traps or burning fire in the evening on the bunds.
- Due to heavy rainfall due to the cyclonic storm, there is flash flood in some areas of Howrah, Hoogly, Purba Medinipur and Paschim Medinipur which may cause damage to the crops like rice and vegetables. There is also possibility of damage to the floricultural crops in Purba Medinipur. Drain out excess water from the rice fields. Completely drain out water from the fields of betel vines, vegetables and pulses. Strait up the lodged crops, if possible. Harvest non-harvested matured crops and keep in aerated safe place and dry with fans.
- In North West Alluvial Plain Zone of Bihar, heavy rainfall occurred in Samastipur and adjoining districts of north Bihar which caused stagnation of water in the crop fields. Remove excess water from the fields of vegetables, tobacco and arhar crops. Postpone field preparation and sowing of rapeseed and mustard and resume after 20th October.
- In South Bihar Alluvial Zone of Bihar, postpone planting of banana and papaya. Drain out excess water from rice fields and maintain 7-10 cm water in the field.
- In Western Plateau Zone of Jharkhand, due to high wind and rain, lodging occurred in rice crops especially tall varieties. Drain out excess water from the field and bunching of plants may be done. In upland, undertake harvesting of moong, urad, maize, groundnut, marua etc. and keep in aerated safe place.
- In Central & North Eastern Plateau Zone of Jharkhand, postpone planting of potato and marigold, nursery sowing of tomato, cabbage and cauliflower, sowing of bell pepper and resume after 20th October. Remove excess water from rice field and maintain 7 – 10 cm water level in rice crop.
- In South Eastern Plateau Zone of Jharkhand, postpone sowing of green pea, toria, nursery raising of winter season vegetables like brinjal, cabbage, cauliflower, tomato, capsicum etc. and resume after 20th October.
- Due to prolonged rains Brown Plant Hopper (BPH) and diseases like bacterial leaf blight and sheath blight are becoming serious in rice in most of the areas of the States in the region. There is an immediate need to monitor the pests and take appropriate intervention as described below:
 - Spray Buprofezin 25% SC @ 800 ml / ha or Dinotefuran 20 SG 150 g / ha or Ethofenprox 25% WG 100 g / ha or Thiamethoxam 25% WG 100 g / ha to control BPH, if crosses ETL (>10 insect/hill).
 - Spray Streptocycline @ 100-150 ppm to control BLB, when crosses ETL (2-5%).
 - Spray Hexaconazole 5% EC @ 1000 ml / ha or Validamycin 3% L @ 2000 ml / ha or Tricyclazole 75% SP @ 300-400 g / ha to control sheath blight, when crosses ETL (2-5%).
- In the Coastal Saline Zone and New Alluvial Zone of West Bengal, there is chance of occurrence of Green leaf hopper and leaf roller in *aman* rice; spray Acephate @ 1 g / litre of water to manage the insects.
- Due to cloudy and humid conditions, there are chances of attack by Gundhi bug in timely sown rice in North Eastern Plateau Zone of Odisha; release rotten snails or dust Chlorpyrifos @ 10 kg / acre. Due to high humidity and cloud cover, there is chance of occurrence of neck blast in rice; apply Tricyclazole @ 6-8 g / liter of water.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.

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



Sugarcane



Rice



Groundnut



Maize



Cucurbits

- **Realised Rainfall:** Significant rainfall occurred in Kokrajhar district of Assam and Serchhip district of Mizoram. No significant rainfall occurred in the remaining districts of the States of the region.
- **Weather Forecast:** Rain / thundershowers would occur at a few places over the States of the region during next 48 hours and at isolated places thereafter.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain / thundershowers would occur at isolated places over the states of the region.
- **Advisories:**

- Maintain standing water in *sali* rice in Assam and Meghalaya, regular WRC rice in Arunachal Pradesh, *kharif* rice in Manipur and Nagaland, wherever crops are at flowering / grain formation stage. Drain out water from the fields of long duration varieties of *aman* rice in Tripura 10-15 days before harvesting.
- In Hill Zone of Assam, undertake transplanting of winter vegetables.
- In Lower Brahmaputra Valley Zone of Assam, continue sowing of niger, nursery raising of brinjal, mid cauliflower, early cabbage and kholkhol and land preparation for nursery sowing of onion.
- In Barak Valley Zone of Assam, continue transplanting of cabbage, cauliflower, knolkhol and autumn planting of sugarcane. Undertake field preparation and planting of potato. Continue intercropping of rapeseed or mustard with autumn planted sugarcane.
- In Central Brahmaputra Valley Zone of Assam, continue nursery sowing and transplanting of cole crops, brinjal and radish and also field preparation and sowing for *rabi* pulses and oilseeds.
- In North Bank Plain Zone of Assam, continue land preparation and sowing of rapeseed / mustard, planting of potato and nursery sowing of cole crops.
- In Sub Tropical Hill Zone of Arunachal Pradesh, continue sowing of carrot and radish and field preparation and sowing of pea, maize, sesame, mustard and planting of potato. Apply mulch to conserve moisture in fruit crops.
- In Meghalaya, continue nursery raising of early cauliflower and winter vegetables, land preparation and sowing of potato, rapeseed and mustard. Also harvest matured groundnut.
- In Sub Tropical Plain Zone of Manipur, continue sowing for *rabi* vegetables like carrot, radish, coriander etc., nursery raising of cole crops and planting of potato. Also continue land preparation for transplanting of onion. Undertake harvesting of soybean and groundnut.
- In Mild Tropical Hill Zone of Mizoram, continue nursery raising of cole crops and tomato.
- In Mild Tropical Hill Zone of Nagaland, continue nursery raising of cabbage and tomato and planting of potato. Continue sowing of maize. Undertake land preparation for sowing of mustard.
- In Mid Tropical Plain Zone of Tripura continue land preparation and planting of potato and sowing of *rabi* maize. Undertake harvesting of short duration varieties of *aman* rice.
- In North Bank Plain Zone of Assam, there is chance of infestation of Gundhi bug in *sali* rice; apply Malathion 5% dust @ 20 kg / ha on a non rainy day to control Gundhi bug.
- In Upper Brahmaputra Valley Zone of Assam, there is chance of attack of stem borer in *sali* rice; drain out the excess water and spray Chloropyrifos 20% @ 2.0 ml / litre on a non rainy day to control stem borer.
- In Sub Tropical Hill Zone of Arunachal Pradesh, under present weather condition, large scale attack of Gundhi bug has been reported in WRC rice and likely to continue; apply Malathion dust 5% @ 20 kg / ha on a non rainy day to control Gundhi bug.
- In Mild Tropical Hill Zone of Mizoram, there is chance of occurrence of leaf blotch in turmeric; spray Carbendazim (1 g / litre of water) or Mancozeb (2.5 g / litre of water) + 1 ml Sandovit on a non rainy day.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure III.
- **Animal Husbandry**
- In Sub Tropical Hill Zone of Arunachal Pradesh, maintain warmth by lighting with filament bulb in the shed of poultry, pigs and cattle.
- The present weather condition in Mild Tropical Plain Zone of Tripura is favourable for infestation of round worm, flukes and tapeworms in cattle. De-worming may be done.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Rice



Groundnut



Cotton



Sugarcane



Cotton

- **Realised Rainfall:** Significant rainfall occurred in all the districts in Konkan except Sindhudurg, Ahmednagar, Dhule, Jalgaon, Nasik district in Madhya Maharashtra, Aurangabad, Jalna, Latur district in Marathwada and all the districts in Vidarbha except Bhandara, Gondia, Nagpur districts in Maharashtra. Significant rainfall occurred in Banaskantha, Sabarkantha, Tapi, Valsad, Amreli and

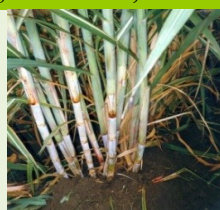
Bhavnagar districts of Gujarat State during last week.

- **Weather Forecast:** Rain / thundershowers would occur at isolated places over Konkan & Goa and Madhya Maharashtra during next 48 hours and mainly dry thereafter. Weather would be mainly dry over rest of the region.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be mainly dry over the region.
- **Advisories:**
 - In Vidarbha, continue intercultural operation, application of fertilizers and plant protection measures in rice and vegetables. Maintain upto 7 cm water level in late maturing rice fields in Bhandara, Gondia, Gadchiroli and Chandrapur districts. Complete the harvesting of already matured soybean.
 - Undertake intercultural operations, application of fertilizers and plant protection measures in vegetable fields and mango, cashew and sapota orchards in Konkan. Maintain water level upto 8-10 cm in late maturing rice at grain formation stage. As early maturing variety of rice is at maturity stage, complete harvesting during morning hours and start the harvesting of mid late rice varieties.
 - In Madhya Maharashtra, continue intercultural operations, application of fertilizers and plant protection measures in sugarcane and vegetable crops like onion, brinjal, tomato, okra and guar. Maintain water level of 8-10 cm in late maturing rice. Start harvesting of already matured groundnut, jowar and *adsali* and pre-seasonal sugarcane and complete harvesting of already matured soybean. Continue sowing of *rabi* jowar and safflower. Pruning may be continued in grapes. Complete preparatory tillage and undertake planting of pre seasonal sugarcane. Undertake sowing of rainfed gram, wheat and green pea.
 - In Marathwada, continue intercultural operations, application of fertilizers and plant protection measures in vegetables, orchards and sugarcane. Start harvesting of already matured groundnut and jowar and complete harvesting of matured soybean. Continue sowing of *rabi* jowar, safflower and rainfed gram. Complete preparatory tillage and undertake planting of pre seasonal sugarcane.
 - Complete harvesting and threshing of early varieties of *kharif* rice. Continue land preparation for sowing of *rabi* crops in South Gujarat Heavy Rainfall Zone and for sowing of mustard, gram, carrot, cauliflower and fennel crops in North Gujarat Zone. Carry out sowing of chickpea, mustard and garlic in North Saurashtra Zone and sowing of sweet corn in South Gujarat Zone. Also continue planting of sugarcane.
 - Carry out intercultural operations and hand weeding in castor and pigeon pea in South Gujarat Heavy Rainfall Zone. Apply irrigation in castor crop as per requirement.
 - Due to light rain and humid weather, there may be attack of white wooly aphids in sugarcane in Kolhapur region; remove dried leaves on lower side and apply Themate @ 4 kg per acre.
 - Due to rise in maximum temperature (30-32°C) in Pune region, there may be attack of jassids and white fly in okra which leads to the infestation of yellow vein mosaic; spray Imidacloprid @ 4 ml per 10 litres of water.
 - Rise in temperature and humid weather is congenial for the attack of mango hoppers on new flush and mango inflorescence in south Konkan; spray 25% Cypermethrin @ 3 ml or Fenvalerate 20% @ 5 ml per 10 litres of water.
 - Humid weather is congenial for incidence of bacterial blight in cotton in Middle Gujarat Zone; spray Streptocyclin @ 2 g + Copper Oxychloride @ 20 g in 10 litres of water. Due to cloudy weather there are chances of sucking pests and leaf spot disease in groundnut; spray Chlorothalonil @ 25 g in 10 litres of water and Methyl-o-Demeton 25 EC @ 10 ml in 10 liters of water to avoid rust and sucking pests, respectively.
 - Stages of major crops are mentioned in Annexure I.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]



Rice



Sugarcane



Groundnut



Black gram



Cotton

- **Realized rainfall:** Significant rainfall occurred in all the districts of Telangana; Coastal Andhra Pradesh except Nellore; all the districts of Coastal Karnataka; Koppal of North Interior Karnataka; Bangalore Urban, Kolar and Shimoga districts of South Interior Karnataka; and all the districts in Kerala except Thiruvananthapuram &

Wayanad and at many districts of Tamilnadu except Kanyakumari, Namakkal, Pudhucherry, Pudhukota, Ramananthapuram, Salem, Shivganaga, Thanjavur, Tirunelveli, Tiruvarur, Toothkodi and Trichy. No significant rainfall occurred in the remaining parts of the region

- **Rainfall Forecast:** Rain/thundershowers would occur at many places over coastal & south interior Karnataka, Kerala, Tamilnadu Lakshadweep and Andaman & Nicobar Islands and at isolated places over north interior Karnataka and Andhra Pradesh.
- **Weather Warning:** Isolated heavy rainfall would occur over coastal Karnataka, south interior Karnataka, Tamilnadu, Kerala and on Lakshadweep 18th, 19th and 20th October and Andaman & Nicobar on 20th.
- **Weather Outlook 4 days from 20th October to 24th October:** Increase in rainfall activity over Andhra Pradesh, Karnataka, Kerala, Tamilnadu and Andaman & Nicobar Islands.
- **Advisory:**
 - In Coastal Andhra Pradesh, drain out excess water from the rice fields as early as possible. Apply booster dose of urea @ 25 kg and potash @ 10-15 kg per acre or spray multi-K (13-0-45) @ 10 g / litre of water. In maize, undertake straightening of the crop and earthing up where ever possible. In cotton, spray with COC @ 3 g + Streptocycline @ 0.1 g / litre. Drain out excess water from sugarcane and straightening of cane and propping up may be done followed by application of booster dose of fertilizers.
 - In North Coastal Andhra Pradesh continue harvesting of matured groundnut, pulses and maize crops and picking of cotton.
 - Undertake sowing of pulse crop like Horse gram (KBH-1, PHG-9) in the Eastern Dry zone of Karnataka after current spells of heavy rain.
 - Utilizing the residual soil moisture, undertake sowing of sunflower, safflower, *rabi* Jawar and chickpea in the North Dry zone of Karnataka after proper seed treatment.
 - Postpone intercultural operations and spray schedules in the standing crops like red gram, groundnut, rice and maize in Southern Transition Zone of Karnataka.
 - Harvest the matured maize crop in Central Dry zone of Karnataka after current spells of heavy rain.
 - Undertake transplanting of *Mundakan* rice in the Northern and Southern Zone of Kerala.
 - Short duration vegetable crops like Amaranthus, cowpea etc. may be sown in the interspaces of newly planted banana plantation in the High Altitude Zone of Kerala after current spells of heavy rain.
 - Continue new planting of banana and undertake sowing of *punja* rice in Kottayam district the Problem Area Zone in Kerala after current spells of heavy rain.
 - Undertake transplanting of late samba rice in all the districts, *thaladi* rice transplanting in Nagapattinam, Thanjavur, Trivarur and Trichy districts of Cauvery Delta Zone of Tamilnadu.
 - Undertake sowing of sorghum, cowpea, green gram and cluster bean in the Western Zone and maize, cotton, pulses, minor millets, sunflower and pearl millet in the Southern Zone of Tamil Nadu after current spells of heavy rain.
 - Excess moisture may cause sheath blight in rice, root rot in cotton and leaf spot in chili in Krishna Godavari zone of Andhra Pradesh. Monitor the crops for the diseases and if observed take appropriate plant protection measures
 - Weather is congenial for incidence of sheath blight occurrence in the fields where the plant population is high in the Problem Area zone of Kerala. The farmers are advised to remove the severely affected plants in order to provide air circulation into the crop canopy and thereby reduce the spread of the disease to the nearby plants.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure III.
 - **Animal Husbandry**
 - The present weather condition favours the Mastitis disease in live stock in Kottayam district of Problem area zone of Kerala. Provide clean and hygienic water to animals.

Annexure I Stages of Major Crops

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

- Tomato, brinjal, chilli (vegetative / flowering / fruiting), French bean, okra (fruiting/ harvesting), rice (panicle initiation), maize (cob maturity/harvesting), soybean (harvesting), peas (pod formation / maturity), cauliflower (Transplanting), cucurbits *viz.* khira, bitter gourd, tori (fruiting/maturity), radish, carrot, turnip, beet leaf and fenugreek (direct sowing), gobhi sarsson (sowing), onion (planting), potato (tuber maturity/harvesting), apple (fruit maturity/harvesting) in Himachal Pradesh.
- Rice (maturity / harvesting), ginger (vegetative), sugarcane (vegetative / active vegetative), urad, moong, soybean (pod maturity / harvesting), pigeon pea, cowpea, horse gram, rice bean (maturity/ harvesting), sesame in low land area (early vegetative / vegetative), pearl millet (grain maturity/ harvesting), vegetable pea (sowing / germination), toria (land preparation / sowing), garlic, tomato, mustard(nursery sowing / transplanting), potato(planting / transplanting), Autumn sugarcane(planting), wheat, sarson, masoor(field preparation for sowing), coriander, spinach, radish, fenugreek(sowing) in Uttarakhand.
- Rice (maturity/harvesting), maize (cob maturity/harvesting), pole type beans (vegetative), sunflower (flowering/ maturity), radish, spinach (transplanting / early vegetative), carrot, turnip (sowing), onion, cole crops (nursery sowing / transplanting), fruit crops (planting), Kharif pulses (moong, mash) (pod maturity/harvesting), toria, gobi sarson, mustard (sowing /germination), potato, palak, radish, carrot, turnip, garlic, methi, spinach (sowing / planting), brown sarson, oat, lentil, berseem(land preparation/sowing) in Jammu & Kashmir.
- Rice (maturity/harvesting), cotton (boll formation/ picking), tomato, brinjal, chilli (nursery sowing / transplanting), mothbean, pearl millet (maturity/harvesting), Shimla mirch (early vegetative / vegetative), groundnut (early vegetative / vegetative), new sugarcane (early vegetative / vegetative), soybean (Pod maturity/harvesting), sesame(flowering /capsule formation), castor (flowering), rainfed taramira, toria, gram and mustard, potato (field preparation / sowing), cucurbits (sowing), radish, Deshi carrot –sowing, cabbage and cauliflower (nursery sowing), onion(nursery raising) and fruit crops (ber, aonla, pomegranate, phalsa) (transplanting) in Rajasthan.
- Rice (grain maturity/ harvesting), *Kharif* maize (maturity), fodder maize, bajra, sorghum and other fodder crops(vegetative / cutting), Lady's finger, chilli and cucurbits crop (flowering / fruiting / picking),brinjal, tomato, chilli, cauliflower and cabbage(vegetative / flowering), soybean (flower initiation/maturity), radish, spinach and coriander (vegetative), guar, bajra (flowering / grain filling), onion (vegetative), Cucurbitaceous crops (flowering / fruiting / picking), mustard, pea, carrot(land preparation / sowing) in Delhi.
- *Kharif* maize (cob maturity/harvesting), jowar, bajra, (flowering/grain filling/ milking), pigeon pea (vegetative/branching) rice (flowering/early grain formation), groundnut, arhar, moong and urad (vegetative/branching), tomato, brinjal, chilli (fruiting/picking), sesamum (capsule formation/capsule maturity), black gram, green gram (flowering/pod formation), spring sugarcane (active vegetative/grand growth), toria, potato (sowing / sprouting/early vegetative) in Uttar Pradesh.
- New sugarcane (tillering / vegetative), cotton (picking), cucurbits, cowpea (sowing), rice (grain formation / harvesting), black gram, green gram, soybean, arhar (vegetative/pod formation), moong, mash (vegetative) maize (cob formation / cob maturity) sesamum (vegetative), cauliflower (transplanting), potato(land preparation / planting) in Punjab.
- New sugarcane (vegetative), cotton (picking), rice (grain formation/maturity) in Haryana.

CENTRAL INDIA [M.P., CHHATTISGARH]

- *Kharif* rice (grain maturity/harvesting), onion (vegetative), maize (cob maturity/harvesting), jowar, arhar (vegetative/flowering), groundnut (flowering/pegging),sesame(capsule maturity/ harvesting), sugarcane (grand growth), vegetables (flowering/ fruiting) in Madhya Pradesh.
- Sugarcane (elongation), *kharif* rice (grain maturity/harvesting), maize, jowar, groundnut (vegetative), ragi and kodomillet (vegetative), ginger, turmeric, papaya (vegetative), onion (vegetative), vegetable crops (flowering/ fruiting) in Chhattisgarh.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL &SIKKIM]

- *Kharif* rice (flowering / grain formation), maize (cob formation), sugarcane (tillering / grand growth), onion (transplanting), urad (grain formation), yam (vegetative), arhar (vegetative) in Bihar.
- *Kharif* rice (flowering / grain formation), maize (cob maturity), urad, marua (grain maturity / harvesting), arhar, groundnut (vegetative), onion (vegetative), ginger and turmeric (late vegetative), *kharif* vegetables *viz.* bhindi, bean, French bean (vegetative), tomato, cauliflower, cabbage (nursery sowing / transplanting), niger, horse gram (vegetative), sweet potato (stem elongation), green peas, potato, bell pepper (sowing) in Jharkhand.
- Rice (panicle initiation / flowering / grain formation), pigeon pea, arhar, maize, and *kharif* vegetables (vegetative / flowering), fruit crops (planting), groundnut (pod maturity), green gram, black gram, cowpea, sesame, ragi, castor, soybean (vegetative), cotton (flowering / boll formation), turmeric, ginger, yam (vegetative), sugarcane (tillering), banana (planting / vegetative), mustard (sowing / seedling), marigold (planting) in Odisha.
- *Aman* rice (maturity / harvesting stage), *kharif* maize (cob maturity / harvesting), ginger, turmeric (tuber formation),

pigeon pea (vegetative), *kharif* vegetables (harvesting), brinjal, okra, tomato and chilli (flowering / fruiting), pointed gourd (fruiting), tomato (nursery sowing), early cabbage & cauliflower (seedbed preparation / sowing), winter flower (seedbed preparation) in West Bengal.

- Ginger (vegetative), large cardamom (secondary flowering), *kharif* vegetables (vegetative) in Sikkim.

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

- Sugarcane (Autumn) (planting), sugarcane (elongation), *sali* rice (flowering / grain formation), maize (vegetative), sesame (flowering / capsule formation), pigeon pea (flowering / pod formation), green gram and black gram (early vegetative / vegetative), ginger, turmeric (vegetative), early cauliflower, cabbage, knol-khol, brinjal (transplanting / early vegetative), niger (sowing), winter vegetables (nursery raising / transplanting), radish, carrot, spinach, beet (seedling), potato (planting) in Assam.
- Regular WRC rice (grain formation / grain maturity), sesame (vegetative), turmeric, ginger (vegetative), cauliflower and cabbage (transplanting / vegetative), radish, spinach, carrot (sowing / vegetative), mustard, maize, pea (sowing), potato (planting) in Arunachal Pradesh.
- *Kharif* rice (grain formation / grain maturity), groundnut (pod maturity / harvesting), soybean (pod maturity / harvesting), *rabi* vegetables, cole crops (nursery preparation), black gram and rice bean (flowering / pod formation), potato (planting), onion (nursery raising) in Manipur.
- *Sali* rice (flowering), turmeric and ginger (rhizome formation / rhizome maturity), cucurbits (flowering / fruiting), green gram and black gram (vegetative), groundnut (pod maturity), potato, rapeseed and mustard (sowing), early cauliflower and other winter vegetables (sowing / nursery sowing) in Meghalaya.
- *Jhum* rice (grain maturity / harvesting), ginger and turmeric (vegetative), banana (fruiting / maturity / harvesting), cole crops (nursery raising) in Mizoram.
- Lowland rice (grain filling / grain maturity), maize (sowing), ginger (vegetative), cabbage and tomato (nursery raising) in Nagaland.
- *Aman* rice (long duration) (grain formation / grain maturity), *aman* rice (short duration) (grain maturity / harvesting), *rabi* maize (sowing), banana (maturity / harvesting), *kharif* vegetables like okra, cucurbits etc. (vegetative / flowering), early cauliflower, brinjal and radish (vegetative) in Tripura.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- *Kharif* rice (grain maturity / harvesting in early maturing & mid late varieties and grain formation in late maturing varieties in Konkan and grain formation / grain maturity in Kolhapur, Nasik (ghat), Pune (west) region and East Vidarbha), cotton (boll formation / boll development in Madhya Maharashtra, Marathwada and Vidarbha), jowar (grain formation / maturity in Madhya Maharashtra, Marathwada and Vidarbha), red gram (secondary branching / flowering in Madhya Maharashtra, Vidarbha and Marathwada), soybean (harvesting in Madhya Maharashtra, Marathwada and Vidarbha), groundnut (pod maturity / harvesting in Madhya Maharashtra, Marathwada and Vidarbha), sugarcane (*adsali* and pre seasonal) (elongation / maturity), *suru* sugarcane (active tillering / elongation), New *adsali* sugarcane (early tillering in Marathwada and Madhya Maharashtra), pre-seasonal sugarcane (land preparation / planting in Marathwada and Madhya Maharashtra), *rabi* jowar & safflower (sowing / germination in Madhya Maharashtra and Marathwada), rainfed gram (sowing in Madhya Maharashtra and Marathwada) in Maharashtra.
- *Kharif* rice (maturity / harvesting), castor (capsule formation), groundnut (maturity / harvesting), cotton (boll formation / boll maturity), vegetables (flowering / fruiting), sugarcane (vegetative / elongation), new sugarcane (planting), sweet corn, chickpea, mustard, garlic (sowing) in Gujarat.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS]

- *Kharif* crops: early sown groundnut (pod maturity/ harvesting), maize (cob development/ harvesting), Bt.cotton (boll formation / boll maturity), late sown groundnut (pod maturity), cotton (boll initiation/development), pulses (vegetative in Krishna Godavari Zone of Andhra Pradesh and harvesting in North Coastal Zone), sugarcane(Jan-March planted) (grand growth),late sown *kharif* rice (panicle initiation / grain formation), castor(capsule development), banana (vegetative), onion (vegetative), *rabi* rice (nursery sowing), red gram (vegetative) Bengal gram and jowar (sowing), and vegetables (vegetative) in Andhra Pradesh.
- *Kharif* crops: sugarcane (grand growth), kuruvai rice (harvesting), samba rice (transplanting/early vegetative), thaladi rice (nursery sowing/ transplanting), direct sown rice (early vegetative), irrigated rice (flowering), rainfed cotton and maize (seedling), onion (vegetative), sunflower (flowering), winter cotton (vegetative), groundnut (pod development / harvesting) and vegetables (vegetative) in Tamil Nadu.
- *Virippu* rice (grain development/harvesting), *Mundakan* rice (transplanting), *Punja* rice (Sowing in Kottayam district) arecanut (harvesting), sugarcane (grand growth), Nendran banana (harvesting/ planting), rubber (tapping/planting), *kharif* vegetables (vegetative/fruiting), pepper (berry maturity), cardamom (harvesting), ginger (vegetative) in Kerala.
- Sugarcane (grand growth), new arecanut (planting), *kharif* crops: sunflower(vegetative) sorghum (maturity), ragi (tillering/head emergence), maize(cob maturity/harvesting), red gram(flowering), groundnut (pod formation/maturity), and soybean (harvesting), rice (tillering), cotton (square formation stage/flowering),vegetable crops (transplanting/early vegetative) *Rabi* Crops: Bengal gram, sunflower, sorghum, safflower and chickpea (sowing) in Karnataka.

Annexure-II
Week by week Rainfall Distribution

State/Districts	18.09.13		25.09.13		02.10.13		09.10.13		16.10.13	
	Actual	% dep.	Actual	% dep.	Actual	% dep.	Actual	% dep.	Actual	% dep.
Arunachal Pradesh										
Anjaw	**	**	**	**	**	**	**	**	**	**
Changlang	28.9	-81	23.9	-64	17.5	-77	73.7	-25	3.1	-96
Dibang Valley	18.0	-82	1.0	-98	3.0	-96	78.0	36	5.0	-91
East Kameng	22.8	-72	20.6	-64	41.5	-6	73.0	107	0.0	-100
East Siang	0.0	-100	1.5	-99	13.1	-87	117.2	35	4.2	-87
Kurung Kumey	**	**	**	**	**	**	**	**	**	**
Lohit	2.9	-97	5.7	-91	11.4	-79	46.5	-40	2.0	-93
Lower Dibang Valley	4.5	-95	0.0	-100	20.9	-70	96.1	68	0.0	-100
Lower Subansari	**	**	**	**	**	**	**	**	**	**
Papumpara	1.8	-98	0.4	-99	158.7	68	70.2	-18	0.0	-100
Tawang	65.0	-57	71.0	-30	7.0	-93	67.0	-21	9.0	-84
Tirap	22.7	-83	40.3	-46	27.4	-69	64.5	-21	0.0	-100
Upper Siang	12.2	-94	162.0	-14	59.0	-50	35.0	-49	16.1	-80
Upper Subansari	0.0	-100	11.8	-66	9.2	-78	19.2	32	0.0	-100
West Kameng	26.1	-83	24.3	-76	89.3	-11	90.6	7	0.0	-100
West Siang	2.8	-97	0.0	-100	14.7	-69	11.9	-59	6.0	-81
Assam										
Baksa	2.0	-99	4.6	-95	32.2	-56	20.6	-64	0.0	-100
Barpeta	5.7	-97	55.3	-40	29.5	-60	74.0	28	1.0	-97
Bongaigaon	0.0	-100	60.4	-32	3.4	-96	147.4	130	5.2	-88
Cachar	24.4	-73	40.7	-33	12.3	-82	103.5	42	2.0	-96
Chirang	12.5	-89	44.1	-50	17.6	-79	132.1	106	4.5	-90
Darrang	1.0	-99	5.0	-86	37.0	-3	56.0	91	0.0	-100
Dhemaji	0.0	-100	14.0	-84	31.0	-58	22.0	-57	0.0	-100
Dhubri	0.0	-100	1.5	-97	61.1	-14	89.2	15	12.3	-57
Dibrugarh	18.0	-80	47.6	-18	63.2	12	96.5	112	0.1	-99
Goalpara	0.0	-100	17.2	-74	54.9	-30	83.5	46	4.1	-91
Golghat	1.5	-97	47.8	17	31.2	0	84.2	199	2.8	-92
Hailakandi	20.5	-72	4.1	-93	7.9	-87	83.3	26	5.1	-89
Jorhat	0.0	-100	6.2	-89	52.3	4	79.6	108	0.0	-100
Kamrup(Rural)	28.2	-41	62.3	95	27.5	-36	104.1	188	0.0	-100
Kamrup(Metro)	5.5	-89	22.8	-29	45.3	5	120.9	234	0.4	-98
Karbi Anglong	30.0	-29	28.4	-3	11.8	-68	62.6	66	1.9	-92
Karimganj	87.0	-30	33.3	-51	52.0	-23	108.3	-4	0.0	-100
Kokrajhar	0.0	-100	12.9	-88	41.7	-56	98.0	116	29.5	-34
Lakhimpur	0.2	-99	10.5	-88	40.6	-45	53.1	4	0.2	-99
Morigaon	14.4	-76	51.8	25	63.8	57	84.4	157	2.6	-94
N.C.Hills	56.4	53	0.0	-100	30.0	-38	54.8	56	0.0	-100
Nowgong	3.9	-92	23.6	-46	64.1	48	102.0	165	5.9	-80
Nalbari	4.5	-94	15.7	-62	26.9	-41	96.2	148	1.1	-94
Sonitpur	2.9	-96	3.4	-92	53.8	33	53.7	112	0.0	-100
Sibsagar	0.0	-100	8.7	-77	55.5	84	48.1	58	0.0	-100

Tinsukia	20.7	-76	29.6	-53	37.8	-22	70.0	75	0.0	-100
Udalgiri	18.8	-77	8.3	-77	73.8	94	46.7	59	0.3	-99
Meghalaya										
East Garo Hills	**	**	**	**	**	**	**	**	**	**
East Khasi Hills	34.4	-83	15.0	-82	59.1	-47	274.8	184	2.4	-96
Jaintia Hills	11.0	-95	5.0	-96	96.0	-42	147.0	-37	0.0	-100
Ribhoi	59.4	-37	161.5	152	20.0	-62	71.6	110	2.7	-92
South Garo Hills	1.0	-99	47.0	-25	21.0	-66	81.0	13	16.0	-52
West Garo Hills	16.0	-84	38.6	-39	86.4	40	50.8	-29	0.4	-99
West Khasi Hills	25.0	-77	4.0	-96	12.0	-84	5.0	-92	6.0	-91
Mizoram										
Aizwal	57.8	-43	127.1	79	49.0	-41	44.8	-53	7.7	-85
Champhai	9.0	-88	18.0	-72	43.0	-22	47.0	-46	1.0	-98
Kolasib	**	**	**	**	**	**	13.0	-86	1.0	-98
Lawngtlai	207.0	139	29.0	-68	**	**	56.0	-40	1.0	-98
Lunglei	153.0	80	45.0	-59	90.0	12	55.0	-42	8.0	-85
Mamit	68.0	-33	111.0	56	41.0	-50	50.0	-48	12.0	-77
Saiha	268.0	194	76.0	-27	138.0	88	65.0	-33	15.0	-50
Serchhip	20.0	-74	29.0	-65	9.0	-87	50.0	-23	23.0	-40
Manipur										
Bishnupur	11.0	-66	1.0	-97	0.0	-100	69.0	-15	0.0	-100
Chandel	1.0	-99	0.0	-100	14.0	-88	31.0	-60	0.0	-100
Churachandpur	10.0	-89	5.0	-94	24.0	-66	52.0	-11	1.0	-97
Imphal east	54.0	11	0.0	-100	43.4	10	46.8	-9	0.2	-99
Imphal west	**	**	**	**	**	**	**	**	**	**
Senapati	49.0	-10	0.0	-100	14.0	-72	75.0	32	6.0	-83
Tamenglong	**	**	**	**	**	**	**	**	**	**
Thoubal	13.0	-47	1.0	-96	47.0	74	46.0	94	3.0	-84
Ukhrul	60.0	87	25.0	-40	104.0	85	94.0	173	5.0	-85
Nagaland										
Dimapur	29.9	-42	26.7	-2	25.5	158	102.3	77	0.0	-100
Kephire	6.0	-92	5.0	-89	9.0	-86	6.0	-88	2.0	-93
Kohima	33.9	-43	53.2	13	36.9	-11	50.5	11	5.5	-82
Longleng	**	**	**	**	**	**	**	**	**	**
Mokokchung	10.0	-86	63.0	142	33.0	48	55.0	-23	9.0	-50
Mon	**	**	**	**	**	**	**	**	**	**
Parent	**	**	**	**	**	**	**	**	**	**
Phek	16.5	-72	0.0	-100	45.0	9	119.0	161	1.0	-97
Tuensang	**	**	**	**	**	**	**	**	**	**
Wokha	37.0	-54	32.0	-24	50.0	66	117.0	127	11.0	-55
Zunheboto	**	**	**	**	**	**	**	**	**	**
Tripura										
Dhalai	3.5	-95	35.8	-19	21.8	-66	68.4	10	0.0	-100
North tripura	54.2	-28	31.3	-37	14.5	-77	65.8	7	3.0	-93
South tripura	50.2	-14	68.5	18	75.7	21	109.6	93	5.7	-88
West tripura	37.7	-41	64.0	27	45.1	-16	138.8	114	10.1	-76
Himachal Pradesh										
Bilaspur	16.6	-47	2.6	-92	18.1	3	3.3	-68	2.9	-42
Chamba	10.4	-73	12.5	-73	13.0	-48	0.0	-100	0.0	-100

Hamirpur	17.0	-38	2.6	-91	7.8	-72	14.4	-7	8.0	-44
Kangra	17.9	-62	27.9	-18	48.1	72	32.6	36	37.5	275
Kinnaur	3.2	-80	61.7	204	4.6	-47	0.0	-100	4.8	-59
Kullu	10.3	-39	9.5	-54	16.6	58	0.9	-90	8.5	33
Lahaul and Spiti	5.3	-74	8.8	-68	2.1	-87	0.0	-100	1.1	-93
Mandi	19.5	-37	19.9	-29	20.3	18	7.0	-48	5.2	-34
Shimla	9.7	-58	23.3	-7	20.6	68	6.6	-45	2.5	-69
Sirmaur	10.8	-73	22.1	-30	12.0	-49	31.3	77	1.4	-90
Solan	7.3	-78	21.5	-36	34.6	50	4.4	-74	2.1	-85
Una	20.2	-20	4.2	-87	24.4	13	27.5	37	24.6	402
Punjab										
Amritsar	4.4	-60	1.3	-93	2.8	-82	4.8	-69	24.9	329
Barnala	1.8	-88	4.5	-73	0.0	-100	0.0	-100	4.5	-6
Bhatinda	0.0	-100	0.0	-100	10.0	6	0.0	-100	0.0	-100
Faridkot	20.0	144	0.5	-96	2.5	-69	0.0	-100	36.0	1900
Fatehgarh Sahib	1.0	-94	9.0	-72	0.0	-100	20.0	108	5.0	6
Ferozpur	4.7	-56	0.0	-100	0.0	-100	0.0	-100	9.3	211
Gurdaspur	6.3	-71	9.1	-57	23.6	2	45.5	126	26.4	277
Hoshiarpur	5.9	-68	9.2	-72	12.8	-38	8.8	-43	3.4	-50
Jalandhar	2.2	-86	5.7	-74	11.5	-35	0.0	-100	2.9	-50
Kapurthala	3.2	-79	7.6	-58	9.0	-41	0.0	-100	13.1	58
Ludhiana	2.3	-86	7.9	-67	0.0	-100	4.7	-64	10.1	90
Mansa	10.2	-32	11.1	-36	0.5	-95	0.0	-100	0.0	-100
Moga	4.5	-64	1.0	-92	0.0	-100	6.2	-56	6.0	67
Muktesar	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Nawashahar	6.9	-67	3.7	-91	7.8	-64	5.4	-55	4.0	-52
Patiala	0.8	-95	17.6	-33	0.1	-99	0.0	-100	3.7	-33
Ropar	10.6	-41	3.2	-90	20.6	62	5.2	-33	3.5	-31
Sangrur	2.1	-76	11.3	-52	0.2	-98	0.0	-100	6.4	19
Mohali	0.0	-100	1.0	-95	48.0	236	10.0	28	4.0	-38
TarnTaran	4.2	-35	0.0	-100	0.0	-100	0.0	-100	28.7	616
Haryana										
Ambala	0.0	-99	24.2	-26	5.7	-78	5.0	-70	3.7	-60
Bhiwani	0.0	-100	24.7	120	0.2	-95	0.0	-100	9.5	333
Chandigarh	3.8	-89	37.7	18	2.1	-91	17.7	6	5.6	-14
Faridabad	0.0	-100	39.3	160	22.0	67	0.0	-100	1.3	-64
Fatehabad	3.7	-60	10.3	-24	2.3	-51	0.8	-87	1.0	-38
Gurgaon	0.0	-100	9.0	5	25.1	230	0.0	-100	0.0	-100
Hissar	0.0	-100	93.3	647	12.2	164	1.0	-85	0.4	-68
Jhajar	0.0	-100	25.6	137	14.4	194	0.3	-92	1.0	-44
Jind	0.0	-100	3.4	-86	1.0	-89	0.0	-100	2.2	-2
Katihah	0.0	-100	24.2	89	1.2	-88	0.0	-100	6.3	69
Karnal	0.0	-100	31.6	53	0.0	-100	0.0	-100	17.2	173
Kurukshetra	0.0	-100	20.5	15	0.0	-100	0.0	-100	7.7	51
Mahendragarh	1.8	-86	35.9	428	4.0	3	0.0	-100	0.1	-96
Mewat	0.0	-100	31.0	230	2.7	-83	0.0	-100	15.0	456
Palwal	0.0	-100	24.0	97	30.2	94	0.0	-100	17.8	224
Panchkkula	11.8	-70	16.5	-41	1.9	-89	17.5	165	0.5	-92
Panipat	0.0	-100	11.7	-30	2.7	-78	1.4	-85	16.2	252

Rewari	0.0	-100	45.4	399	29.8	309	0.0	-100	44.2	5425
Rohtak	0.0	-100	20.9	92	12.4	143	0.0	-100	17.0	639
Sirsa	0.0	-100	0.0	-100	0.2	-96	0.0	-100	0.0	-100
Sonepat	0.1	-99	44.0	276	24.7	147	0.0	-100	39.4	604
Yamunanagar	4.5	-84	13.3	-35	19.7	10	1.5	-90	14.2	45
Delhi	0.2	-99	47.1	187	9.8	-51	0.7	-93	40.1	832
Jammu & Kashmir										
Anantnag	19.2	88	0.3	-98	6.8	-20	0.0	-100	18.5	81
Badgam	10.5	83	0.0	-100	12.5	116	0.0	-100	11.0	67
Bandipore	**	**	**	**	**	**	**	**	**	**
Baramula	26.9	175	1.0	-93	8.7	-17	0.7	-90	15.9	123
Doda	21.6	143	4.2	-87	37.0	133	0.8	-92	21.4	100
Ganderwal	20.8	285	0.5	-95	7.1	22	0.0	-100	18.4	212
Jammu	5.3	-85	0.0	-100	60.5	445	47.9	405	27.5	644
Kargil	0.0	-100	0.0	-100	0.0	-100	0.0	-100	0.0	-100
Kathua	1.1	-98	1.2	-97	39.6	222	144.0	714	4.1	-20
Kistwar	**	**	**	**	**	**	**	**	**	**
Kulgam	4.5	-56	0.0	-100	5.0	-41	0.0	-100	14.0	37
Kupwara	25.6	320	0.0	-100	1.0	-86	0.0	-100	9.6	-32
Ladakh(Leh)	0.2	-83	0.0	-100	7.4	829	0.0	-100	0.6	-57
Poonch	22.0	-44	1.0	-96	0.0	-100	0.0	-100	22.3	243
Pulwama	3.8	-37	0.0	-100	7.4	23	0.0	-100	0.3	-92
Rajouri	28.9	-17	0.0	-100	0.0	-100	11.5	-7	3.5	-40
Ramban	8.2	-8	0.9	-97	9.8	-38	0.0	-100	11.3	6
Reasi	58.7	44	0.0	-100	48.7	183	71.0	330	58.4	446
Samba	14.5	-59	0.0	-100	19.6	76	13.2	39	15.8	327
Shopian	12.0	100	0.0	-100	4.0	-33	0.0	-100	23.0	435
Srinagar	20.1	273	0.0	-100	1.8	-69	0.0	-100	13.1	122
Udhampur	1.5	-96	0.0	-100	22.7	32	1.3	-92	54.8	412
East Madhya Pradesh										
Anuppur	51.1	-26	44.0	50	16.2	-36	115.8	460	17.8	100
Balaghat	32.9	-36	94.4	162	5.1	-81	50.2	134	31.4	202
Chhatarpur	9.6	-82	11.7	-48	9.7	-28	122.7	593	8.5	27
Chindwara	25.7	-43	78.5	155	7.9	-66	111.8	577	31.9	184
Damoh	1.0	-98	25.0	-5	13.0	-9	62.2	364	18.1	130
Dindori	7.0	-84	20.0	-32	14.0	-47	33.9	171	0.0	-100
Jabalpur	12.3	-77	27.5	-1	0.9	-94	68.2	398	3.0	-63
Katni	14.7	-73	19.8	-17	7.1	-58	64.5	451	2.0	-78
Mandla	23.3	-60	22.5	-29	27.3	32	87.2	518	12.9	65
Narsingpur	4.4	-93	28.0	-17	0.4	-98	62.4	369	65.2	873
Panna	0.0	-100	13.3	-54	1.0	-92	193.8	1142	2.5	-56
Rewa	8.2	-85	100.6	259	3.4	-78	114.0	555	11.2	180
Sagar	4.3	-93	26.0	-10	19.2	22	44.0	190	4.3	-45
Satna	12.7	-76	51.1	73	10.6	-36	135.7	645	6.6	19
Seoni	45.4	-19	32.5	-4	8.7	-59	115.8	633	6.9	-38
Shahdol	7.8	-85	48.1	105	21.0	15	50.5	234	17.0	198
Sidhi	1.0	-98	43.0	34	54.6	119	54.4	191	19.0	222
Singrauli	4.0	-92	82.0	228	15.3	40	24.0	24	35.5	810
Tikamgarh	0.0	-100	15.0	-26	7.0	-41	94.5	605	9.3	17

Umaria	14.3	-77	38.8	40	3.8	-79	29.2	54	5.5	-30
West Madhya Pradesh										
Alirajpur	77.4	155	197.2	597	28.3	30	48.5	276	22.4	143
Asoknagar	0.0	-100	53.0	93	3.0	-75	115.3	1076	0.0	-100
Badwani	23.4	-11	188.7	515	15.4	-31	11.9	3	9.6	-28
Betul	20.3	-66	58.4	88	10.3	-40	51.3	204	31.7	79
Bhind	2.3	-94	2.0	-91	3.0	-75	79.7	366	19.5	33
Bhopal	0.0	-100	36.3	23	3.7	-82	25.9	116	0.0	-100
Burhanpur	56.3	49	108.3	344	9.3	-50	23.1	53	41.3	124
Datia	0.0	-100	27.7	9	15.4	13	75.0	291	1.4	-90
Dewas	0.0	-100	100.8	223	0.0	-100	36.5	157	6.6	-44
Dhar	48.1	29	149.7	351	22.8	-20	56.2	267	18.8	65
Guna	0.0	-100	51.5	89	0.9	-93	36.1	123	11.8	202
Gwalior	0.0	-100	24.9	4	0.2	-98	58.5	215	15.1	7
Harda	17.1	-61	123.2	253	0.0	-100	31.2	92	34.7	159
Hosangabad	18.5	-75	64.4	69	5.8	-72	30.3	120	11.6	-3
Indore	36.4	-9	141.1	264	3.7	-87	73.5	287	35.2	346
Jhabua	40.3	47	93.2	252	38.1	46	70.3	563	7.5	-40
Khandwa	28.0	-33	168.0	364	3.0	-84	6.5	-57	20.5	83
Khargone	6.0	-79	103.1	204	9.1	-56	10.7	-27	29.8	273
Mandsaur	5.9	-79	69.5	207	3.0	-76	17.8	2	12.2	53
Morena	2.5	-94	29.8	93	0.0	-100	57.0	371	15.0	70
Neemuch	1.1	-96	71.6	324	36.9	173	8.2	-48	15.3	113
Raisen	12.6	-77	43.1	35	2.6	-83	57.1	329	12.4	36
Rajgarh	0.5	-98	55.0	117	5.5	-60	44.4	308	1.3	-86
Ratlam	5.9	-81	101.3	200	80.7	257	61.8	220	17.4	39
Sehore	1.8	-96	62.4	94	3.4	-83	15.1	12	7.5	-34
Shajapur	0.0	-100	64.3	105	1.8	-89	31.3	104	4.0	-57
Sheopur Kalani	0.0	-100	6.7	-54	0.5	-94	20.7	43	30.0	341
Shivpuri	7.0	-83	32.3	64	45.0	359	51.5	239	0.8	-91
Ujjain	6.1	-82	80.7	173	14.5	-33	41.6	157	11.3	0
Vidisha	1.0	-98	49.4	132	1.2	-91	17.9	79	1.6	-74
Chattisgarh										
Bastar	27.4	-52	23.2	-47	113.8	264	10.2	-65	15.2	-11
Bijapur	78.4	51	62.2	51	21.6	-37	33.3	0	45.0	107
Bilaspur	33.9	-38	24.1	-29	102.3	306	174.1	717	19.2	199
Dantewara	24.0	-50	66.9	74	24.6	-24	10.3	-69	36.0	79
Dhamtari	33.8	-42	39.4	-10	56.6	214	115.8	459	5.6	-49
Durg	44.5	-18	52.8	15	83.4	242	65.6	208	52.1	460
Janjgir	23.2	-51	42.6	-2	128.0	406	78.8	501	30.5	349
Jashpurnagar	23.5	-63	33.1	-22	79.9	121	43.6	74	103.8	631
Kanker	72.3	9	34.6	-17	81.1	162	74.0	226	45.7	213
Korba	9.0	-84	18.5	-39	66.9	157	98.0	508	18.5	146
Koriya	62.5	9	47.5	100	18.1	-14	44.0	368	31.8	412
Kawardha	3.0	-92	107.0	194	45.0	75	63.0	151	74.0	663
Mahasumund	44.9	-13	93.7	165	80.6	444	42.3	127	23.3	97
Narayanpur	91.8	69	38.6	-6	61.4	146	33.7	20	31.2	38
Raigarh	23.4	-60	50.4	39	78.2	194	87.3	439	21.9	81
Raipur	27.1	-47	75.5	107	74.2	242	62.2	255	10.4	-14

Rajandgaon	22.2	-55	48.5	11	25.3	6	52.6	119	32.9	210
Surguja	23.4	-54	9.3	-71	33.4	23	39.7	132	35.5	299
East Uttar Pradesh										
Allahabad	19.2	-66	22.6	-19	25.9	55	168.0	839	44.2	474
Ambedkar Nagar	65.4	41	2.0	-93	37.0	62	80.0	340	73.0	602
Azamgarh	0.0	-100	20.7	-48	11.6	-55	77.0	267	71.3	850
Bahraich	46.5	-13	3.3	-89	60.8	110	23.7	-8	8.6	-42
Ballia	19.5	-60	25.5	-23	6.3	-70	60.3	277	55.2	416
Balrampur	3.7	-94	0.0	-100	68.1	108	24.7	-45	29.0	110
Banda	12.1	-75	16.4	-25	9.7	-31	114.5	598	5.8	-51
Barabanki	2.5	-96	6.1	-82	32.8	35	25.3	18	9.0	-47
Basti	2.8	-95	9.1	-75	51.7	112	75.7	288	51.0	227
Chandauli	0.1	-99	5.2	-79	21.2	-5	25.0	57	44.2	750
Deoria	0.0	-100	38.0	-6	17.0	-42	86.5	215	106.8	853
Faizabad	20.4	-64	2.8	-91	28.2	2	35.7	47	5.5	-53
Farrukhabad	12.8	-71	11.7	-29	36.4	79	30.9	22	7.1	-46
Fatehpur	0.0	-100	14.8	-44	11.7	-26	43.6	177	17.4	11
Gazipur	3.2	-96	88.2	161	5.5	-84	95.3	325	102.3	1117
Gonda	46.9	-28	9.7	-74	7.2	-77	118.3	311	6.7	-59
Gorakhpur	4.2	-95	5.7	-84	30.3	-11	63.6	97	92.2	396
Hardoi	2.8	-94	5.4	-77	16.8	-25	27.1	8	6.6	-68
Jaunpur	23.4	-67	16.0	-55	18.7	-19	79.4	403	46.8	508
Kannauj	12.4	-76	4.4	-78	21.0	7	56.6	87	0.0	-100
Kanpur City	17.3	-64	6.6	-67	40.5	105	88.7	253	3.5	-82
Kanpur Dehat	0.8	-98	0.7	-97	9.0	-52	57.3	148	1.3	-89
Kaushambi	6.8	-86	12.3	-59	0.7	-96	59.6	314	10.9	-9
Kheri	7.2	-82	21.7	-48	23.8	-7	22.0	-37	11.9	-32
Kushi nagar	0.0	-100	10.0	-74	16.5	-64	40.5	17	53.0	172
Lucknow	2.2	-96	6.1	-78	14.3	-34	31.2	33	10.3	-39
Maharajganj	2.5	-97	0.0	-100	23.8	-23	7.2	-80	94.1	390
Mau	0.0	-100	12.5	-62	7.5	-75	71.0	229	46.0	304
Mirzapur	20.5	-73	28.4	-14	9.7	-55	79.8	422	53.1	589
Pratapgarh	38.3	-38	17.7	-36	11.0	-43	67.9	392	28.0	172
RaiBareilly	9.7	-82	2.4	-91	16.0	-13	40.4	67	18.4	-7
Sahuji Maharajnagar	37.8	-44	47.8	88	4.8	-73	91.5	310	8.0	3
Sant Kabirnagar	11.0	-82	16.0	-48	7.0	-72	45.0	82	96.0	674
Sant Ravidas Nagar	0.0	-100	7.0	-71	0.0	-100	116.0	630	63.0	1112
Shrawasti	7.3	-86	57.3	88	16.2	-44	17.2	-33	19.2	28
Sidharthnagar	7.9	-88	0.0	-100	9.9	-65	14.3	-57	41.1	184
Sitapur	4.7	-91	4.7	-84	22.6	-11	22.2	-29	1.1	-92
Sonbhadra	12.5	-79	22.3	-27	27.5	12	62.3	292	48.0	713
Sultanpur	67.9	24	16.5	-45	38.3	94	33.8	110	7.9	-53
Unnao	0.8	-98	7.3	-73	18.8	-16	92.9	302	7.8	-66
Varanasi	3.5	-95	5.1	-87	34.6	52	91.4	405	49.2	478
West Uttar Pradesh										
Agra	0.1	-99	6.7	-55	56.6	256	71.3	514	12.0	106
Aligarh	0.0	-100	4.9	-71	36.2	54	9.5	-42	26.9	169

Auraiya	0.0	-100	0.0	-100	4.0	-82	23.0	7	0.0	-100
Badaun	0.2	-99	10.0	-59	59.8	296	45.6	56	4.4	-73
Baghpat	0.0	-100	64.2	468	7.4	-61	0.0	-100	57.8	1652
Bareilly	6.1	-87	34.2	8	46.2	166	33.1	18	12.5	-27
Bijnor	4.5	-90	14.3	-33	15.4	-43	1.5	-90	38.8	300
Bulandsahar	0.0	-100	1.4	-93	5.8	-78	6.8	-56	12.7	74
Etah	0.0	-100	15.3	2	19.7	50	47.7	155	5.3	-60
Etawah	9.7	-79	9.0	-52	22.3	50	15.0	-32	2.0	-86
Firozabad	0.0	-100	10.2	-50	28.3	111	68.6	246	4.6	-45
GBNagar	0.0	-100	17.0	-4	0.0	-100	0.0	-100	17.0	68
Ghaziabad	0.0	-100	16.1	14	0.5	-98	0.0	-100	4.5	-42
Hamirpur	13.9	-75	1.5	-92	68.5	404	103.5	448	1.0	-86
Jalaun	7.1	-88	4.5	-76	33.5	118	122.7	401	18.7	54
Jhansi	1.8	-97	12.5	-39	8.6	-46	149.7	656	7.9	-19
Jotirba Phule Nagar	6.5	-86	27.0	0	0.0	-100	0.0	-100	17.0	40
Kanshiramnagar	0.0	-100	11.5	-29	30.0	63	84.0	270	0.0	-100
Lalitpur	0.0	-100	33.0	57	14.5	18	84.5	422	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	29.5	38	23.5	112	25.0	160
Mahoba	15.4	-69	4.4	-73	0.0	-100	64.4	491	0.0	-100
Mainpuri	0.0	-100	26.3	63	16.7	8	59.5	169	6.6	-38
Mathura	0.0	-100	5.0	-61	11.0	-25	31.3	192	3.0	-50
Meerut	21.1	-53	42.4	104	4.7	-81	0.0	-100	56.4	781
Moradabad	2.1	-95	29.0	-11	16.9	-10	6.1	-67	31.0	152
Muzaffarnagar	6.2	-84	42.1	109	3.5	-83	0.0	-100	65.4	891
Pilibhit	2.2	-96	28.0	-32	17.0	-34	26.7	-29	7.3	-45
Rampur	2.2	-95	23.1	-44	22.5	59	6.4		21.5	79
Saharanpur	6.3	-85	14.3	-9	0.7	-96	2.7	-84	69.3	670
Shahjahanpur	36.0	-29	2.1	-90	8.0	-71	15.7	-51	17.4	4
Uttarakhand										
Almora	10.0	-77	17.3	-45	22.0	-9	10.6	-53	2.4	-85
Bageshwar	9.1	-79	15.0	-53	45.7	90	5.5	-75	2.2	-86
Chamoli	18.6	-37	37.4	63	32.4	129	1.3	-90	9.2	-37
Champawat	6.0	-90	14.5	-70	27.5	-3	15.0	-33	20.5	-37
Dehradun	23.8	-65	30.2	-19	49.7	79	31.2	13	0.8	-96
Garhwal Pauri	5.7	-89	19.1	-28	14.9	-36	0.0	-100	0.7	-96
Garhwal Tehri	0.3	-99	22.2	-1	16.3	10	0.2	-99	0.2	-99
Haridwar	3.2	-91	6.0	-71	4.9	-74	0.0	-100	22.7	203
Nainital	29.1	-60	11.6	-79	26.2	-13	5.0	-84	8.7	-69
Pithorgarh	20.9	-70	18.7	-64	52.9	67	4.5	-79	12.4	-45
Rudraprayag	11.4	-81	27.6	-8	43.5	75	0.9	-96	1.8	-88
Udham Sing Nagar	3.3	-95	12.9	-68	27.8	-17	11.7	-56	54.3	148
Uttarkashi	26.2	-62	54.4	70	39.3	64	11.0	-54	18.2	22
Bihar										
Araria	8.3	-89	11.7	-76	49.4	-18	62.4	79	169.2	944
Arwal	0.0	-100	24.6	-27	0.0	-100	11.4	2	143.2	1810
Aurangabad	18.1	-69	40.2	52	5.7	-74	43.8	170	71.2	748
Banka	0.0	-100	15.4	-67	28.8	-53	81.8	126	184.6	1083
Begusarai	1.0	-98	23.2	-56	49.1	23	20.0	-7	199.7	1838

Bhabua	8.8	-89	25.0	-36	114.5	312	28.8	50	52.6	611
Bhagalpur	0.1	-99	20.5	-61	47.5	-11	15.1	-55	235.0	1143
Bhojpur	0.0	-100	43.1	17	3.2	-88	55.9	144	173.4	2308
Buxar	7.0	-90	27.6	16	3.8	-79	43.2	29	105.2	1518
Darbhanga	10.8	-74	3.0	-92	28.5	-35	62.4	90	143.5	1349
East Champaran	4.6	-92	19.5	-47	4.6	-88	92.4	137	112.8	667
Gaya	19.4	-55	34.5	9	9.8	-70	33.2	51	111.6	1495
Gopalganj	6.1	-92	0.0	-100	14.9	-52	95.3	278	81.5	758
Jahanabad	4.0	-93	12.4	-70	6.8	-78	8.1	-48	99.5	1099
Jamui	11.7	-76	26.2	-47	20.1	-64	14.9	-50	153.9	1215
Kathihar	2.8	-96	10.9	-78	59.9	-14	14.9	-58	282.1	2193
Khagadia	2.7	-96	111.2	61	44.8	-10	21.6	-34	124.1	848
Kishanganj	4.4	-95	17.3	-73	58.6	-7	22.8	-32	98.6	309
Lakhisarai	0.0	-100	35.0	-38	35.0	-30	5.0	-83	75.0	440
Madhepura	4.9	-93	17.3	-57	68.9	31	41.7	19	259.9	1692
Madhubani	0.6	-99	4.6	-87	17.6	-52	74.8	117	108.6	634
Monghyar	0.0	-100	24.2	-57	17.7	-65	5.5	-81	167.8	1107
Muzaffarpur	4.7	-93	4.4	-89	6.5	-83	80.5	145	123.4	828
Nalanda	20.3	-62	28.4	-35	41.6	33	23.0	0	123.3	1544
Nawada	2.0	-95	56.8	89	3.4	-92	25.0	-5	95.7	1067
Patna	15.3	-74	14.6	-65	9.8	-76	27.1	0	129.1	1042
Purnea	2.4	-97	25.6	-49	42.0	-41	8.0	-79	203.2	1211
Rohtas	41.1	-34	32.9	17	26.2	25	36.9	65	72.7	870
Saharsha	7.2	-91	32.0	-35	26.7	-58	10.4	-70	132.2	818
Samstipur	7.5	-88	11.8	-80	16.8	-67	26.5	-24	169.5	1595
Saran	0.0	-100	25.7	-29	12.1	-70	62.9	145	103.3	903
Sheikpura	0.0	-100	5.3	-87	26.3	-18	11.0	-58	113.3	930
Sheohar	6.0	-87	20.6	-42	0.0	-100	89.6	195	59.2	345
Sitamarhi	8.4	-82	8.2	-77	3.0	-92	36.3	19	97.2	631
Siwan	0.9	-99	37.1	-10	22.5	-35	133.2	770	102.0	1278
Supaul	0.4	-99	23.4	-38	23.4	-52	45.0	22	126.4	920
Vaishali	15.4	-72	21.6	-53	11.4	-77	50.4	49	97.8	743
West Champaran	6.6	-93	0.0	-100	13.4	-66	25.6	7	110.5	542
Jharkhand										
Bokaro	3.3	-94	46.9	35	97.4	98	38.1	16	221.8	1182
Chatra	3.6	-94	9.7	-74	56.7	31	71.2	175	67.3	774
Deoghar	2.7	-95	27.0	-54	60.4	-4	19.2	-32	0.0	-100
Dhanbad	20.4	-67	46.4	-4	131.1	89	49.0	25	151.4	877
Dumka	19.5	-65	44.1	-9	37.4	-53	68.8	35	0.0	-100
East Singbhum	74.7	62	113.2	185	128.0	194	34.7	53	155.7	873
Garhwa	6.5	-89	2.0	-93	70.8	155	28.0	43	46.9	178
Giridih	36.4	-30	32.1	-23	58.3	-4	82.0	152	136.4	1086
Godda	10.5	-83	22.8	-42	30.7	-45	24.8	-22	194.8	1125
Gumla	15.2	-76	57.3	30	59.6	53	88.8	267	136.7	951
Hazaribagh	12.2	-79	36.9	14	73.2	77	54.9	109	124.8	1035
Jamtara	6.9	-91	65.2	32	40.8	-48	60.2	15	112.9	689
Khunti	28.5	-54	74.2	77	57.5	39	17.5	-35	137.0	735
Koderrna	14.1	-70	22.6	-49	65.6	29	38.8	6	0.0	-100
Latehar	49.8	9	15.6	-49	180.1	329	98.5	316	80.5	730

Lohardagga	21.2	-63	61.2	58	160.1	306	49.5	110	79.5	803
Pakur	11.1	-86	27.0	-69	109.3	46	70.4	25	196.8	484
Palamau	42.2	-29	24.3	-31	71.6	138	63.3	286	113.7	864
Ramgarh	28.8	-52	50.4	38	203.0	422	64.4	110	123.4	964
Ranchi	7.3	-87	33.4	-19	189.0	324	43.3	81	120.3	697
Sahebganj	9.8	-86	0.0	-100	170.8	73	72.6	103	0.0	-100
Saraikela	23.4	-58	55.0	42	117.3	157	17.3	-30	3.0	-78
Simdega	54.2	-25	56.8	35	64.9	66	53.5	143	119.6	813
West Singbhum	16.9	-61	40.1	1	36.9	-4	71.5	215	224.8	1222
East Rajasthan										
Ajmer	8.3	0	37.1	370	114.2	2905	0.0	-100	9.5	375
Alwar	11.6	-37	48.0	281	**	**	**	**	20.8	372
Banswara	23.5	-10	79.2	279	95.8	589	28.7	178	7.2	-19
Baran	0.0	-100	21.6	21	0.0	-100	31.8	208	0.5	-93
Bharatpur	2.0	-91	10.5	3	23.1	157	28.3	272	2.3	-60
Bhilwara	1.8	-86	59.1	373	39.4	412	0.3	-93	1.7	-33
Bundi	2.3	-84	35.0	157	1.0	-89	12.7	78	18.8	214
Chittorgarh	3.6	-79	76.7	440	39.3	260	5.9	-23	5.9	20
Dausa	21.4	20	21.0	52	12.4	46	0.2	-97	26.6	478
Dholpur	1.8	-95	18.3	38	27.8	181	115.8	1216	13.3	13
Dungarpur	12.8	-36	71.7	451	118.6	1086	53.1	717	10.8	134
Jaipur	11.6	-17	16.1	76	14.7	144	0.0	-99	14.9	365
Jhalawar	0.0	-100	61.5	167	23.0	83	27.2	155	3.5	-65
Jhunjhunu	15.6	27	28.3	167	22.3	291	0.0	-100	8.4	265
Karauli	7.8	-65	10.2	-9	11.2	53	0.3	-95	0.0	-100
Kota	0.6	-97	55.2	219	11.2	44	51.0	530	8.2	-23
Pratapgarh	10.4	-59	66.2	178	57.0	206	46.8	169	11.0	57
Rajsamand	8.0	-19	40.1	164	80.6	974	16.9	356	4.7	68
Sawai Madhopur	7.6	-63	29.0	146	7.5	-25	12.5	24	0.4	-93
Sikar	4.4	-60	27.9	342	28.0	383	0.4	-91	8.1	329
Sirohi	17.5	-29	39.8	213	189.3	1980	67.4	2148	22.6	630
Tonk	13.0	-10	13.6	23	3.8	-14	1.6	-73	8.7	90
Udaipur	8.4	-50	59.6	287	93.1	812	6.4	18	26.5	615
West Rajasthan										
Barmer	3.3	-46	8.8	108	60.3	1488	5.1	361	4.5	457
Bikaner	0.0	-100	6.7	-5	1.1	-70	0.0	-100	1.7	108
Churu	0.1	-99	29.8	260	11.1	71	6.2	48	0.1	-94
Hanumangarh	0.0	-100	3.0	-53	23.4	681	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	5.1	199	4.1	245	0.0	-100	0.0	-100
Jalore	10.7	30	23.4	388	134.6	3184	13.6	1034	18.6	1142
Jodhpur	6.2	-4	14.2	150	85.0	2400	0.4	-70	0.0	-100
Nagaur	2.7	-65	15.6	108	98.5	2636	1.4	-52	10.1	1022
Pali	0.2	-98	16.8	95	99.6	2520	10.7	312	4.7	74
Sri Ganganagar	0.0	-100	0.2	-97	5.3	231	0.0	-100	0.0	-100
Gujarat Region										
Ahmedabad	11.6	-43	116.8	668	97.0	758	52.5	540	8.0	63
Anand	13.4	-22	186.8	915	78.7	540	18.6	205	1.1	-84
Banaskantha	3.6	-84	28.3	233	238.4	2844	46.8	1238	27.7	432
Baroda	36.6	23	414.5	1488	56.2	180	32.0	213	8.5	1

Broach	24.1	5	334.6	1078	112.3	344	37.2	284	3.5	-39
DNH	62.1	106	552.5	459	9.1	-86	17.4	85	62.7	465
Dahod	20.5	-32	79.4	245	34.5	84	20.1	69	12.1	50
Daman	44.8	48	191.4	94	29.6	-54	63.8	579	9.0	-19
Dangs	85.3	61	308.5	415	4.0	-94	25.8	29	15.3	-26
Gandhinagar	5.8	-65	125.8	717	65.4	381	54.7	693	14.4	167
Kheda	4.6	-78	151.1	652	81.8	554	37.6	453	4.3	-18
Mehsana	3.8	-88	50.7	284	79.7	605	40.5	523	19.6	232
Narmada	35.7	14	608.8	2059	17.3	-46	36.1	268	10.0	8
Navsari	91.6	100	319.2	681	64.1	23	31.7	138	8.7	-29
Panchmahal	15.8	-49	135.5	469	66.7	354	36.7	358	8.3	4
Patan	5.9	-74	37.2	389	121.3	1683	42.0	1034	9.8	324
Sabarkantha	6.4	-75	71.8	304	121.4	956	35.3	326	30.6	386
Surat	69.4	130	319.9	824	110.4	169	33.5	199	15.8	86
Tapi	160.0	369	248.2	611	26.7	-42	26.6	221	30.0	417
Valsad	85.8	95	360.1	606	20.9	-65	32.8	119	24.5	76
S K & Diu region										
Amreli	31.6	73	51.7	104	154.7	706	52.0	752	31.8	405
Bhavnagar	19.1	21	110.3	350	118.2	648	23.6	252	22.1	206
Diu	27.2	164	73.0	668	83.6	548	82.6	1080	13.0	-23
Jamnagar	3.9	-72	39.4	463	328.5	3906	0.1	-98	17.1	167
Junagarh	44.8	115	60.3	233	157.9	846	36.4	461	12.6	73
Kutch	0.6	-97	45.5	828	282.5	6042	2.7	8	7.3	16
Porbandar	40.3	78	14.0	-1	226.2	1867	26.4	355	7.3	86
Rajkot	28.3	37	99.3	488	272.9	1952	19.4	146	9.1	40
Surendranagar	5.3	-61	106.8	593	136.3	1173	17.3	128	2.8	-42
Maharashtra										
Konkan & Goa										
Goa	101.5	82	143.4	188	100.8	44	98.6	74	22.2	-3
Mumbai	91.5	70	119.1	83	76.5	26	23.5	-34	34.1	97
Raigad	122.2	81	68.9	-9	70.7	-14	46.5	2	30.9	16
Ratnagiri	79.3	34	133.1	99	87.3	5	190.9	252	35.1	20
Sindhudurg	134.7	109	113.4	88	82.2	11	80.1	52	16.4	-37
Thane	109.8	97	168.3	157	28.1	-56	47.3	46	45.3	98
Madhya Maharashtra										
Ahmednagar	82.2	176	36.4	-1	6.6	-83	26.6	9	41.5	113
Dhule	56.2	200	68.2	131	35.6	34	8.5	-51	48.5	301
Jalgaon	84.6	240	75.3	180	8.6	-62	20.7	27	33.6	133
Kolhapur	61.1	94	47.2	9	27.9	-45	15.6	-65	4.7	-79
Nandurbar	86.2	262	306.8	980	31.8	4	28.0	124	18.2	32
Nasik	73.7	127	104.7	167	4.7	-89	30.0	27	48.8	170
Pune	89.8	192	56.2	29	8.8	-82	12.2	-58	5.3	-70
Sangli	91.9	233	40.0	1	5.8	-87	2.1	-95	6.6	-68
Satara	112.7	324	56.1	36	12.2	-73	11.9	-65	3.5	-78
Solapur	116.1	185	51.8	13	13.9	-70	7.5	-77	13.4	-32
Marathwada										
Aurangabad	95.0	222	23.6	-39	7.4	-78	44.2	166	40.7	118

Beed	77.1	111	42.5	-2	19.4	-47	30.5	34	18.6	6
Hingoli	84.5	214	33.5	-8	4.9	-82	111.6	407	22.4	18
Jalna	93.9	205	32.4	-8	9.4	-65	55.3	192	38.2	97
Latur	67.0	93	22.2	-35	16.3	-49	45.2	43	23.5	55
Nanded	40.7	33	44.0	3	1.5	-95	72.8	157	18.5	26
Usmanabad	82.4	78	68.2	52	13.4	-66	15.6	-45	14.2	-28
Parbhani	93.7	208	64.9	62	7.5	-74	60.2	135	21.3	3
Vidarbha										
Akola	92.8	218	124.4	315	1.3	-93	79.7	292	70.3	417
Amraoti	31.8	-4	85.5	165	3.4	-84	62.2	214	33.9	120
Bhandara	19.8	-56	52.8	73	24.5	-14	80.2	286	8.4	-40
Buldhana	66.4	147	49.7	78	1.2	-94	39.9	127	27.7	71
Chandrapur	18.7	-57	69.3	92	27.5	1	125.3	475	25.0	123
Gadchiroli	30.2	-22	99.1	202	24.0	-19	110.9	393	28.6	91
Gondia	26.1	-49	81.8	161	19.7	-33	58.6	173	17.4	66
Nagpur	43.9	23	49.5	51	2.3	-89	87.4	343	17.8	45
Wardha	21.9	-24	66.4	96	6.5	-72	83.8	286	23.6	191
Washim	49.7	35	66.2	109	1.9	-91	89.2	300	24.9	39
Yeotmal	43.9	81	42.1	28	3.0	-89	85.3	318	33.9	171
Odisha										
Angul	25.2	-47	70.6	58	101.0	245	26.2	-6	137.3	390
Balasore	19.3	-70	119.8	79	239.8	219	87.3	62	235.1	467
Bargarh	18.8	-66	68.8	101	81.7	304	73.5	340	44.3	285
Bhadrak	15.6	-71	81.7	77	125.6	175	69.8	64	219.6	340
Bolangir	19.8	-64	30.3	-13	98.7	238	19.4	-10	63.6	361
Boudh	15.0	-74	44.3	-6	108.3	197	11.5	-74	41.8	28
Cuttack	17.4	-66	82.8	82	99.1	143	52.8	16	220.7	656
Deogarh	6.3	-88	45.1	17	92.7	255	15.1	-26	97.9	766
Dhenkanal	6.1	-86	81.3	76	114.6	184	33.3	-11	151.4	345
Gajapati	49.4	-24	51.1	-11	57.3	48	12.5	-73	157.9	297
Ganjam	25.0	-48	92.5	101	68.3	33	32.2	-45	226.4	454
Jagatsingpur	39.3	-34	34.8	-23	27.2	-35	32.2	-27	158.7	368
Jajpur	28.4	-52	72.7	15	77.3	70	56.5	17	240.0	515
Jharsuguda	24.0	-59	42.7	28	53.9	96	42.3	69	66.5	344
Kalahandi	19.3	-68	52.4	42	87.3	169	21.8	-26	75.2	453
Kandhamal	57.9	-1	67.7	43	66.7	83	33.6	-23	166.3	409
Kendrapara	17.2	-68	49.0	-14	48.7	-13	90.2	27	145.3	249
Keonjhar	16.3	-68	90.5	81	66.1	73	46.4	45	188.7	445
Khurda	32.3	-43	109.6	108	111.2	144	26.1	-56	242.6	556
Koraput	44.4	-27	23.5	-60	72.2	68	35.0	-26	26.0	-24
Malkangiri	69.0	55	130.0	211	18.2	-44	64.4	89	3.0	-90
Mayurbhanj	17.9	-70	130.1	131	160.7	182	83.6	130	263.3	787
Nawapara	31.9	-31	43.5	19	106.2	342	17.0	-30	24.9	106
Nawarangpur	38.4	-34	33.4	-31	117.5	288	47.1	31	17.5	-36
Nayagarh	41.4	-7	90.5	47	61.7	40	27.1	-49	244.8	521
Puri	42.4	-20	72.0	56	42.6	-29	60.3	8	245.7	494
Rayagada	28.8	-47	52.8	42	49.2	45	28.1	-29	63.9	123
Sambalpur	22.9	-57	55.2	43	57.7	121	42.6	109	100.3	787
Sonepur	4.2	-92	42.6	4	70.7	110	31.6	52	80.0	900

Sundargarh	36.0	-33	59.5	79	74.6	232	38.6	124	73.1	397
West Bengal										
GWB										
Bankura	7.3	-84	65.4	26	174.6	197	59.7	81	121.6	511
Birbhum	10.5	-79	19.6	-71	86.4	24	113.3	243	90.0	323
Burdwan	9.7	-82	23.9	-53	90.9	46	83.3	180	110.1	419
East Midnapore	70.8	29	79.5	0	225.9	140	78.2	44	70.5	64
Hooghly	5.6	-88	28.0	-44	102.9	94	99.0	165	84.5	347
Howrah	37.5	-40	35.1	-38	100.5	14	72.6	88	80.0	270
Kolkata	34.3	-42	39.5	-31	109.0	24	114.2	134	157.0	429
Murshidabad	37.0	-28	2.9	-95	139.9	97	19.8	-53	69.0	132
Nadia	21.1	-40	12.0	-79	99.5	86	47.2	107	85.1	191
24 Pargana (N)	24.3	-55	32.6	-49	102.0	46	91.3	141	77.7	232
Purulia	36.8	-38	53.5	38	139.1	118	74.0	153	197.8	1011
24 Pargana (S)	27.3	-62	36.7	-53	150.0	86	73.3	11	83.5	86
West Midnapore	41.1	-31	77.2	66	165.0	136	96.5	179	80.8	262
SHWB										
Cooch Behar	11.7	-91	2.3	-97	42.8	-54	51.9	-8	113.0	241
Darjeeling	18.0	-85	30.5	-68	26.1	-74	36.0	-19	146.2	446
East Sikkim	39.2	-54	30.3	-53	31.0	-54	18.3	-64	109.2	109
Jalpaiguri	16.9	-87	31.7	-65	36.8	-61	78.2	33	78.1	97
Malda	0.2	-99	2.3	-96	98.5	21	23.9	-39	148.1	633
North Dinajpur	0.0	-100	0.5	-99	55.0	-49	29.0	2	52.0	41
North Sikkim	42.9	-53	32.4	-58	38.0	-52	63.2	-28	65.8	-13
South Dinajpur	0.0	-100	0.0	-100	83.4	41	58.9	3	137.7	494
South Sikkim	34.6	-60	50.2	-21	13.5	-80	16.3	-68	90.7	73
West Sikkim	51.3	-44	128.2	68	41.0	-48	9.0	-90	93.7	24
Karnataka										
Coastal Karnataka										
Dakshin Kannada	103.5	75	154.1	147	42.0	-48	78.4	13	49.7	0
Udupi	102.9	43	183.4	127	55.1	-46	82.0	24	65.6	60
Uttar Kannada	90.1	75	147.3	176	36.0	-42	82.3	62	25.3	-20
NI Karnataka										
Bagalkote	52.3	52	13.6	-70	10.6	-75	5.6	-86	19.6	3
Belgaum	91.0	264	28.1	-20	10.8	-76	10.1	-73	9.0	-56
Bidar	85.8	134	46.1	6	11.7	-68	51.0	62	7.2	-63
Bijapur	65.5	81	38.5	-21	11.9	-75	9.5	-75	13.9	-30
Dharwad	57.6	111	15.7	-61	3.7	-91	7.7	-79	12.1	-53
Gadag	53.5	67	11.8	-74	11.4	-76	3.3	-92	16.7	-25
Gulbarga	98.0	131	92.6	104	7.5	-84	17.6	-55	4.9	-72
Haveri	48.0	93	27.3	-6	2.1	-95	9.1	-73	6.4	-77
Koppal	52.1	36	13.3	-70	22.9	-50	17.8	-47	22.5	19
Raichur	71.9	124	29.4	-32	6.7	-85	22.1	-40	12.0	-52
Yadgir	94.5	151	37.1	-31	11.3	-76	11.3	-71	18.1	-21
SI Karnataka										
Bangalore Rural	131.9	220	6.6	-88	1.5	-97	55.0	6	14.2	-62
Bangalore Urban	120.3	177	6.6	-88	0.1	-99	28.6	-41	22.8	-25
Bellary	36.0	1	12.3	-70	23.2	-48	13.5	-63	5.5	-74

Chamarajnapur	96.8	184	2.3	-94	1.0	-97	20.2	-49	1.6	-95
Chichballapur	46.7	21	2.3	-95	2.7	-94	42.8	-14	14.4	-59
Chickmagalur	86.9	166	66.3	31	6.5	-88	17.8	-60	17.4	-49
Chitradurga	95.4	270	4.6	-87	4.5	-90	0.5	-98	5.5	-77
Davangere	72.1	133	12.5	-66	3.9	-91	5.2	-86	4.1	-86
Hassan	66.0	178	26.4	-32	6.1	-86	12.9	-69	13.9	-58
Kodagu	81.5	112	98.2	98	29.5	-49	16.0	-69	17.9	-61
Kolar	62.1	60	3.6	-92	2.8	-94	71.1	65	25.0	-29
Mandya	38.0	17	5.5	-88	2.0	-95	9.6	-77	11.1	-69
Mysore	29.9	15	11.6	-67	7.7	-79	9.1	-76	13.8	-61
Ramnapura	71.5	45	2.4	-96	4.2	-93	2.5	-95	11.4	-70
Shimoga	84.0	254	81.3	127	16.5	-62	37.3	-10	22.8	-26
Tumkur	112.4	194	2.5	-95	3.5	-93	5.7	-87	14.7	-51
Kerala										
Alappuzha	168.2	176	44.1	-35	19.4	-74	41.5	-50	16.0	-76
Kannur	160.1	342	77.4	66	26.6	-63	71.4	29	44.5	-7
Ernakulam	164.7	163	44.0	-43	23.5	-71	66.4	-4	32.7	-51
Idukki	233.3	304	111.7	46	17.0	-83	34.1	-55	40.3	-49
Kasaragod	89.7	74	61.7	17	25.5	-61	47.7	-25	33.7	-35
Kollam	228.3	421	40.1	-37	17.3	-73	56.8	-30	36.0	-55
Kottayam	149.9	158	53.8	-14	8.3	-90	47.9	-35	33.1	-53
Kozhikode	146.8	245	37.6	-40	9.9	-87	56.9	-6	128.0	131
Malappuram	226.1	432	34.9	-29	14.6	-80	20.4	-67	30.7	-56
Palakkad	155.1	394	54.1	21	13.5	-78	10.2	-81	21.6	-64
Pathanamthitta	134.3	142	76.7	15	10.4	-87	14.2	-81	28.6	-65
Thiruvananthapuram	100.2	242	16.9	-63	19.2	-63	12.1	-79	3.6	-94
Thrissur	158.7	180	50.8	-25	20.4	-76	73.1	6	52.6	-20
Wyanad	87.9	103	96.4	108	14.6	-77	36.0	-27	11.0	-72
Tamil Nadu										
Ariyalur	48.7	40	0.0	-100	0.0	-100	7.3	-84	27.3	-20
Chennai	25.1	-6	0.0	-100	11.1	-71	17.5	-58	24.0	-35
Coimbatore	29.8	49	0.0	-100	1.9	-92	6.5	-75	26.9	-13
Cuddalore	41.7	45	0.0	-100	0.3	-99	9.3	-76	51.4	27
Dharmapuri	68.2	50	0.0	-100	0.0	-100	88.9	98	22.2	-43
Dindigul	13.2	-62	0.0	-100	3.1	-91	17.7	-52	26.3	-34
Erode	22.4	-26	0.0	-100	4.3	-87	12.7	-61	23.7	-25
Kanchipuram	54.7	79	0.0	-100	20.6	-55	17.5	-54	25.2	-31
Kanyakumari	41.6	105	0.0	-100	4.1	-88	1.9	-95	2.7	-94
Karikal	50.0	88	0.0	-100	0.0	-100	25.2	-31	23.1	-50
Karur	21.1	-28	0.0	-100	3.6	-88	52.9	70	22.3	-30
Krishnagiri	90.7	102	0.0	-100	0.8	-99	62.3	35	17.3	-51
Madurai	3.4	-90	0.0	-100	7.9	-80	13.4	-66	45.4	3
Nagapattinam	28.6	42	0.0	-100	0.0	-99	1.5	-96	36.9	-5
Namakkal	28.8	-25	0.0	-100	1.3	-96	26.4	-28	17.7	-48
Nilgiris	64.7	84	0.2	-96	1.3	-97	24.5	-43	45.5	2
Perambalur	33.5	6	0.0	-100	3.0	-90	23.8	-46	22.0	-49
Puducherry	0.0	-100	0.0	-100	0.3	-99	7.3	-82	0.2	-99
Pudukottai	33.1	24	0.0	-100	0.6	-98	35.3	9	16.8	-51
Ramanathapuram	2.9	-79	0.0	-100	1.9	-89	5.1	-78	1.4	-96

Salem	25.1	-44	0.0	-100	0.6	-99	33.8	-25	9.8	-76
Sivaganga	3.5	-85	0.0	-100	0.0	-100	14.7	-56	13.4	-70
Thanjavur	36.9	42	0.0	-100	0.0	-100	11.7	-66	14.5	-57
Theni	20.4	20	0.0	-100	0.5	-98	5.2	-80	24.3	-34
Tirunelveli	21.0	147	0.0	-100	0.2	-99	1.3	-93	4.2	-86
Tirupur	0.7	-97	0.0	-100	0.0	-100	3.3	-88	20.7	-32
Tiruvallur	71.8	131	3.1	-56	13.3	-68	44.6	13	31.5	-13
Tiruvannamalai	49.6	9	0.0	-100	26.8	-37	79.5	76	41.5	2
Tiruvarur	68.3	245	0.0	-100	0.0	-100	7.0	-78	8.1	-78
Toothukudi	1.3	-84	0.0	-100	0.0	-100	6.3	-67	3.5	-89
Trichy	35.3	-11	0.0	-100	3.9	-89	20.8	-49	14.5	-61
Vellore	61.2	44	0.5	-91	15.9	-62	41.0	-2	31.9	-12
Villupuram	16.8	-61	0.0	-100	15.2	-59	30.2	-27	25.1	-28
Virudhunagar	0.1	-99	0.0	-100	0.0	-100	13.5	-59	20.8	-44
Andhra Pradesh										
Coastal Andhra Pradesh										
East Godavari	16.3	-51	51.6	1	22.9	-54	38.8	-36	30.0	-31
Guntur	75.3	171	11.3	-73	24.3	-43	39.0	1	37.3	46
Krishna	50.7	70	22.1	-53	22.2	-54	35.9	-20	45.1	30
Nellore	38.8	71	6.4	-79	7.0	-82	11.4	-72	9.1	-75
Prakasam	43.7	110	13.4	-64	3.0	-93	24.0	-45	29.8	-3
Sirkakulam	35.4	-24	50.2	-1	50.1	6	27.1	-57	102.9	164
Visakhapatnam	41.2	0	31.4	-34	25.4	-50	30.9	-52	27.5	-31
Vizianagram	19.4	-62	17.7	-65	27.5	-41	13.2	-76	43.4	11
West Godavari	47.5	35	13.9	-71	20.0	-60	52.9	-9	27.6	-36
Telangana										
Adilabad	66.3	115	63.8	49	23.2	-18	93.8	257	34.2	169
Hyderabad	33.7	4	93.6	97	1.5	-96	10.8	-64	78.3	326
Karimnagar	35.4	15	59.4	38	18.2	-42	109.1	280	27.3	133
Khammam	22.3	-29	65.9	57	49.1	29	42.8	10	51.5	133
Mehabubnagar	55.0	80	24.7	-39	3.6	-91	30.4	0	25.2	70
Medak	57.7	55	71.4	61	5.9	-81	43.4	54	39.1	188
Nalgonda	37.9	33	14.0	-66	11.4	-70	35.5	-1	44.1	98
Nizamabad	32.7	2	50.9	33	6.2	-81	55.3	84	33.4	191
Rangareddy	67.1	74	50.1	-3	1.9	-94	31.5	-9	43.0	144
Warangal	21.7	-32	53.7	40	23.5	-21	37.6	24	32.7	110
Rayalaseema										
Anantapur	60.9	83	4.0	-90	8.3	-78	14.0	-64	2.4	-89
Chittoor	46.1	33	9.8	-72	4.6	-89	60.0	42	6.0	-80
Cuddapah	50.3	79	1.6	-96	4.4	-87	47.3	17	5.7	-75
Kurnool	59.1	111	14.4	-67	3.4	-91	15.2	-54	6.4	-68

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

Annexure III

List of Varieties

Madhya Pradesh:

Wheat: MP 1142, GW 273, GW 322, GW 190, MP 1106, Sujata, HW- 2004, HI-1500.

Black Gram: JG-130, JG-315, JG-16 and Jaki-9218.

Chickpea: KAK-2, and JGK-1.

Pulse (Masoor): RVL-31, and JL-2.

Odisha

Ragi: Divyasinha, AKP-2, AKP-3, AKP-7, Godavari, Neelachal, Bhairavi, Shubhra, and Chilika.

Banana: Hampa, Patakpara, Bantal, Robusta and Kabuli etc.

Raddish: Pusa chetaki, Pusa Rashmi, and Pusa Himani.

Cauliflower: Pusa Ketaki, and Pusa Deepali.

Cabbage: Pride of India, Beans: Pusa Parvati and Arka Komal.

Tomato: BT 2, BT 10, BT 12 Neeladri, Sada Bahar, Madhuri, Maharathi, Rashmi and Navin.

West Bengal

Banana: Mortoman, Chapa, Kathali, Singapuri.

Tomato & brinjal: P Avinash-2, 448

Vadu Kalai: Kalindi, Sarada.

Cabbage: Pride Of India, Pusa Early, Kranti.

Cauliflower: Jawhar Moti, Bharat Jyoti, Early Banaras.

Jharkhand

Potato: Kufri Ashok, Kufri Kanchan.

Delhi

Carrot: Pusa Rudhira and Pusa Kesar.

Mid season cauliflower (Nov.-Dec.): Pusasharad, Pusa hybrid-2, Pant shubra.

Sarsonsaag: Pusa saag-1; Radish- Versa kee rani, summer long, long chetaki; Spinach- All green; **Coriander:** pant Haritama or other hybrids.

Mustard : Pusa Sarson-25, Pusa Sarson-26, Pusa Agrni, PusaTaraka, Pusa, Mahak, Laxmi (140-150 days), Pusa Jai Kisan(115-120 days), P.R-15 (125-130 days), Pusa bold (130-135 days) and R.H. 9304 (130-135 day)

Pea: Pusa Pragati, Arkel

Potato: Kufri Badshah, Kufri Surya.

Jammu & Kashmir

Toria : local toria, RSPT-1 & RSPT-2

Potato: (KufriChandramukhi), K Badshah, K.Sinduri, K.Chipsona&K.Sona.

Palak (All Green), Methi (Pusa Early Bunching,KasuriMethi)

Mustard :- Pusa Sarson-25, Pusa Sarson-26, PusaAgrni, PusaTaraka, PusaMahak, NPJ 112, EJ17, PusaMahak and Kanti, Maya, Rohini, PusaJaikisan, Varuna, RGN13, RGN73, Bharat Sarson-1 (NRCD-2), Bharat Sarson-2 (NRCHB 101), Bharat Sarson-3,(NRCHB 506), Arawali, RGN48, Geeta and PBR 97, CS52, CS54, NarendraRai 1, Karan Tara, Narendra, - NRCYS-05-02, YSH401Tara

Radish :P.Reshmi, Minowase Japanese White

Cabbage : Golden Acre, Pride of India and PusaMukta,

Carrot :PusaKesar,P.Yamdagani.

Turnip :PTWG).

Garlic :yamunasafedagrifoundparvati

Methi :pusa early bunching and kasurimethi.

Spinach :all green.

potato (var.Kufri Badshah, K.Sinduri, K.Chipsona & K.Sona), radish (var. P. Reshmi), carrot (var. Pusa Kesar, P.Yamdagani), Turnip (var. PTWG), garlic (var. local, yamuna safed agrifound parvati), Methi (var. pusa early bunching and kasuri methi) and spinach (var. all green

Rajasthan

Onion:Pusa Red, ArkaNiketan, Pusa White & Local Red

Deshi carrot:PusaKeshar:

Raddish :PusaRasmi

Tomato: Pusa Rubi, Pusa Early and Vihar, T-27, RTM 314

Brinjal: Pusa Summer Prolific Round, Pusa Summer Prolific Long, Meghdoot and Arka Bahar

Cauliflower: Pusa Snowball 1 and Hissar 1

Cabbage: Pusa Drum Head and Hybrid 10

Potato: Kufri-Ashok and Chandramukhi, Mid var.-Kufri-Anand, Chipsona-1, 2, Jyoti and Pukhraj.

Gram : RSG 44, Dahod yellow, GNG 16, ICCV 10, RSG 888, GNG 469 and Pratap chana 1, RSG-888 (Anubhav), CSJD-884 (Aakash), RSG-44, Pusa-209, C-235, H-208.

tkS : RD- 2052, RD 2035,,RD 2660, RD 2552, RD 2592, RD2503, DWRUB52, dWRUB64.

Toria :T-9, Sangam, TL-15.

Mustard: PR 48, T-59, Bio-902, Laxmi, Aravali, Swarna Jyoti and Vasundhara, Bio- 902, Laxmi, RH 30, Pusa bold , T 59

Lucerne: T-9, Anand-2, LLC-3, RL-88

Uttarakhand

Pea : VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel.

Toria : Type -9, Pant Toria-30, Pant Toria-303, Uttara, Pant Toria-507, P.T.-303, P.T.-507,

Garlic : VL-Garlic or DARL-52.

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

Wheat: VL-829, 802, 804, 892, 738, 719, HL-272, UP 2572.

Sarson:Varun, Kanti

Masoor:Masoor-4, 5, VL masoor-1, 4, 203

Uttar Pradesh

Toria-T-1, T-303, T-9, T-36, PT-506, PT-507, Bhawani, Pant-303,

Potato: Kuphari Chanramukhi, Kuphari Ashoka, Kuphari Bahar, Kuphari Surya, Kuphari Sutlaj, Kuphari Pukharaj

Peas: Pant-5, Aparna, Malaviya-2, Malaviya-15, Shikha, Sapana, Ta.- 163, Rachana, Malviya matar,-2

Bengal gram: Pusa, Shubhra

Mustard- Pussa-25

Sugarcane: Kosha-88230, Kosha-8436, Kosha-0238, Kosha-07250, UP-05125

Wheat : VL-829, VL-802,VL-804,VL-892, VL-738, VL-719, HS-277, UP-2572

Berseem: V.L-1, 10, maskavi, jai

Gram: Ta-3, Radhe, K-850, Pant, Kabuli, PDG-3, GPF-2, C-235, Gurav

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

Himachal Pradesh

Cauliflower : Patna snowball and joint snowball.

Pea: Ageta-6 and ArkalMatar.

Raddish: Japanese white, Chinese pink and mino early white

Turnip :PTWG-1

Carrot :Pusakesar

Fenugreek: I.C. 74, kasoori

Punjab

Radish: Punjab Pasand& Punjab Safed,

Turnip: L-1 & 4-white

Carrot: PC-34), potato and palak (Punjab Green).

Cauliflower: Pusa Snow ball 1 &Pusa Snow ball K-1.

Pea: Punjab 87, Punjab 88, Punjab 89 and Mithi Phali.

Raya: RLC-1, PBR-210, RLM-619, PBR-91 under irrigated conditions and PBR-97 under rainfed conditions.

Garlic: PG-17

Maharashtra

Rabi jowar: Selection-3, Phule Mauli and Phule Anuradha in light soil, Phule Chitra, Phule Mauli, Maldandi 35-1 in medium soil, Phule Vasudha, Phule Yashodha and CSV-22 in black soil and irrigated soil in Madhya Maharashtra, Maldandi 35-1, Swati, SPV in Marathwada.

Safflower: Bhima, Phule Kusuma, Sharda, Girna, DSH-129 in Madhya Maharashtra, Bhima, Tara, Sharda, Parbhani-12 in Marathwada.

Gram (Rainfed): Vijay, Digvijay in Madhya Maharashtra, Phule G-12, Phule G-5 and Vijay in Marathwada.

Preseasonal sugarcane: CO.740, CO.7219 (Sanjivani), CO.88121 (Krishna), CO.8014 (Mahalaxmi), CO.86032 (Nira), CO.94012 (Phule Savitri), CO.M.0265 (Phule 265), CO.V.S.I.9805, CO.C.671 for Madhya Maharashtra and CO.94012, CO-86032, CO.V.S.I.9805, CO-C-671, Co-8014 for Marathwada.

Rainfed wheat : NIDW-15, N-5439, N-8223.

Gujarat

Chick pea (unirrigated): Gujarat Chana-2.

Chick pea (irrigated): Gujarat chana-3.

Mustard: Varuna, Gujarat rai-3

Garlic: Gujarat Garlic-4 or Local