

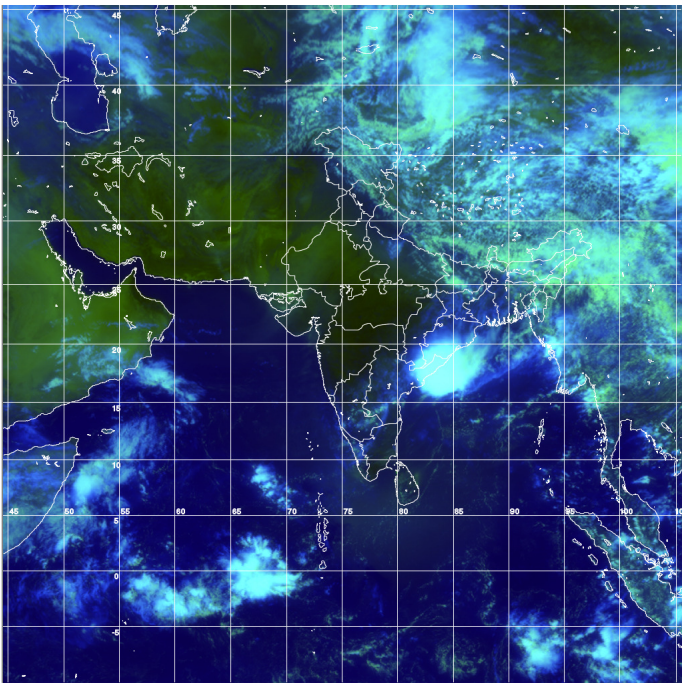


# National Agromet Advisory Bulletin

## Thursday, 19<sup>th</sup> May, 2011

(For the period 19<sup>th</sup> to 23<sup>rd</sup> May, 2011)

Satellite image 0600 UTC Dated  
20<sup>th</sup> May, 2011



Issued by

National Agrometeorological Advisory Service Centre

Agricultural Meteorology Division

India Meteorological Department

Shivajinagar

Pune.

The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

## Executive Summary

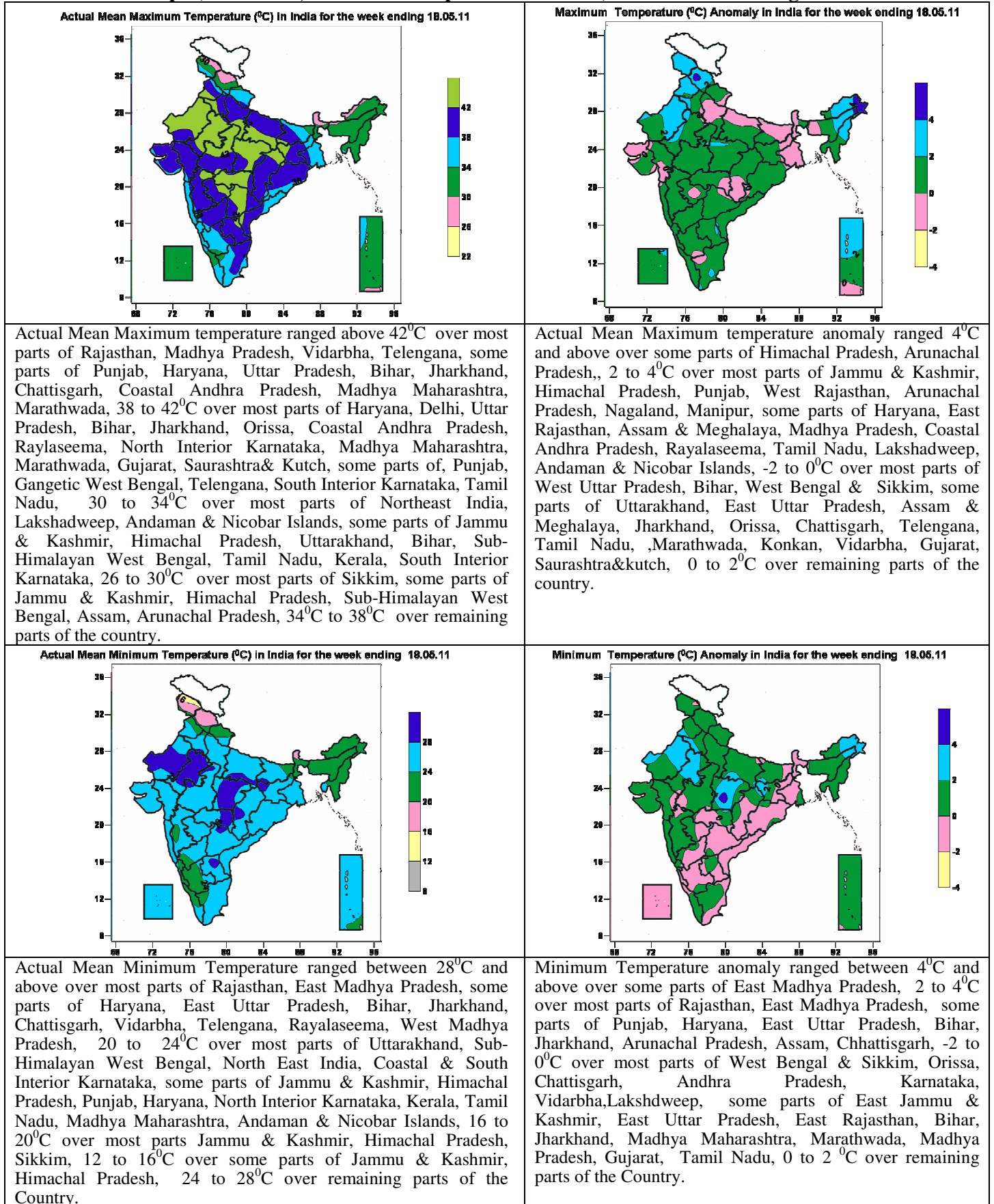
As fairly wide spread rain is likely to occur in northeastern States and Sub Himalayan West Bengal, farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures to the crops in these States. Farmers are advised to provide support to the standing crops to avoid lodging and store the harvested crops at safer places in view of likely occurrence of severe thunder squalls at some places over Bihar, Jharkhand, West Bengal & Sikkim and Orissa during next 48 hours. Farmers are advised to undertake harvesting of remaining wheat crops and other *rabi* crops in Uttar Pradesh, Madhya Pradesh, Punjab and Haryana. Light and frequent irrigation may be provided to standing summer crops to meet excess evaporative demand over these areas.

Due to increasing temperature and dry weather conditions, crops like sugarcane and mango in Punjab and Gujarat, arecanut in Kerala, sugarcane and banana in Tamil Nadu and Karnataka and newly planted orchard saplings in the State likely to face severe heat / moisture stress conditions. Farmers are advised to apply mulching and provide light and frequent irrigation to the summer crops.

Farmers are advised to undertake sowing of rice in the nursery, pigeon pea, cotton, baby corn in Jammu & Kashmir, sowing of red gram, cotton, baby corn and sweet corn in New Delhi, nursery sowing of non scented rice in Haryana, sowing of rice and maize in Uttarakhand, sowing of jute, planting of ginger, turmeric and arum and nursery sowing of *aus* rice in West Bengal, planting of ginger, turmeric and papaya in Assam, sowing of brinjal and chilli in Kerala and sowing of groundnut, jowar, bhindi and nursery sowing of *kuruvai* rice in Tamil Nadu.

Due to high temperature conditions, there are incidences of powdery mildew in pulses and powdery mildew and hoppers in mango in Karnataka, mealy bug and stem borer in rice in Tamil Nadu, bud borer and mites in jasmine and white fly and mites in vegetables in Andhra Pradesh, rust in groundnut, yellow vein mosaic in pulses in Orissa, aphids in khasi mandarin in Mizoram and thrips in green gram in Punjab. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases.

### Contour maps (Maximum, Minimum temp. and anomalies) for the week ending 18.05.2011



**Distribution of rainfall (% departure from normal) for the districts of Sub Himalayan West Bengal & Sikkim, Assam, Arunachal Pradesh, Bihar and South interior Karnataka during last week.**

State/Districts	Actual	18.05.11
<b>Arunachal Pradesh</b>		
Changlang	36.5	-58
East Kameng	3.4	-94
East Siang	36.1	-48
Lohit	11.4	-82
Lower Subansiri	42.0	-34
Papumpara	27.8	-72
Tawang	27.0	-63
Tirap	19.0	-71
Upper Siang	0.0	-100
Upper Subansiri	6.4	-71
West Kameng	32.0	-56
West Siang	0.0	-100
<b>Assam</b>		
Barpeta	53.2	-39
Bongaigaon	32.6	-61
Cachar	38.5	-58
Darrang	**	**
Dhubri	39.4	-55
Dibrugarh	4.0	-93
East Garo Hills	66.0	-28
East Khasi Hills	34.5	-79
Goalpara	34.5	-79
Golghat	24.9	-58
Hailakandi	21.7	-77
Jaintia Hills	**	**
Jorhat	9.3	-87
Kamrup	13.2	-81
Karbi Analog	0.0	-100
Karimganj	29.5	-75
Kokrajhar	52.2	-39
Lakhimpur	4.3	-94
Morigaon	15.8	-56
N.C.Hills	0.0	-100
Nowgong	21.5	-33

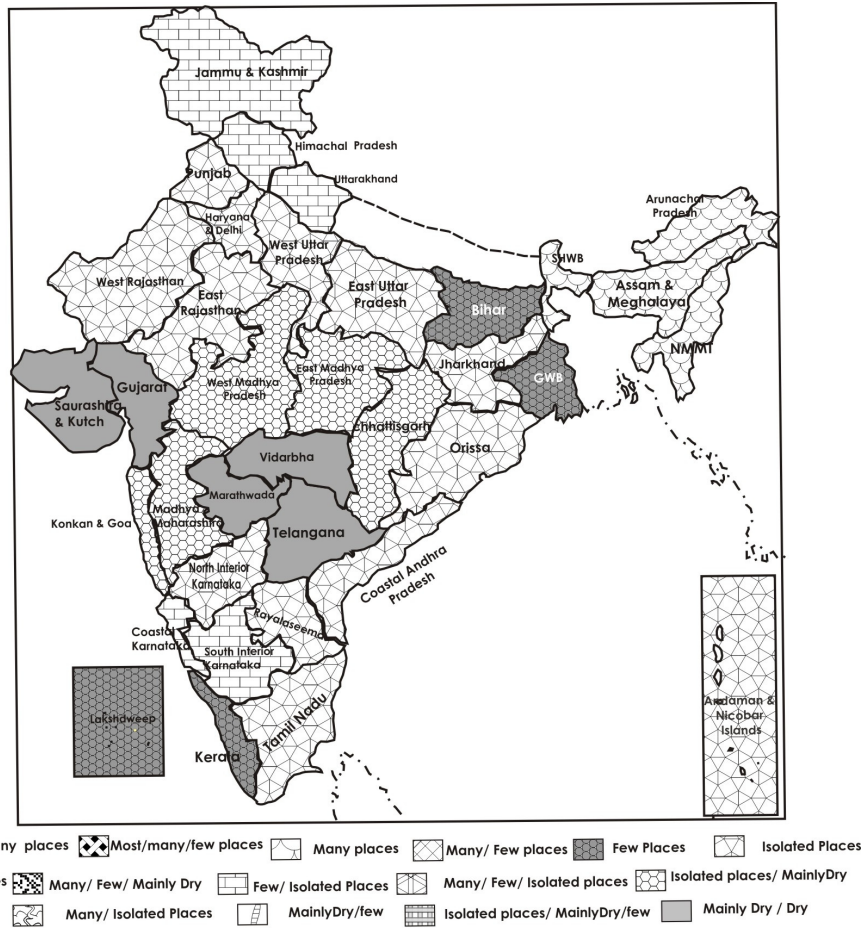
State/Districts	Actual	18.05.11
Nalbari	13.6	-81
Sonitpur	17.3	-70
Sibsagar	0.0	-100
Tinsukia	4.5	-93
<b>Bihar</b>		
Araria	35.7	13
Aurangabad	0.0	-100
Begusarai	0.0	-100
Bhabua	**	**
Bhagalpur	38.2	181
Bhojpur	**	**
Buxar	**	**
Darbhanga	**	**
East Champaran	15.1	26
Gaya	0.0	-100
Gopalganj	4.0	-52
Jahanabad	0.0	-100
Jamui	**	**
Kathihar	9.4	-61
Khagadia	0.0	-100
Kishanganj	17.0	-44
Madhepura	90.7	269
Madhubani	22.4	91
Monghyar	21.6	86
Muzaffarpur	8.8	-46
Nalanda	0.0	-100
Patna	0.0	-100
Purnea	30.9	28
Rohtas	0.0	-100
Saharsa	18.2	2
Samstipur	**	**
Saran	0.0	-100
Sitamarhi	**	**
Siwan	**	**
Supaul	23.8	34
Vaishali	0.0	-100

State/Districts	Actual	18.05.11
West Champaran	15.6	2
<b>West Bengal</b>		
<b>SHWB</b>		
Coochbehar	28.7	-58
Darjeeling	48.0	-7
Jalpaiguri	52.6	-19
Malda	6.3	-67
Dinajpur (N)	**	**
Dinajpur (S)	35.9	7
North Sikkim	38.1	-50
South Sikkim	60.4	-14
<b>Karnataka</b>		
<b>Coastal Karnataka</b>		
Dakshin Kannada	62.7	102
Udupi	24.1	-24
Uttar Kannada	5.2	-73
<b>South Interior Karnataka</b>		
Bangalore Rural	33.2	38
Bangalore Urban	25.7	-13
Bellary	18.4	44
Chamarajnaragur	4.7	-87
Chickmagalur	47.7	72
Chitradurga	18.2	2
Davangere	18.3	-8
Hassan	38.9	37
Kodagu	62.1	76
Kolar	36.3	60
Mandya	4.8	-84
Mysore	32.8	-8
Shimoga	19.9	-4
Tumkur	41.1	56

**LEGEND**

- EXCESS 20% OR MORE
- NORMAL +19% TO - 19%
- DEFICIENT - 20% TO - 59%
- SCANTY - 60% TO - 99%
- NO RAIN - 100%
- DATA NOT AVAILABLE

## Weather Forecast (Valid upto 1430 hours of 22<sup>nd</sup> May, 2011)



### Major Feature of Weather Forecast upto 1430 hours IST of 22<sup>nd</sup> May, 2011

- Fairly widespread rain/thundershowers would occur over northeastern states and SubHimalayan West Bengal & Sikkim, scattered over Gangetic West Bengal and Bihar and isolated over rest east India.
- Scattered rain/thundershowers would occur over Kerala, south Karnataka and Lakshadweep and isolated over rest peninsular India.
- Isolated rain/thundershowers would occur over western Himalayan region during next 24 hours and scattered thereafter.
- Isolated duststorms/thunderstorms would occur over Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh and north Madhya Pradesh during next 24 hours and isolated rain/thundershowers thereafter.
- Heat wave conditions would abate from some parts of northwest India from tomorrow.

### Weather Warning

- Severe thundersqualls at a some places would occur over Bihar, Jharkhand, West Bengal & Sikkim and Orissa and isolated thundersqualls over Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, north Madhya Pradesh and northeastern states during next 48 hours.
- Today the heat wave conditions would prevail over some parts of Rajasthan, Haryana, Punjab, Delhi, Uttar Pradesh, Madhya Pradesh and Vidarbha.

### Weather Outlook up to 1430 hours IST of 24<sup>th</sup> May, 2011

- Fairly widespread rain/thundershowers would occur over northeastern states, scattered over adjoining east India, south Karnataka, Kerala and Lakshadweep.
- Mainly dry weather would prevail over northwest and adjoining central and west India.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Araria, Bhagalpur, Madhepura, Purnea districts of Bihar, West Singbhum in Jharkhand, Nadia, 24 Pargana (N), Purulia, Darjeeling, Jalpaiguri and Dinajpur (S) districts of West Bengal and most of the districts of Sikkim received rain during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over Sub Himalayan West Bengal & Sikkim, scattered over Gangetic West Bengal and Bihar and isolated over rest east India. Severe thunder squalls at some places would occur over Bihar, Jharkhand, West Bengal & Sikkim and Orissa during next 48 hours.
- **Advisories:**
  - As fairly widespread rain / thundershowers would occur over Sub-Himalayan West Bengal & Sikkim, farmers are advised to postpone irrigation, intercultural operation and plant protection measures to the standing crops. In view of likely occurrence of severe thunder squalls at some places over Bihar, Jharkhand, West Bengal & Sikkim and Orissa during next 48 hours, farmers are advised to provide support to the standing crops to avoid lodging and store the harvested crops at safer places.
  - In Orissa, the weather is optimum for planting of ginger, turmeric, papaya, marigold etc. and sowing of jute, vegetables like *okra*, bitter gourd, cluster bean, cow pea and ridge gourd and also sowing of mixed green fodder like fodder maize and cow pea.
  - Farmers in West Bengal are advised to undertake field preparation and sowing of jute, planting of ginger, turmeric and arum and nursery sowing of *aus* rice.
  - Farmers are advised to plant ginger and turmeric in Western Plateau Zone of Jharkhand and to sow maize, jowar and lobia for green fodder in Bihar.
  - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
  - Farmers in the States of this region are advised to harvest already matured summer crops and to protect at a safe place in view of predicted severe thunder squall during next 48 hours.
  - Under prevailing weather situation, there is chance of the attack of weevil in jute in New Alluvial Zone of West Bengal; apply 2 ml Endosulphan per litre of water.
  - Due to high humidity and temperature, attack of stem rot in pointed-gourd may be prevalent in New Alluvial Zone of West Bengal. To control the attack of stem rot, apply Bavistin or Benlate (1 g per litre of water).
  - In pumpkin, ridge-gourd, pointed gourd and cucumber, there is a chance of attack of red pumpkin beetle under present weather condition in New Alluvial Zone of West Bengal. To control the pest apply Dimecron or Rogor (1 ml per litre of water).
  - Due to increase of temperature in New Alluvial Zone of West Bengal, mite attack may be seen in many flowers. Apply 1 ml Monocrotophos per litre of water and after seven days, 2 ml Kelthane per litre of water to control the attack.
  - Under this weather condition neck blast may be found in rice in Terai Zone of West Bengal; spray Bavistin @ 1 g per litre of water.
  - Infestation of rust in groundnut crop has been noticed in Cuttack district, spray 25 g Mancozeb or 30 g Blitox-50 in 10 litres of water.
  - In Ganjam district, early stem borer infestation has been found in sugarcane. If it crosses the ETL level (5% dead heart), go for hoeing, weeding and apply 4 kg phorate or 12 kg Carbofuran or 10 kg Cartap followed by earthing up or spray 400 ml Monocrotophos or Tryozophos or Profenophos per ha.
  - In Puri district, infestation of yellow vein mosaic virus has been found in summer pulses; spray 20 ml Rogor per 10 litres of water to control the white fly.
  - In Western Plateau Zone of Jharkhand, due to attack of thrips in green gram, drying and dropping of the flowers has been reported; spray insecticide like Trizophos or Propanephos @ 1 ml per litre of water in the evening.

- In South Eastern Plateau Zone of Jharkhand, there is incidence of gundhi bug under prevailing weather condition. Apply 4% Endosulfun or 1.5% Quinalphos or Monocrotophos to control the insect. There is also chance of increase in egg laying of caseworm, hispa and brown plant hopper in rice due to increase in temperature. Farmers are advised to apply Prophenphos @ 1 ml or Endosulphan @ 1.5 ml or Monocrotophos @ 1 ml per litre of water. Incident on fruit borer has also been noticed in summer vegetables in this region; spray Heliokill, Helicide or Kug Fu @ 2 mm or Trizofos or Prophenfas @ 1 ml per litre of water.
- Apply plant protection measures in Sub Himalayan West Bengal & Sikkim after current spells of rain and on a non-rainy day in Gangetic West Bengal and Bihar.
- Stages of major crops are mentioned in Annexure I.

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

- **Realised Rainfall:** Changlang, East Siang, Lower Subansiri, Papumpara, Tawang and West Kameng districts of Arunachal Pradesh and Barpeta, Bongaigaon, Cachar, Dhubri, East Garo Hills, East Khasi Hills, Goalpara, Karimganj and Kokrajhar districts of Assam received rain during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over the states of the region during the period. Isolated thunder squalls would occur over these states during next 48 hours.
- **Advisory:**
  - As fairly widespread rain / thundershowers would occur over the states of the region during the period, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops. In view of likely occurrence of isolated thunder squalls at some places over the States of the region during next 48 hours, farmers are advised to provide support to the standing crops to avoid lodging and store the harvested crops at safer places.
  - In Assam, sowing of jute, summer vegetables and maize and planting of ginger, turmeric and papaya may be carried out.
  - Farmers are advised to sow *aus* rice and cucurbitaceous vegetables in Tripura.
  - Farmers in Manipur are advised to undertake planting of ginger and turmeric and sowing of cucurbitaceous vegetables.
  - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
  - In Lower Brahmaputra Valley Zone delay harvesting of matured crops of summer rice as there is possibility of fairly widespread rain for the coming days. Under wet condition dry the produce well after harvest. Keep the bundles in upright position to avoid rotting / sprouting due to high humidity.
  - In Upper and Central Brahmaputra Valley Zone of Assam, due to increase in RH and probable increase in temperature in the coming days, the condition may be suitable for the attack of blast disease in *ahu* rice. Farmers are advised to spray Bavistin @ 1 g per litre of water when the symptoms appear.
  - In Mild Tropical Hill Zone of Mizoram, due to high relative humidity along with occasional rainfall, infestation of aphids is severe. Farmers are advised to spray Bordeaux mixture (1:1:100) in Khasi Mandarin.
  - In Mild Tropical Hill Zone of Mizoram, due to high humidity with occasional rainfall, chance of incidence of pseudo stem weevil is more in banana. Farmers are advised to remove unwanted suckers, dried and infected leaves, sheath and petioles.
  - Apply plant protection measures after current spells of rain.
  - Stages of major crops are mentioned in Annexure I.

**Animal Husbandry:**

- In Tripura and Mizoram, due to the weather change, some viral / bacterial diseases may outbreak in Poultry birds and cattle. Vaccination like FMD, Black Quarter and Hemorrhagic septicemia (HS) in cattle and Ranikhet in poultry may be undertaken. Keep sanitary conditions in poultry sheds and also keep the equipment clean. Provide balanced feed and fresh clean water to the cattle.
- In Nagaland, all the livestock owners are advised to carry out the deworming and vaccination programmes against infectious diseases, particularly “Foot and Mouth disease”, as the monsoon season is approaching.

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

- **Realised Rainfall:** Dry weather prevailed over the region during last week.
- **Rainfall Forecast:** Rain is likely to occur at isolated places during next 48 hours and mainly dry weather thereafter. Isolated thundersqualls is likely over Punjab, Haryana, Delhi, Rajasthan and Uttar Pradesh during next 48 hours
- **Advisory:**
  - As there was no significant rainfall during last week and there are chances for no significant rainfall during next three days, farmers are advised to apply irrigation to standing crops.
  - As high temperature is likely to be continuing in the region, the evaporative demand increases so farmers are advised to apply frequent irrigation in summer crops, vegetables, horticultural plants and cover the tree sapling with thatching material to protect against high temperature. Farmers are advised to undertake harvesting of remaining wheat crops and other *rabi* crops and store it at safer places. Light and frequent irrigation may be provided to standing summer crops to meet excess evaporative demand.
  - Farmers in Delhi are advised to sow red gram, cotton, baby corn and pigeonpea.
  - In the Mild Hills Sub Humid Zone Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, farmers are advised to undertake sowing of chari, bajra and maize in low hills to have green fodder in summer. Undertake land preparation for nursery sowing of rice and maize.
  - Farmers in Sub Tropical Zone of Jammu & Kashmir are advised for nursery raising of rice crop under irrigated condition. Farmers can also go for nursery sowing of brinjal and chillies.
  - Farmer in Intermediate Zone of Jammu & Kashmir are advised for sowing of pigeonpea, cotton and baby corn in this week.
  - Farmers in Punjab are advised to undertake sowing of cotton and also to prepare fields for sowing of rice in nursery, okra and radish.
  - Farmers in Western Zone of Haryana are advised for nursery sowing of non scented rice with recommended varieties and also irrigate the sugarcane crop, adopt weed control measures and apply recommended dose of fertilizers.
  - Farmers in Uttar Pradesh are advised to prepare the field for nursery sowing of rice, marking and digging of pits for plantation of new garden of all fruits viz. mango, guava, ber, Aonla, litchi, papaya and grapes. After harvesting of wheat and other crops, summer ploughing in opposite direction of fields slope, mounding may be done so that rain water is conserved in the fields.
  - Weather is congenial for attack of fruit borer in litchi crop in Himachal Pradesh farmer are advised to spray cypermethrin 10Ec@ i/ml per litre of water at 15 days interval.
  - In Rajasthan, there is possibility of cucumber mosaic virus (CMV) and watermelon virus (WSC) in cucurbitious vegetables. If symptoms are seen burn the affected plants and spray Dimethoate 30 EC @ 1 ml per litre of water.
  - There is possibility of attack of thrips in *rabi* onion in Rajasthan due to increase in temperature. For control spray Malathion 50EC per ml water.
  - Weather is congenial for attack of mites on chilli and hopper on mango in Delhi, Himachal Pradesh. Farmers are advised to monitor the crop for above pest and take proper plant protection measures.
  - Weather is congenial for attack of late blight in potato in Himachal Pradesh, farmers are advised to spray Dithane M-45, 25 gram in 10 litres of water and repeat the spray at 10-15 days interval.



- In Central Plain Zone of Punjab summer moong is severely attacked by the thrips, which are small, dark brown and found in flowers and cause flower drop. Farmers are advised to monitor the crop for above pest and take proper plant protection measures.
- Stages of major crops are mentioned in Annexure I.

### Animal Husbandry

- In Rajasthan, farmers are advised to adopt adequate measures to protect animals from heat stroke. Keep them in cool & shade area and give them cold water for drinking. Do not bath them in midday.
- Vaccinate animals for different animals and make arrangements for mouth sour and hoof diseases.
- In Haryana farmers are advised to protect animals from heat and provide balanced diet to animals.
- In Himachal Pradesh, weather is conducive for ticks and mites attack on animals. For control spray Butox @ 2.0 ml per litres of water
- In Uttarakhand, due to expected light rainfall and cloudy conditions, animals will get some relief from heat. Hence farmers are advised to keep their animals under shed of trees during the day time. Give them fresh water for drinking and balanced feed with mineral mixture and green fodder. Go ahead for vaccination before the onset on monsoon.

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

- **Realised Rainfall:** Dakshin Kannada in Coastal Karnataka, Bangalore Rural, Chickmagalur, Hassan, Kodagu, Kolar, Mysore and Tumkur in South Interior Karnataka and Kasargod in Kerala received good rainfall. No significant rainfall occurred in remaining parts of the region.
- **Rainfall Forecast:** Rainfall is likely at a few places over Kerala during next three days, at a few places over South Interior Karnataka and Coastal Karnataka during next 48 hours and isolated thereafter and isolated rainfall in the remaining region.
- **Advisories:**
  - As there was sufficient rainfall in Dakshin Kannada in Coastal Karnataka, Bangalore Rural, Chickmagalur, Hassan, Kodagu, Kolar, Mysore and Tumkur in South Interior Karnataka and Kasargod in Kerala, postpone irrigation to the standing crops in these districts/States. Apply irrigation in the remaining states, as there was no sufficient rainfall.
  - Farmers in Scarce Rainfall Zone of Rayalaseema are advised to take up summer ploughing and arrange inputs for sowing of kharif groundnut, taking advantage of recently received and expected rains.
  - Farmers in Eastern dry zone of Karnataka are advised to take care of summer crops like grapes, maize, mango, vegetables and other crops against adverse rains. Where ever adequate moisture is available farmers are advised to undertake ploughing
  - Farmers in Coastal zone of Karnataka are advised to procure good quality paddy seeds of MO-4 and Champaka variety for raising the nursery since onset of monsoon is expected in the next 15 days.
  - Farmers in North Transition Zone of Karnataka are advised to take up ploughing in the areas where rainfall received and it should be taken up across the slope as it improves infiltration and conservation of rain water but also avoids soil erosion and further it checks the weeds
  - Farmers in Coastal Zone of Karnataka are advised to undertake land preparation for sowing of rice in the nursery. In Hill Zone, as wind speed is increasing, provide mechanical support to banana and sugarcane crops to prevent from lodging.
  - Farmers in Problem Area Zone of Kerala are advised to undertake land preparation and sowing of direct seeded rice. Arecanut crop is affected by scorching sun; undertake whitewashing of stem portion and provide irrigation in the early morning / evening hours.

- As no rain is expected in the coming days in the Southern zone of Tamil Nadu, irrigation may be given to all garden land crops depending upon the condition.
- Since light rainfall is expected in weekend days in the High Altitude Hill zone of Tamil Nadu, irrigation can be scheduled accordingly. Chemicals can be sprayed and sowing of rainfed crops can be taken up immediately.
- Incidence of bud borer and mites in jasmine crop and white fly and mites in vegetables are noticed in Scarce rainfall zone of Rayalseema of Andhra Pradesh. Spray Endosulfan or Malathion @ 2 ml per litre of water to control bud borer, Dicofol @ 5 ml per litre of water to control mites and arrange yellow sticky traps in the field and spray Triazophos @ 1.5 ml per litre of water to control white fly. To prevent the incidence of fruit borer in mango, collect and destroy the dropped fruits and Spray Monocrotophos @ 1.6 ml or Carbaryl @ 3 g per litre of water.
- In rice fallow cotton, bollworm incidence is being noticed in the Cauvery Delta Zone of Tamil Nadu. To control, spray profenophos at 2 ml/lit of water during morning or evening hours.
- Incidence of mealy bug and stem borer incidence in paddy is noticed in the Southern zone of Tamil Nadu due to rise in temperature. As a bio-control measure, release *Acerophagus papaya* or *Cryptolaemus montrouzieri* @ 100 nos/acre depending upon the rate of infection to control mealy bug and set up the light traps to monitor the stem borer population.
- Animal Husbandry
- Protect dairy animals from direct sunlight. Give plenty of water frequently and shade is must for them.
- Prevailing weather conditions may lead the occurrence of Hemorrhagic Septicemia, Black Quarter, Foot and mouth disease in cattle, ET and sheep pox in sheep, Ranikhet disease in poultry. To prevent the diseases, vaccinate the animals.
- Stages of major crops are mentioned in Annexure I.

#### WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Mainly dry weather prevailed over the States of the region during the period.
- **Rainfall forecast:** Dry weather would prevail over the States of the region during the period.
- **Advisory:**
  - As weather was dry during last few weeks and dry weather is likely during next few days over the States of the region, farmers are advised to apply irrigation to the standing crops.
  - Taking the advantage of dry weather, farmers of Konkan are advised to complete harvesting of already matured summer rice and groundnut. After harvesting of summer rice and groundnut, plough the field and undertake the preparatory tillage for *kharif* season.
  - Farmers of other parts of Maharashtra are advised to start harvesting of already matured summer bajra, groundnut, sunflower and maize under prevailing dry weather. After harvesting of summer crop, plough the field and undertake the preparatory tillage for *kharif* season with the help of pre monsoon showers.
  - As prevailing weather is not favourable for sowing of BT cotton in western Maharashtra, sowing may be postponed till 25<sup>th</sup> may.
  - Farmers in Gujarat are advised to undertake deep ploughing in harvested fields and prepare land for *kharif* crops.
  - As there is no possibility of rain, farmers in Gujarat state are advised to apply third dose of nitrogen @ 87 kg / ha to sugarcane at evening time assuring that sufficient moisture is available in the soil.
  - Farmers in South Saurashtra Zone and North Gujarat Zone are advised to dig the pits as per recommendation in fruit orchards (1 m X 1 m X 1 m) with spacing of 10 m X 10 m between two mango plants, 8 m X 8 m between two sapota plants and 6 m X 6m between two coconut plants and allow for drying in sunlight.

- Due to increase in temperature there is more evaporation from sugarcane field; farmers in Gujarat state are advised to spread dry leaves of sugarcane in between two rows of the crop to reduce moisture loss.
- In view of high temperature forecast irrigate flowers during morning hours to meet evaporative demand in North Gujarat Zone.
- Due to prevailing weather there may be incidence of rust and blight in summer groundnut in Sub Montane Zone; spray Diathane M-45 @ 2 g / liter of water.
- Under prevailing weather there may be incidence of mealy bugs and fruit borer in mango in South Konkan; spray Dimethoate @ 10 ml and Quinolphos @ 10 ml respectively per 10 litres of water. Do not spray insecticides 20-25 days before maturity of fruits.
- Due to increasing temperature and cloudy weather there may be incidence of downey and powdery mildew in bitter gourd, bottle gourd and ridge gourd in Western Maharashtra Scarcity Zone. For preventive measure spray Bordeaux mixture (1%) or Mancozeb or Copper Oxy Chloride @ 25 g in 10 liters of water at 8-10 days interval after 20 days of germination. On the incidence spray Metalaxyl MZ-72 @ 25 g in 10 liters of water. On the incidence of powdery mildew alternate spraying of Dinocap or Tridemorph or Carbendazim @ 5-10 g in 10 liters of water at 8-10 days interval may be done.
- There is possibility of incidence of powdery mildew in water melon / musk melon in Central Vidarbha Zone; spray Carathen @ 10 ml in 10 liters of water.
- Under prevailing weather, there are chances of infestation of sucking pests in vegetables in North Gujarat Zone. Farmers are advised to spray 0.1% solution of Dimethoate 35 EC to manage the pests.
- **Animal Husbandry:**
  - In view of high temperature forecast in Gujarat, keep animals under shade during noon hours and provide clean drinking water. Vaccinate animals against FMD and BQ to avoid disease outbreak during ensuing monsoon season. Avoid transportation of poultry birds during noon time. Put curtains on west side of poultry house and sprinkle water on curtains during noon time.
  - In Maharashtra also, spray Neon insecticide 1 to 1.5 ml per liter of water to control ecto parasites in animal house. The drinking water should be made available at least four times a day to the livestock and if possible the animals should be kept under tree shade. Livestock should be washed by using cold water. Livestock should be vaccinated against foot and mouth disease.

#### **CENTRAL INDIA [M.P., CHHATTISGARH]**

- **Realised Rainfall:** No significant rainfall occurred in the region.
- **Rainfall Forecast:** Isolated rain/thundershowers would occur over Madhya Pradesh and Chhattisgarh during next 48 hours and mainly dry weather thereafter.
- **Advisory:**
  - Currently temperatures are higher in Kymore plateau and Satpura hill zone in Madhya Pradesh causing higher evapotranspiration, provide light and frequent irrigation to different summer crops like moong, urad and soybean and sunflower.
  - Maximum temperature will be around 43-45°C during this week in Bundelkhand Zone of Madhya Pradesh; hence farmers are advised to give light irrigation in all vegetable crops, including orchards in the evening or in early morning.
  - Farmers in Jhabua Hill Zone in Madhya Pradesh are advised to prepare field for sowing of ginger, turmeric and given irrigation to protected new orchard plants in the evening time and proper use of wind barriers in south-west direction.
  - Evaporations rates are presently higher due to higher temperature and it is being recorded around 10 mm/day in Chattisgarh Plain Zone of Chattisgarh, which has increased the water requirements of summer crops like vegetables and green gram. Hence, farmers are advised to reduce the interval between two irrigations and irrigate the crops as per requirement for proper water management in

these crops. Farmers, who have drip irrigation system, are also advised to regulate the discharge rate of the system for proper water management.

- In Chattisgarh Plain Zone of Chattisgarh the maximum temperature is around 42°C and due to hot and dry winds banana and papaya fruits are damaged because of sun scorching. Hence, the farmers are advised to cover the fruits by using leaves or Jute bags to protect the fruits from sun scorching. It is also advised to provide wind breaks in west/north-west direction.
  - Farmers in Northern Hill Zone of Chattisgarh are advised to prepare land for planting of sugarcane, ginger and sow moong, urad, fodder crops like maize, jowar, bajra crops etc.
  - Weather is congenial for sucking pests in Gird and Nimar Valley Zone of Madhya Pradesh, farmers are advised to spray Metasystox or Dymethoate 1 ml per litre of water.
  - Weather is congenial for leaf, stem and fruit borer in Bundelkhand Zone of Madhya Pradesh, spray of quinolphos 25 E.C. @ 2.0 ml. per litre of water. Also there is possibility of yellow vein mosaic in summer ladyfinger, tomato, and chilli leaf curl, spray of Methyl Dematon 25 E.C. @ 2.0 ml. Or Daimethoite 30 E.C. @ 2.0 ml. per litre of water..
  - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry & Poultry**
    - Presently temperatures are higher in day time Kymore plateau and Satpura hill zone in Madhya Pradesh hence provide cold water twice to cattle.
    - There is possibility of increase temperature during the next 5 days in Bundelkhand Zone of Madhya Pradesh, hence dairy farmers are advised to provide frequent drinking the water (two-three times) to dairy animals and to arrange the green and juicy fodder for them. Also in dry and hot weather food intake by hen is decreased, to supplements the food, mix vitamins and energy food material in their feed as well as calcium content. Mix 0.25 percent salt solution in their drinking water also.
    - Farmer's clean their godouns and store rooms and spray with 0.2 % malathion insecticide and also gunny bags are clean and treated with 1% malathion solution and drying the bags after that the grains/seeds are store thies bags.

## Annexure I

### Major Crops

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

- Maize (cob formation / maturity / harvesting), chillies, tomato (fruiting / harvesting), palak, carrot, radish etc. (harvesting), barseem, lucerne, oat (vegetative), sugarcane (early vegetative / vegetative), *boro* rice (grain maturity / harvesting), green gram and black gram (flowering / pod formation) and summer vegetables like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. (sowing / early vegetative / vegetative / flowering / fruiting), maize, Jowar, lobia for green fodder (sowing) in Bihar.
- Chilli and brinjal (transplanting / early vegetative / vegetative / flowering / fruiting), summer rice (grain maturity / harvesting), summer vegetables (vegetative / flowering / fruiting), green gram (flowering / pod formation), sugarcane (early vegetative / vegetative), mango and litchi (fruiting), papaya (transplanting) in Jharkhand.
- *Boro* rice (grain formation / maturity), black gram, green gram (flowering / pod formation), sunflower (seed formation), sesame (pod formation / early maturity / maturity), groundnut (pod maturity), mango, papaya, summer marigold, tuberose (planting), cow pea (sowing / early vegetative), summer vegetables (vegetative / flowering / fruiting), *kharif* vegetables (sowing) and sugarcane (sprouting / vegetative / tillering), jute (sowing) and ginger (planting) in Orissa.
- *Boro* rice (grain maturity / harvesting), mango (fruiting), sunflower (flowering / seed formation), green gram (branching / flowering / pod formation), groundnut (pod maturity), sesame (pod formation / early maturity / maturity) and *aus* rice, maize, jute (sowing), ginger (planting), vegetables like ladies finger, *kakrol*, *amaranthus*, spinach, various leafy vegetables, brinjal, bitter gourd (sowing / vegetative / flowering / fruiting), chilli (flowering / fruiting) in West Bengal.
- Large cardamom (vegetative lag phase / primary flowering / secondary flowering), *rabi* potato (maturity / harvesting), *kharif* vegetables (transplanting / vegetative), orange (flowering / transplanting of Seedlings from nursery), maize (early vegetative / vegetative / late vegetative / tasseling / silking / cob formation), ginger (planting / germination) in Sikkim.

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

- Sugarcane (cane development / active vegetative), *boro* rice (maturity / harvesting), *bau* rice (sowing / early vegetative / tillering), normal *ahu* rice (transplanting / early vegetative / tillering), early *ahu* rice (panicle initiation / flowering), summer green gram and black gram (flowering / pod formation), jute (sowing / seedling / early vegetative / vegetative), summer vegetables (vegetative / flowering / fruiting), summer sesame (pod formation / maturity) and maize (tasseling / silking / cob maturity) in Assam.
- Rice (nursery preparation / transplanting), French bean (germination / early vegetative / vegetative), okra (sowing / germination / early vegetative), maize (sowing / germination / early vegetative / vegetative) and ginger / turmeric (planting), summer vegetables, millet (sowing / germination / vegetative) in Arunachal Pradesh.
- *Rabi* maize (tasseling / silking / grain formation / maturity), rice (tillering / panicle initiation), soyabean, groundnut (sowing), onion (bulb formation / maturity / harvesting) and ginger and turmeric (planting) in Manipur.
- Groundnut, soyabean, okra and other summer crops (sowing), ginger and turmeric (planting), Khasi mandarin (fruit bearing), banana (vegetative / fruiting / maturity), summer maize (cob formation / harvesting), onion (bulb formation), beans (pod formation / harvesting) and summer vegetables (vegetative / flowering / fruiting) in Mizoram.
- *Aus* or pre *kharif* rice (sowing), sesame (pod formation / early maturity / maturity), summer vegetables (vegetative / flowering / fruiting) and *boro* rice ((maturity / harvesting)) in Tripura.
- *Boro* rice ((maturity / harvesting)), *ahu* rice (nursery sowing / seedling / transplanting / tillering), summer maize (tasseling / silking / cob formation) and summer vegetables (sowing / vegetative / flowering) in Meghalaya.
- Maize, summer crops (vegetative / flowering), rice (vegetative), okra (vegetative), tomato (planting) and banana (fruiting) in Nagaland.

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

- Tomato, chilli (transplanting), brinjal & cucurbits crops (flowering/fruiting), lentil (pod formation), maize, hybrid cluster bean, baby corn, Pigeon pea (sowing/ vegetative), green gram and black gram, cotton (sowing), Sugarcane(sowing) in Delhi.
- Potato (tuber formation/harvesting), vegetables (flowering / fruiting / harvesting), garlic (planting), pea, potato (sowing), cucurbits (transplanting), Khira, summer squash, bitter gourd, tur, brinjal, Shimla mirch, pepper and tomato (nursery sowing), Apple (flowering to fruit setting), pomegranate (flowering) in Himachal Pradesh.
- Berseem (vegetative), oats (flowering), lentil (maturity/harvesting), field pea (pod formation), vegetable crops like tomato, chilli, brinjal, cucurbits (vegetative / flowering), onion (vegetative), cauliflower, cabbage, carrot (fruiting/harvesting), onion, tomato, brinjal and chilli (transplanting), summer pulses, cowpea, okra (vegetative) maize, jowar (sowing/), rice (nursery sowing), Summer moong (sowing) in Jammu & Kashmir.
- Potato (7000-800-ft a.s.l.) (sowing), moong, urd (flowering / pod formation), barley (tillering), garlic, seasonal vegetables (vegetative / flowering/ harvesting), onion (vegetative), pea (harvesting), chilli, tomato (sowing / transplanting) and lahi (flowering / fruiting), sugarcane (planting), rice (nursery sowing), mango (flowering / fruiting), foxtail millet, maize, okra, bottle gourd, bitter gourd, ginger, turmeric (sowing) in Uttarakhand.
- Spring sugarcane (sprouting), berseem (vegetative), African sarson (pod formation/maturity), radish (vegetative), ghobi sarson (vegetative), oilseeds (raya, taramira) (maturity/harvesting), papaya, onion (harvesting), vegetables, sugarcane (sowing/ germination), summer pulses, cotton, okra, radish (sowing), rice (nursery sowing) in Punjab.
- Sugarcane (spring season) (planting/emergence/early vegetative), berseem (vegetative), summer pulses, moong, mash, pigeon pea (sowing) in Haryana.
- Arhar (grain formation / maturity / harvesting), mustard, sarson (pod maturity / harvesting), field pea, lentil, linseed (maturity / harvesting), winter sugarcane (vegetative), summer sugarcane (planting), winter vegetables like carrot, garlic, onion tomato, brinjal (vegetative / flowering / fruiting), cabbage, cauliflower (fruiting / maturity / harvesting) and moong, urd, black gram, maize / fodder maize, vegetables (sowing) in Uttar Pradesh.
- Winter sugarcane (initial growth), lentil (maturity), ajwain, fenugreek and isabgol (vegetative), potato (tuberization / maturity), cabbage, cauliflower (late vegetative / head formation) and tomato (flowering/ fruiting), fodder jowar & bajra (sowing), cotton (sowing) in Rajasthan.

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

- Rice (harvesting/ nursery sowing/ transplanting), rice fallow cotton (flowering), rice fallow pulses (harvesting), maize (harvesting), sorghum (harvesting), groundnut (harvesting), cotton (vegetative/ boll formation/ boll maturity), vegetables (vegetative/ fruiting), sugarcane (vegetative/ grand growth phase) in Tamil Nadu.
- Sugarcane (ratooning/vegetative), groundnut (harvesting), cotton (boll development/ picking), safflower (maturity), rice (harvesting), mango (harvesting) in Karnataka.
- Rice (harvesting), red gram (maturity), sunflower (seed development), groundnut (pod development / maturity) in Andhra Pradesh.
- Rice (Transplanting/harvesting), arecanut (maturity), ginger (planting), coconut (seed nut collection), pepper (harvesting/new planting) in Kerala.

**WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**

- Sugarcane (Adsali) (active tillering), Sugarcane (pre seasonal) (vegetative), Sugarcane (suru) (early vegetative), summer rice (grain maturity / harvesting), groundnut (pod maturity / harvesting),

sunflower (head formation / seed maturity), maize (cob initiation / cob maturity / harvesting), bajra (grain formation / grain maturity in early sown crop) in Maharashtra.

- Summer bajra (grain filling), brinjal and tomato (fruiting / harvesting), green gram (pod maturity / harvesting), sugarcane (vegetative), summer groundnut (pod maturity), summer pulses (seed development / maturity) in Gujarat.

#### **CENTRAL INDIA[M.P., CHHATTISGARH]**

- Wheat (harvesting), pigeon pea (maturity/harvesting), sugarcane (planting / vegetative), cotton (boll formation), maize (maturity), onion (transplanting), gram / linseed (fruiting / harvesting), okra (sowing) in Madhya Pradesh.
- Pigeon pea (pod development/maturity), wheat (grain maturity/ harvesting), rice (seedling / tillering), sunflower (sowing), sugarcane (sowing), linseed (flowering), maize, green gram and sesame (sowing), ginger and turmeric (sowing), groundnut and sunflower (pod/grain filling stage) in Chhattisgarh.

## Annexure II List of Varieties

### Orissa

**Papaya:** Honey Dew, Kurg Honey Dew, Co-1, Co-2, Pusa Delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

**Cow pea:** Bush type – PusaPhalguni, PusaKomal; runner type – American Long and Banarasi Long; other improved varieties like Russian Giant, EC-4316, NP-3, C-152, UPC-286, UPC-5286 and IGFI-450.

**Jute:** JRO-524 (Naveen).

**Okra:** Improved high yielding varieties like UtkalGourav, ArkaAnamika, Uphar, ParvaniKranti and hybrid varieties like Varsa, Vijay, Vishal, Tara, Adhunik, Atyadhunik, and Supriy.

**Bitter gourd:** PusaDomousumi, Coimbatore long green, and ArkaHarit.

**Ridge gourd:** PusaNajdar, Jaypur long, and any local variety.

**Cluster bean:** PusaNaubahar.

**Ginger:** Suprava, Suruchi, Surabhi.

**Turmeric:** Roma, Surama, Rang, Rashmi etc.

**Fodder maize:** African Tall.

**Fodder Cowpea:** EC-4216.

### West Bengal

**Jute :** Chaitali, Basudev, Naveen, Sonali, SobujSona.

**Arum:** BCC-17, BCC-33, BCC-02, BCC-01, BCC-9.

### Assam

**Jute:** Tarun, JRC 321 (Sonali), UPC 94 (Reshma), JRC 321, JRC 7447, UPC 94, JRO 524, JRO 7835, JRO 632, JRC 212, JRC 7447 etc.

**Maize :** Kisan, Ganga

**Papaya:** Ranchi, Washington, Halflong, Coorg Honeydew etc.

### Tripura

**Ridge gourd:** Pusa Nasdar, Satputia.

**Cucumber:** Japanese long, Straight 8.

### Delhi

**Green gram** – Pusa Visal, Pusa Vaisakhi, Pusa 9531, Pant moong 1, Pant moong 5, PDM-11, SML-32

**Black gram** – Pant Urd 19, Pant Urd 30, Pant Urd 35, PDU1.

**Maize** – African Tall.

**Hybrid cluster bean:** Pusa Komal, Pusa Sukamol

**Baby corn:** HM-4.

**Sugarcane:** Karan-1, Karan-2, Co-64, and Co-1496.

**Pigeonpea :** Pusa-992, Pusa-9 and Pusa-2002

### Himachal Pradesh

**Cauliflower:** Sweta, Madhuri

**Cabbage:** Golden Acre, Varun

**Tomato:** 7711, Him sona, Him 1

**Capsicum:** California wonder

**Cucumber:** Kiyam

**Summer squash:** hybrid green

**Lettuce:** Iceberg

**Brinjal :** Arka Nidhi, PPC

**Ageti bhindi :** P-8, Prabhini kranti, Arka anamika



**Frenchbean** : Contender  
**Pepper** : Surjmukhi  
**Broccoli**: Palam Samridhi

### **Jammu & Kashmir**

**Rice** : var. IET-1410, K-39, Ratna, PC-19, Jaya RR-8585, Basmati 370 and Ranbir Basmati) in tropical area under irrigated condition.  
**Brinjal** : PPL, PPC & PPR  
**Chillies** : NP-46A, Pusa jawala  
**Mash**: Mash Pant, U-19, T-9  
**Moong**: PDM-54, PS-16, PS-17, ML-131  
**Baby corn** : HM-4  
**Pigeonpea** : Pusa-992, Pusa-9 and Pusa-20020.

### **Punjab**

**Summer moong**: SML-668.  
**Summer mash**: Sathi mash, i.e. Mash 1008 or Mash-414 or Mash-218.  
**Paddy** : PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115 etc  
**Okra** : Punjab 7 / Punjab 8  
**Radish** : Punjab Ageti, Pusa Chetk

### **Haryana**

**Baisakhi Mung**: K851 and Type 44 and Muskan  
**Pigeon pea**: UPAS 120, T-21.

### **Uttar Pradesh**

**Moong**: Yellow Mosaic resistant variety PDM-139A, Pant Moong-2A, Narendra Moong-1A, Malaviya Jagruti, H.U.M-2, Moong JAnpriya, Malaviya Jyoti, Malaviya Janchetana.  
 For intercropping : **Moong** : Pant Moong-1 / 2  
 Urd : Pant Urd-12 / 35

**Summer Sugarcane**: K.S. 97264, K.S.-8432, K.S.-767, K.S.-92423, K.S.-95268, K.S.-98268, K.S.-96275, K.S.-95270

### **Uttarakhand :**

**Rice** : VL-Dhan-206, Majdera-7 etc. ( un-irrigated )  
**Maize** : Ganga-2, Ganga-7, African Tall etc.  
**Lobia** : Russian Joint, EC-4216, UPC-5286 etc.  
**Okra** : VL Bhindi-1

### **Rajasthan**

**Cotton** : improved varieties : RG-8, RG-18, hybrid varieties : Raj D.H.-9  
 Bikaneri Nerma (190-200 days), Ganganagar Ageti (170-180 days), RST-9 (185-200 days) & RG-8 ( Desi ,170-180 days).

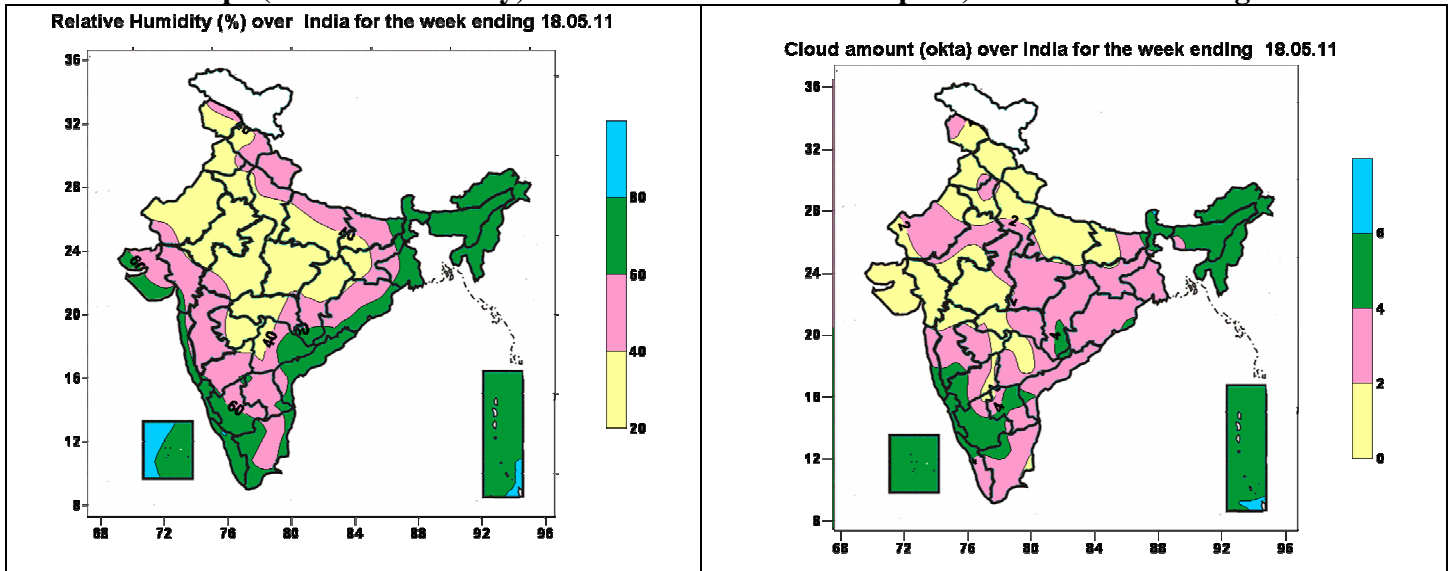
**Papaya** : improved varieties Honey dew, Coorg Honey dew, Pusa delicious, Pusa Nanaha and CO-2.

### **Madhya Pradesh**

**Sugarcane**: Jawahar-86-141, Jawaharlal-86572, Co- Jawaharlal-86600, Co-86032

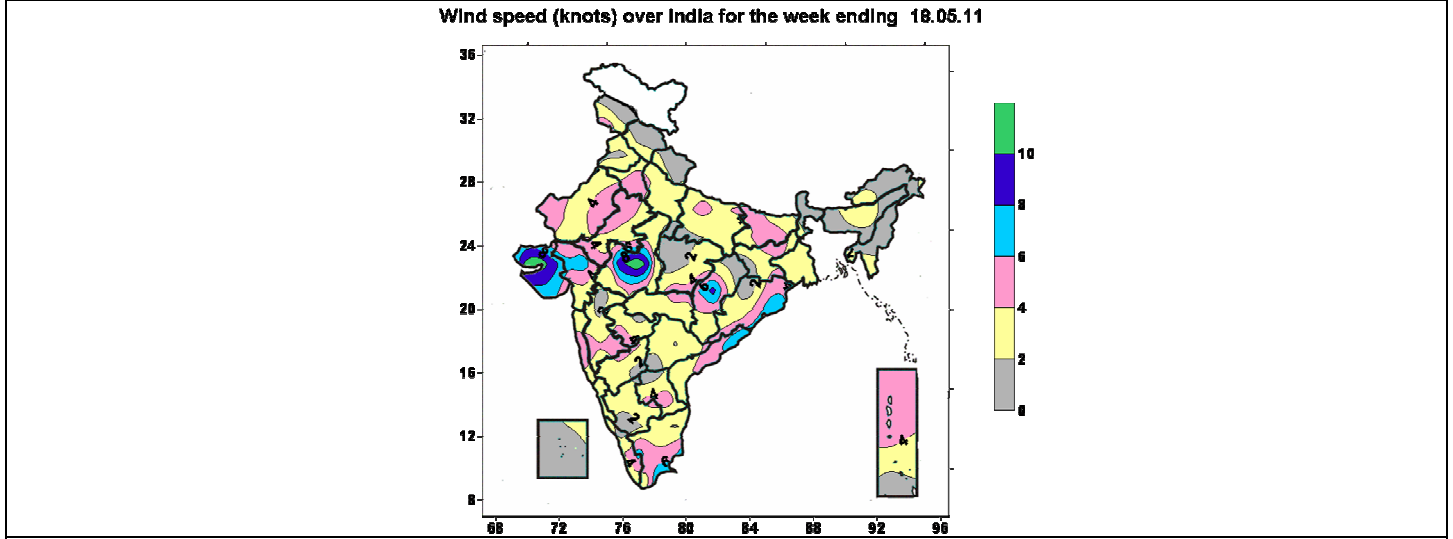
**Annexure III**

**Contour maps (Relative humidity, Cloud amount and Wind Speed) for the week ending 18.05.2011**



Relative humidity between 80% and above over some parts of Lakshadweep, Andaman & Nicobar Islands, 60 to 80% over most parts of West Bengal & Sikkim, North East India, Coastal Andhra Pradesh, Kerala, Coastal & South Interior Karnataka, Konkan & Goa, Lakshadweep, Andaman & Nicobar Islands, some parts of Bihar, Jharkhand, Coastal Orissa, Chattisgarh, Gujarat, Saurashtra & Kutch, Telengana, Raylaseema, Tamil Nadu, 20 to 40% over most parts of Jammu & Kashmir, Rajasthan, Punjab, Haryana, Delhi, South Uttar Pradesh, Madhya Pradesh, Marathwada, Vidarbha, Chattisgarh, some parts of Himachal Pradesh, Bihar, Jharkhand, Telengana, Orissa, Gujarat, 40 to 60% over remaining parts of the country.

Cloud amount 6 okta and above over some parts of Andaman & Nicobar Islands, 4 to 6 okta over most parts of Sub-Himalyan West Bengal & Sikkim, North East India, Coastal & South Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Bihar, Orissa, Chattisgarh, Coastal Andhra Pradesh, Raylaseema, Tamil Nadu, Kerala, Konkan & Goa, Madhya Maharashtra, North Interior Karnataka, 0 to 2 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, some parts of Rajasthan, Madhya Maharashtra, Marathwada, Vidarbha, North & South Interior Karnataka, Telengana, Tamil Nadu, 2 to 4 okta over remaining parts of the country.



Wind speed ranged between 10 knots and above over some parts of Saurashtra & Kutch, West Madhya Pradesh, 8 to 10 knots over some parts of some parts of Saurashtra & Kutch, West Madhya Pradesh, 6 to 8 knots over some parts of West Madhya Pradesh, Saurashtra & Kutch, Gujarat, Orissa, Chattisgarh, Coastal Andhra Pradesh, Tamil Nadu, Kerala, 4 to 6 knots over most parts of Haryana, Delhi, Bihar, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Rajasthan, Uttar Pradesh, Jharkhand, Orissa, Chattisgarh, Madhya Pradesh, Maharashtra, Andhra Pradesh, Tamil Nadu, Kerala, 0 to 2 knots over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Northeast India, Lakshadweep Island, some parts of Punjab, Uttar Pradesh, Bihar, Jharkhand, Orissa, East Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Marathwada, Telengana, Raylaseema, North & South Interior Karnataka, Kerala, Andaman & Nicobar Islands, 2 to 4 knots over remaining parts of the country.

