

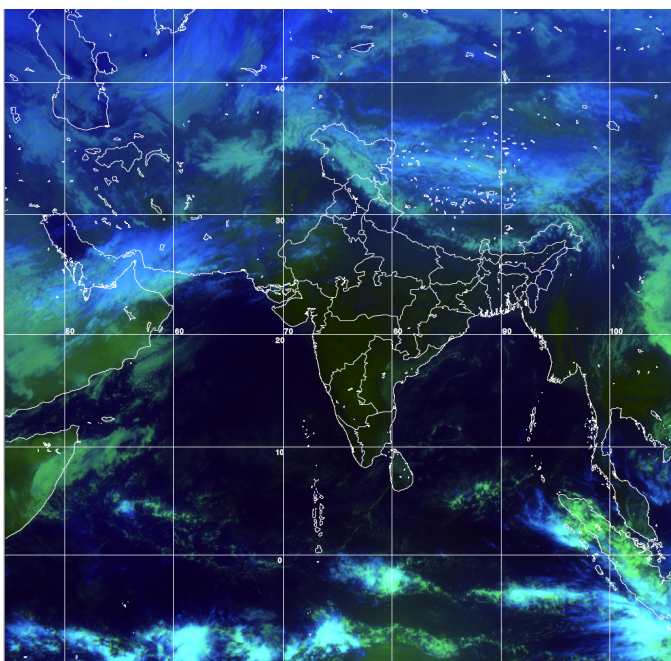


# National Agromet Advisory Bulletin

## Thursday, 20<sup>th</sup> January, 2011

(For the period 20<sup>th</sup> to 24<sup>th</sup> January, 2011)

Satellite image 0600 UTC Dated  
21<sup>st</sup> January, 2011



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## Executive Summary

Minimum temperatures were below normal by 3-5<sup>0</sup> C over parts of Punjab, Uttar Pradesh, East Madhya Pradesh, North Chattishgarh, Bihar, Jharkhand and interior Orissa during last couple of days. Minimum temperatures would rise by 1-2<sup>0</sup> C over plains of northwest India during next 48 hours and fall slightly thereafter. Farmers in the above regions are advised to apply light and frequent irrigation to the standing crops and arrange for smoking around the field to prevent the crops from cold / frost injury. In Telangana and Rayalaseema also, the nurseries of vegetables may be covered with polythene sheet to protect the seedlings from cold / frost injury.

Low temperature conditions, still prevailing over northwestern region mainly Punjab and Uttar Pradesh, are favourable for the wheat crop which is at tillering stage. However, frost damage of potato has been reported in Sub-humid Sub Tropic Zone of Uttarakhand. Frost occurrence in Malwa Plateau Zone in Madhya Pradesh is also reported. Farmers in these zones are advised to apply light and frequent irrigation to the standing crops and arrange for smoking around the field to protect the crops from cold / frost injury. Nurseries of the vegetable crops are particularly vulnerable and should be protected by covering with plastic sheets.

Rain / snowfall is likely to occur at a few places over Jammu and Kashmir during next two days and decrease thereafter. Weather will be mainly dry or isolated rain will occur over remaining parts of the country. Taking the advantage of dry weather, farmers are advised to adopt intercultural operation to the crops followed by irrigation.

Due to reduced moisture, condition is favourable for cracking in banana in Mizoram. The cracking may be minimized by proper mulching and nutrient management especially application of boron. As maize crops are also sensitive to moisture and nutrients, stress irrigation and nutrient management are advised for high yield and to attain full length of cob with good quality grains.

Tomato may be adversely affected due to frost in Meghalaya. Apply irrigation to the crops or arrange for smoking around the field to save the crops. Early harvesting may also be useful for saving the crop.

Crops are in good condition in southern States of the country. However, as there is no significant rain in these States, irrigation may be applied to the standing crops to ensure good harvest.

Due to congenial weather conditions there is outbreak of stem borer in wheat in Bhal and Coastal zone of Gujarat state and pests and diseases in the districts of Problem Area Zone in Kerala and report of bacterial leaf blight and bacterial leaf streak in rice in Tamil Nadu Cauvery Delta Zone and gall midge infestation in rice in North Western Zone in Tamil Nadu. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.

## Weather Forecast (Valid upto 0830 hours of 23<sup>rd</sup> January, 2011)



### Major Feature of Weather Forecast (upto 0830 hours IST of 23<sup>rd</sup> January, 2011)

- Scattered rain/snowfall would occur over Jammu & Kashmir during next 2 days.
- Isolated rain/snowfall would occur over Himachal Pradesh and Uttarakhand during next 2 days and mainly dry weather thereafter.
- Isolated rain/thundershowers would occur over Arunachal Pradesh and Andaman & Nicobar Islands during next 48 hours.
- Minimum temperatures would rise by 1 - 2°C over plains of northwest India during next 48 hours and fall slightly thereafter.
- Mainly dry weather would prevail over plains of northwest India and west, central, east and peninsular India.

### Weather Outlook (upto 0830 hours IST of 25<sup>th</sup> January, 2011)

- Scattered rainfall would occur over northeastern States.
- Mainly dry weather would prevail over plains of northwest India and over west, central, east and peninsular India.

## Zonewise Agromet Advisories

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

- **Realised Rainfall:** Weather remained mostly dry during the week in the States of the region.
- **Rainfall Forecast:** Dry or mainly dry weather is likely to prevail during the period over the States of the region.
- **Major Crops:**
  - Tobacco (harvesting), radish (sowing), gram (flowering / pod formation), mustard and sarson (flowering / pod formation), wheat (tillering), maize (vegetative), potato (vegetative / tuber initiation / tuber formation), vegetables like cauliflower, cabbage (vegetative / head formation), chillies, tomato, palak, carrot, radish etc. (vegetative / flowering / fruiting), knoll khol, turnip, beet, garlic, onion etc. (vegetative), barseem, lucerne, oat (sowing), coriander, fenugreek (sowing / germination) in Bihar.
  - Arhar and green pea (flowering / pod formation), wheat (tillering), potato (tuber formation / early maturity), *toria*, mustard (flowering / pod formation), onion (vegetative), tomato (vegetative / flowering / fruiting), cabbage and cauliflower (vegetative / head formation), chilli and brinjal (transplanting / early vegetative), summer rice (transplanting) in Jharkhand.
  - Cotton (maturity / picking), ragi (nursery raising and sowing), *rabi* rice (transplanting), maize (sowing / vegetative), groundnut (sowing), sunflower (sowing), *rabi* vegetables (vegetative / flowering / fruiting), *rabi* oilseeds like groundnut, mustard and sunflower (flowering / pod formation), arhar (flowering / pod formation), wheat (tillering), potato (vegetative / tuber initiation / tuber formation), *rabi* pulses like lentil, field pea and chickpea (flowering / pod formation), sugarcane (harvesting), garlic (sowing) in Orissa.
  - *Boro* rice (transplanting), wheat (tillering/ ear initiation), arhar (flowering / pod formation), mustard (flowering / pod development), potato (vegetative / tuber initiation / tuber formation), lentil, pea, Bengal gram (flowering / pod formation), *rabi* vegetables like cabbage and cauliflower (vegetative / head formation) in West Bengal.
  - Large cardamom (vegetative lag phase), orange (end harvesting), wheat (tillering / active tillering / flowering / milk formation), *rabi* potato (tuberization), ginger (harvesting), *rabi* vegetable (vegetative / flowering / fruiting / harvesting) mustard (flowering / capsule formation / seed formation / seed maturity) in Sikkim.
- **Advisories:**
  - As there was no significant rainfall during last week in the region and no significant rainfall is likely during next three days, farmers are advised to apply irrigation at tillering stage of wheat and light and frequent irrigation to potato.
  - As cold weather is likely to prevail in Bihar, Jharkhand and interior Orissa during next five days, crops like potato, mustard, lentil, chickpea, creeper / soft leaf vegetables, tomato along with domestic animals like calves may be adversely affected. Farmers are therefore, advised to apply irrigation to the crops and arrange for smoking around the fields to save the crops from cold injury.
  - As the temperatures are low, farmers in Orissa are advised to cover the nursery of summer rice with paddy straw. If the rice seedlings are already ready, transplanting may also be undertaken. The weather is also optimum for nursery raising and sowing of ragi and also land preparation and sowing of summer groundnut and sunflower.
  - Farmers in Orissa are also advised to go for off-season production of cole crops. Undertake nursery raising for late planting.
  - Weather is congenial for transplanting of onion seedlings in prepared field in North West Alluvial Plain Zone and South Bihar Alluvial Zone in Bihar. Protect seedling of *boro* rice from cold wind by spraying water and 2% urea solution and start transplanting the seedlings in main field. Also prepare land for spring season sugarcane and summer vegetable in North East Alluvial Zone of Bihar.
  - Farmers in West Bengal are advised to undertake field preparation for sowing of groundnut and sunflower. Due to cold injury rice seedlings may turn brown in nurseries. Application of water in the nurseries at night and draining the water at morning may be beneficial as a remedial measure to reduce cold injury.
  - Farmers are advised to postpone transplanting of *boro* rice for few days due to cold weather in New Alluvial Zone of West Bengal.
  - Due to increase in temperature, in the next week aphid infestation may be high in mustard crop in New Alluvial zone of West Bengal. Spray 1.5 ml Metasystox per litre of water to control the insect. Weather

is also congenial for the attack of rust and blight diseases in wheat crop; spray Mancozeb @ 2.5 to 3 g per litre of water and collect the infected seeds and burn them. There is also possibility of increase of infestation of leaf blight in chilli; spray 2.5 to 3 ml Blytox per litre of water at an interval of 20 days.

- Cold weather was observed for the last few days and expected to prevail next few days, apply light irrigation during evening hours to minimize adverse effect of cold which may cause incidence of early and late blight disease in potato in Coastal Saline Zone and Terai Zone of West Bengal; spray 1.5 ml Metasystox with copper oxichloride @ 4 g / litre or Cymoxnil 8% + Mancozeb 64% @ 2.5 g per litre of water at 7-10 days intervals.
- Aphid infestation is likely to increase during next few days in Bihar; spray Methyl Demitone or Roger (Dimethoate) @ 1 ml per litre of water mixed with teepol @ 5 ml per liter of water.
- Cloudy weather and moderate temperature favour the infestation of thrips and aphids in groundnut, potato and pulses in Kendrapara district of Orissa; spray 400 ml Dimethoate or 50 ml Imidachloprid in 200 litres of water. The current temperature may also help to aggravate the infestation of downy mildew in mustard. Spray 2 g Redomil MZ / litre of water.
- Due to favourable weather, insect attack and powdery mildew disease may appear in field pea in South Eastern Plateau Zone in Jharkhand; spray Karathen @ 1 ml or sulfex @ 3 ml per liter of water.
- Incidence of aphids is observed in mustard in Orissa; spray 400 ml Dimethoate per acre and 200 ml Ethofenprox or Deltamethrin in 200 litre water per acre for controlling aphids.
- Due to low atmospheric temperature, calf and kids are susceptible to respiratory infection mostly pneumonia. poultry birds are prone to respiratory infection and CRD (Chronic Respiratory Diseases) provide warm and comfortable housing to animals in North Eastern Coastal Plain Zone of Orissa.

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

- **Realised Rainfall:** No significant rainfall occurred during last week in most of the districts of the States of the region.
- **Rainfall Forecast:** Mainly dry weather will prevail or isolated rain will occur over the States of the region during the period.
- **Major Crops:**
  - *Rabi* vegetables (vegetative / flowering / fruiting), cole crops like cauliflower and cabbage (vegetative / head formation), sugarcane (cane development), potato (vegetative / tuber initiation / tuber formation), rapeseed & mustard (flowering / pod formation), *boro* rice (seedling / transplanting), wheat (tillering) in Assam.
  - *Rabi* vegetables like cauliflower, cabbage (vegetative / head formation), tomato (flowering / fruiting), pea (flowering and pod formation), maize and potato (vegetative), mustard (flowering / siliqua formation) and orange (maturity) in Arunachal Pradesh.
  - *Toria*, lentil (flowering / pod formation) and *rabi* vegetables (vegetative / flowering / fruiting) in Tripura.
  - *Boro* rice (seedling / transplanting), *rabi* vegetables (vegetative / flowering / fruiting / harvesting), rapeseed and mustard (flowering / pod filling stage), *rabi* maize (vegetative stage), *rabi* maize at high hills (harvesting), wheat (tillering), winter potato (vegetative / tuber initiation / tuber formation), winter potato at high altitude (harvesting) in Meghalaya.
  - Mustard / rapeseed (vegetative / flowering / pod formation), field pea (vegetative / flowering), onion (vegetative), cauliflower and cabbage (vegetative / head formation) and potato (vegetative / tuber initiation) in Manipur.
  - Khasi Mandarin (vegetative), banana (vegetative), onion (vegetative), pea (vegetative / flowering / pod formation), beans (flowering / pod formation / harvesting), carrot and radish (vegetative / harvesting), tomato, chilli and capsicum (late transplanting / vegetative / flowering / fruit setting), cole crops (vegetative / head formation), ginger, turmeric (harvesting) and maize (cob formation / maturity) in Mizoram.
  - Rajmash (vegetative / flowering), beans (flowering / pod formation), orange (harvesting), potato (vegetative / tuber initiation / tuber formation), pea (vegetative / flowering / pod formation), *toria* (flowering / pod formation), mustard (flowering / pod formation) and papaya (fruiting) in Nagaland.
- **Advisory:**
  - As there was no significant rainfall in the region during last couple of weeks and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing crops. Undertake intercultural

operations, application of fertilizers and pesticides taking the advantage of dry weather conditions prevailing during these days.

- As weather conditions are conducive, farmers are advised to undertake transplanting of late varieties of cole crops like cauliflower, cabbage etc. in Assam and Arunachal Pradesh.
- Apply irrigation to rapeseed and mustard, *rabi* pulses, *rabi* vegetables and at tillering stage of wheat in Assam. Weeding and top dressing of urea in wheat should precede irrigation. Farmers are also advised to apply light and frequent irrigation to potato.
- Farmers in Assam, Tripura and Manipur are advised to undertake transplanting of *boro* rice wherever seedlings are ready.
- Farmers in Arunachal Pradesh are advised to undertake intercultural operations in mustard, tomato, cauliflower, cabbage, carrot, pea etc.
- Tomato may be adversely affected due to frost in Meghalaya. Apply irrigation to the crops or arrange for smoking around the field to save the crops. Early harvesting may also be useful for saving the crop.
- Taking the advantage of prevailing dry condition, the foliar spray of nitrogenous fertilizers in maize may be completed in all the districts of Meghalaya. Weeding, top dressing and earthing up may also be done in *rabi* maize in Ri-bhoi, East khasi and South Garo District.
- Due to reduced moisture, condition is favourable for cracking in banana in Mizoram. The cracking may be minimized by proper mulching and nutrient management especially application of boron. As maize crops are also critical to moisture and nutrients, ensure the irrigation and nutrient management for high yield and to attain full length of cob with good quality grains.
- As per forecasted high wind speed, farmers in Mizoram are advised to support banana plant against high wind with two bamboos in the way of 'X' shape.
- In tomato in Mizoram due to reduction of soil moisture, availability of calcium may be affected which leads to flower drops and rotting of fruits. Farmers are advised to ensure weekly irrigation for optimum fruit setting.
- As there is possibility of infestation of late blight in potato in Hill Zone of Assam, the crop should be sprayed alternately with Dithane M-45 @ 2.5 g / litre and Dithane Z-78 @ 2 g / litre of water at 15 days interval.
- Attack of saw fly, cut worm and aphids in *toria* is observed in different places of Nagaon and Marigaon districts in Assam. Farmers are advised to apply Dimethoate 30 EC or Chloropyriphos 20 EC @ 1 ml per litre of water in *rabi* pulses and oil seeds field during afternoon hours to control saw fly and aphids.
- The difference between day and night temperatures is more than 10 to 15<sup>0</sup>C with foggy and cloudy weather in Tripura. Such condition is very much favourable for spreading of late blight disease in potato. As temperature is likely to increase at the end of the present week, early blight disease may also occur in potato. To manage the attack of blight disease, Indofil M-45 or Ridomil or Mancozeb @ 2 g per litre of water may be applied.
- There is chance of attack of thrips in *boro* rice at nursery stage in Meghalaya; spray Chloropyriphos @ 1-2 ml / litre of water. Leaf folder may also appear in pea in Ri-bhoi or East khasi hill districts of Meghalaya. If it appears, Malathion 50 EC may be sprayed @ 2 ml / litre of water.
- Realized and forecast weather conditions that create long periods of dew at night with low night temperatures are the most favourable for the incidence of early blight in tomato and chilli crops in Mizoram. Farmers are advised to spray Mancozeb @ 1 g per litre of water at 10-15 days intervals when disease appears.
- Present weather conditions are favourable for incidence of leaf miner in Khasi Mandarin in both nursery and main fields in Mizoram. Spray crop with imidacloprid @ 0.05%.
- Fluctuation of temperature from low to high with foggy weather at morning and evening and low night temperatures are the most favourable for the incidence of late blight in tomato and chilli crops in Mizoram. Farmers are advised to spray Mancozeb @ 1 g per litre of water at 10-15 days intervals when disease appears.
- Past weather and forecasted weather as well as stage of crop are favourable for the chances of incidence of fruit borer in tomato in Mizoram. Properly control the pests like diamond back moth, aphids and thrips using 5 % neem extract or spraying Endosulphan (35%) @ 12 ml or Dimethoate (30%) @ 10 ml in 10 litres of water.

- As weather is favourable, there is chance of powdery mildew in pea in Mizoram; Spray Karathane @ 250-300 ml / ha or Suflex @ 1-1.5 kg / ha in 800 litres of water to control the disease.
- **Animal Husbandry:**
- In present weather conditions provide proper lighting to keep chicks warm and also provide lukewarm water fortified with Vitamin B complex in Arunachal Pradesh. Warm clean drinking water should also be ensured to the cattle round the clock and water troughs/feeders should be regularly cleaned. Avoid dampness in the shed and put animals in the sunshine during the morning hours.
- Present cold weather condition is favourable for the chances of pneumonia in newly born calves in Mizoram. Therefore, special care should be taken to avoid cold weather. Also keep the animals in dry place and change the bedding material when it gets wet.

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

- **Realised Rainfall:** Rain occurred in most of the districts of Himachal Pradesh and Jammu and Kashmir during last week. Weather remained dry in remaining States of the region.
- **Rainfall Forecast:** Rain is likely at a few places in Jammu and Kashmir during next 2 days and decrease thereafter. Either dry / mainly dry weather will prevail or isolated rain will occur in remaining States of the region.
- **Major Crops:**
  - Wheat (tillering), mustard, pea and gram (flowering / pod formation), broccoli, cauliflower, cabbage and onion (planting / early vegetative) and lentil (vegetative / pod formation) in Delhi.
  - Wheat (tillering), potato (vegetative / tuber initiation / tuber formation), vegetables (vegetative / flowering / fruiting), garlic (planting) in Himachal Pradesh.
  - Gram (late vegetative / flowering), berseem / oats (vegetative), wheat, barley (tillering), *toria* (pod formation / maturity / harvesting), mustard (late vegetative / flowering), vegetable crops like tomato, chilli, brinjal, cucurbits (vegetative / flowering), onion (vegetative) in Jammu & Kashmir.
  - Sugarcane (maturity / harvesting), wheat (tillering), potato (tuber initiation), *toria* (maturity / harvesting), mustard (flowering / pod formation), barley (tillering), lentil, gram, garlic, seasonal vegetables (vegetative / flowering), onion (vegetative), pea (flowering / pod formation in hill zone), chilli (nursery sowing), lahi (flowering / fruiting) in Uttarakhand.
  - Sugarcane (tillering / grand growth / maturity), barseem (vegetative), wheat (tillering), barley (heading), lentil, gram, raya, African sarson (vegetative / late vegetative / branching), radish (vegetative), ghobi sarson (vegetative), oilseeds (flowering), *toria* (harvesting), papaya, onion (transplanting) in Punjab.
  - Sugarcane (harvesting), wheat (tillering), berseem (vegetative), gram, rapeseed, mustard (flowering / pod formation / seed formation) in Haryana.
  - Wheat (tillering), barley, oats (vegetative / tillering), bajra (flowering / milk), *toria* (flowering / pod formation), mustard, sarson (flowering / pod formation), potato (vegetative / tuber formation), field pea, chick pea, lentil, linseed (late vegetative / flowering), winter sugarcane (vegetative), sugarcane (maturity / harvesting), winter vegetables like carrot, garlic, onion (vegetative), cabbage, cauliflower, pea etc. (vegetative / flowering / fruiting) in Uttar Pradesh.
  - Sugarcane (grand growth / maturity), wheat (tillering), oats, barley (tillering), taramira, mustard (flowering / pod formation), gram (pre-flowering / flowering), lentil (vegetative / flowering), ajwain, fenugreek and isabgol (early vegetative / vegetative), potato (tuberization), cabbage, cauliflower (late vegetative / head formation), tomato, berry (flowering/ fruiting) in Rajasthan.
- **Advisory:**
  - Low temperature and foggy conditions are still prevailing over northwestern region mainly in Punjab and Uttar Pradesh. This weather condition is favourable for the wheat crop which is at vegetative stage. However, frost injury to mustard has been observed in some parts of Punjab. The farmers have, therefore, been advised to apply light irrigation to oilseeds, sugarcane and potato crops to save the crops from adverse effects of frost or cold temperature. Many vegetable crops, mainly capsicum, chillies, brinjal and tomato may also be susceptible to frost / cold. Nurseries of these crops are particularly vulnerable and should be protected by covering with plastic sheets.
  - Farmers are advised to arrange for smoking around the field to prevent the crops from cold injury.
  - Farmers in Himachal Pradesh are advised to undertake sowing of potato in mid hills and lower regions, nursery sowing of onion in lower regions.

- In Central Plain Zone of Uttar Pradesh, due to cold weather flower drops are reported in mustard, field pea and pigeon pea wherever these crops are at flowering stage. A considerable area of vegetable crops like tomato, pea, chilli, brinjal etc. are severely affected by cold / frost injury where preventive control measures like frequent and timely irrigation have not been adopted. Farmers in Bundelkhand zone of Uttar Pradesh are advised to start sowing of vegetables like ladies finger, cucurbits, cucumber etc. which are sown as *Zayad* crop.
- Farmers are advised to sow nursery of onion and transplanting of cauliflower (variety Snow Ball) in Sub Tropical Zone (Jammu, Kathua and Reasi district), nursery sowing of tomato, brinjal in Intermediate Zone (Pahelgam (Rajouri)) and undertake harvesting of leafy vegetables in Cold Arid Zone (Leh). Farmers in Srinagar Division are advised to provide adequate drainage to avoid stagnation of water in field, as there was rainfall during last week and rainfall is also expected during next 2 days.
- Farmers in Delhi are advised to transplant mature seedlings of extra late cauliflower (Snow Ball) in the raised bed, prepare seedlings of early cucurbitaceous crops and prepare nursery for chili, tomato and brinjal crop in poly house.
- Farmers are advised to start planting of spring potato, fruits and other horticultural and floricultural crops like peach, plum and pear during this period in Punjab. It is also advised to start harvesting of sugarcane and complete transplanting of onion seedlings by the middle of this month.
- Taking the advantage of dry weather farmers in Bhabar and Terai Zone in Uttarakhand are advised to complete harvesting operations of matured *toria*, mustard, potato and sugarcane during this week. Land preparation for sowing of sunflower, tomato, capsicum etc. may also be undertaken. Farmers in Hill Zone are also advised to prepare land for sowing of potato, tomato and cauliflower. Light and frequent irrigation is advised for protection of potato from cold in Sub-humid Sub Tropic Zone as 20 to 60% frost damage is reported.
- There is possibility of white rust and *Alternaria* blight in mustard and blight incidence in potato in Eastern Zone of Haryana, Jammu & Kashmir, Rajasthan and U.P. White rust and aphid in mustard in Delhi due to high humidity and foggy weather; farmers are advised to spray the recommended fungicide.
- The climatic conditions are favourable for the incidence of yellow rust in wheat in Gurdaspur & Hoshiarpur districts of Punjab State. Farmers are advised to monitor the symptoms of the disease (yellowish pustules in lines on upper side of the leaves). Spray Tilt 25 EC (Propiconazole) @ 200 ml in 200 liters of water / acre.
- In Bharatpur district of Rajasthan, due to increase in day temperature aphid may become hyper active in mustard crop. If aphid population appears on more than 10% flower heads, spray Dimethioate 30 EC @ 1 litre / ha. Repeat spray if needed. Due to continuous cool and humid weather, *Alternaria* blight disease may attack mustard crop in some pockets. Destroy the infested plants. Spray Iprodione or Mencozeb @ 2 kg / 800 litre of water. Repeat the spray in 15 days interval. Due to rise in minimum temperature there is a possibility of pod borer in gram in Udaipur district of Rajasthan. Apply Methyl parathion 2% @ 25 kg per ha.
- Weather is congenial for saw fly or flea beetle in mustard crop under such situations in Jammu division. Farmers are advised to spray the crop with Malathion 50EC @ 0.05%.

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

- **Realised Rainfall:** Mainly dry weather prevailed during last week in the States of the region.
- **Rainfall Forecast:** Dry or mainly dry weather is likely to prevail during the period over the States of the region.
- **Major Crops:**
  - Coconut, pepper and arecanut (maturity / harvesting), vegetables (sowing / vegetative / flowering / fruiting), *punja* rice (transplanting), *mundakan* rice (maturity / harvesting) in Kerala.
  - Rice (flowering / grain formation / maturity), maize (flowering to maturity), pulses (pod initiation / pod development), groundnut (vegetative), cotton (boll formation), sugarcane (vegetative) in Tamil Nadu.
  - Bengal gram (pod development to maturity), rice (transplanting / tillering), redgram (pod formation), mustard (flowering / Siliuqua development), sunflower (flowering / seed development stage) in Andhra Pradesh.



- Sugarcane (planting), cotton (square formation), Bengal gram (pod filling), *rabi* jowar (milking), safflower (flowering), rice (harvesting), sunflower (harvesting), vegetables (flowering / fruiting), summer maize (sowing) in Karnataka.
- **Advisories:**
  - As there was no significant rainfall in most of the districts in Kerala, Tamilnadu, Karnataka and Andhra Pradesh, farmers are advised to apply irrigation to the standing crops.
  - Taking the advantage of dry weather, the farmers of Karnataka are advised to undertake harvesting, threshing and processing of late sown crops.
  - In Southern Transition Zone of Karnataka, farmers are advised for sowing of summer maize and advised to apply zinc sulphate @ 10 kg / ha before sowing.
  - In North Dry Zone of Karnataka, sowing of groundnut under irrigated condition may be completed as early as possible.
  - In Hill Zone of Karnataka, farmers are advised to undertake land preparation for sowing of jowar and Sunflower.
  - In central dry zone of Karnataka, in rice fields where there is no residual moisture, farmers can undertake deep ploughing so that the soil pathogens will die and in turn it will help to reduce pest incidence for the next rice crop.
  - As the minimum temperature is low in central dry zone of Karnataka, areca nut may be adversely affected. To avoid the adverse effect, it is advised to apply irrigation. Before irrigation, 100 g urea and 100 g DAP may be applied to each plant.
  - In *Samba* rice field of Cauvery Delta Zone of Tamil Nadu, it is the right time to sow rice fallow pulses. Black gram varieties like ADT-3 and ADT-4 and green gram variety like ADT-3 are suitable under rice fallow condition.
  - In Scarce Rainfall Zone of Rayalaseema of Andhra Pradesh, present weather conditions are favourable for the incidence of hoppers and powdery mildew and sucking pests in fruits; farmers are advised to undertake appropriate plant protection measures to protect their crops.
  - Due to occurrence of fog during flowering stage of rice in Krishna Godavari Zone of Andhra Pradesh, there is possibility of smut disease on rice; spray 1 ml Propiconazol or 1 g of Carbendazim or 2.5 g of Copper oxychloride in 1 liter of water.
  - Bacterial leaf blight and bacterial leaf streak are being noticed in rice in Tamil Nadu Cauvery Delta Zone due to prevailing cool weather condition. To control this, streptomycin sulphate + tetracycline compound at 120 g and copper oxychloride (500 g / ac) or copper hydroxide (500 g / ac) in 200 litres of water can be applied.
  - In rice plant, gall midge infestation is seen in North Western Zone in Tamil Nadu. spray Dichlorvas @ 2 ml per litre of water to manage the infestation.
  - Out break of pests and disease are noticed in districts of Problem Area Zone in Kerala in crops like rice and vegetables and under present weather conditions infestation may increase further. Farmers are advised to adopt appropriate plant protection measures to avoid severe crop damage.
  - Due to higher humidity, low night temperature in Coastal Zone of Karnataka, weather condition is congenial for infestation of mosquito bug on flowering stage; farmers are advised to spray Lambda cahyalothrin @ 0.6 ml / litre of water. Spray at evening hours helps in managing the pest successfully.
  - To avoid frost injury in tea in High Altitude Hilly Zone in Tamil Nadu, sprinkler irrigation for a short period of time in the early morning is recommended.

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

- **Realised rainfall:** Weather remained dry in the States of the region during last week.
- **Rainfall forecast:** Dry weather is likely to prevail over the States of the region during the period.
- **Major Crops:**
  - Summer rice (seedling / transplanting in Konkan & East Vidarbha), jowar (flowering / grain formation), *rabi* gram (flowering / pod development), safflower (floral bud initiation / flowering), maize (silking and tasseling / cob initiation), sunflower (flowering / head formation), irrigated wheat (tillering / ear head emergence), sugarcane (*Adsali*) (active tillering), sugarcane-pre seasonal (early growth), summer groundnut (sowing / germination in South Konkan) in Maharashtra.

- Mustard (flowering), pigeon pea (flowering / pod development), gram (branching / flowering / pod development), potato (vegetative / tuber development), brinjal and tomato (vegetative / flowering / fruiting), *rabi* fennel (flowering), cumin (vegetative / grain formation), early sown wheat and timely sown wheat (tillering), late sown wheat (crown root initiation), isabgol (tillering / grain formation), sugarcane (sprouting / early vegetative) in Gujarat.
- **Advisory:**
  - As dry weather prevailed over the region during last week and dry weather is also likely to prevail, farmers in the region are advised to apply protective irrigation to standing crops.
  - As cold condition prevailed over parts of North Madhya Maharashtra & Vidarbha, farmers are advised to apply light and frequent irrigation to orchard crops and also arrange smoke around the fields to protect the fruit crop cold injury.
  - Taking advantage of favourable weather farmers in Konkan region in Maharashtra are advised to complete the transplanting of rice and nagli crop as early as possible.
  - Farmers in Madhya Maharashtra are advised to complete preparatory tillage and undertake sowing of summer groundnut and sunflower.
  - Farmers in Madhya Maharashtra and Marathwada are advised to undertake preparatory tillage and planting of *suru* sugarcane.
  - The suitable varieties of different crops are mentioned in Annexure I.
  - As dry weather conditions prevailed during previous weeks and there is a possibility of increase in the temperature and clear sky conditions likely to prevail, farmers in the Gujarat state are advised to irrigate wheat, cumin, gram, mustard, pigeon pea etc. Also undertake intercultural and weeding operations before applying irrigation.
  - Taking the advantage of favourable weather, farmers in the Gujarat state are advised to undertake the picking of vegetable crops.
  - Prevailing weather conditions are favourable for attack of sugary disease in *rabi* jowar in Madhya Maharashtra. Farmers are advised to spray Imdachloprid @ 4 ml or Methyl Dimeton @ 10 ml or Endosulfan @ 15 ml in 10 liters of water.
  - Cloudy weather conditions are favourable for incidence of thrips & blight in onion in Madhya Maharashtra. Farmers are advised to spray Chlorothalonil 25g or Mancozeb 25 g or Carbendazim 10g + Carbosulfan 10 ml or Deltamethrin 5 ml or Fipronil 15 ml + sticker 10 ml in 10 liters of water.
  - Due to congenial weather conditions there may be incidence of thrips in Mango in Konkan region of Maharashtra. Farmers are advised to spray Spinosid 45 SL @ 25 ml or Dimethoate 30 EC @ 10 ml / 10 litres of water to control the pest.
  - Due to favourable weather conditions there is incidence of aphids on gram, wheat, safflower and sorghum crop in Pune division. For control spray 5% nimark or Dimethoate 10 ml or Endosulfan 14 ml or Quinalphos 20 ml per 10 liters of water.
  - Due to congenial weather conditions there is outbreak of stem borer in wheat crop in Bhal and Coastal zone of Gujarat state. Farmers are advised to spray Endosulphan 20 ml or Quinalphos 20 ml or Fenitrothion 15 ml per 10 liters of water to control the stem borer in wheat crop.
  - Weather conditions are favourable for incidence of early and late blight in potato in north Gujarat region. Also there is possibility of blight disease in cumin and isabgol crop in Banaskantha, Mehsana and Patan districts of the region. Farmers in the region are advised to take crop protection measures to control the above disease.
  - Due to favourable weather conditions there is possibility of increased infestation of sucking pests in vegetable crops. Farmers in Gujarat state are advised to spray Dimethoate 30 EC 0.1% to control the sucking pests in the vegetables.

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

**Realised Rainfall:** Weather remained dry during last week in the States of this region.

- **Rainfall Forecast:** Dry weather is likely to prevail over the region.
- **Major Crops:**
  - Wheat (tillering), mustard (flowering), chickpea (flowering / pod formation), pigeon pea (pod formation), sugarcane (planting), cotton (boll formation) in Madhya Pradesh.
  - Pigeon pea (pod development) and wheat (tillering) in Chattisgarh.
- **Advisory:**

- Frost condition in Malwa Plateau Zone in Madhya Pradesh is reported. Farmers in the zones are advised to apply light and frequent irrigation to the standing crops and arrange for smoking around the field to protect the crops from cold / frost injury.
- Low temperature also prevailed in east Madhya Pradesh and north Chattisgarh during last few days; farmers of these regions are also advised to apply light and frequent irrigation to the standing crops and arrange for smoking around the field to protect the crops from cold / frost injury.
- Taking the advantage of dry weather, farmers are advised to undertake intercultural operations in the early sown crops to keep the fields weed free.
- Farmers in Bastar Plateau Zone in Chattisgarh are advised to prepare nursery for late sown *rabi* vegetables.
- Farmers in Kymore Plateau Zone of Madhya Pradesh are advised to undertake preparation of nursery for late sown cauliflower, cabbage, carrot, radish and onion. Also farmers in Nimar Valley Zone are advised to prepare nursery for onion, sow garlic and transplant cauliflower and cabbage.
- Farmers in Jhabua, Nimar and Central Narmada Valley and Gird Zone in Madhya Pradesh are advised to continue sowing of cucurbitaceous vegetables, watermelon and muskmelon.
- Weather is congenial for sucking pest in vegetables and Heliothis in gram in Jhabua Hill and Gird Zone in Madhya Pradesh; spray Thiomithaxam 0.3 g / litre of water for sucking pest in vegetables and papaya and use pheromone traps (8 traps / acre) and birds appercher for heliothis.
- Weather is congenial for termite in wheat and caterpillar in gram in Central Narmada Valley Zone in Madhya Pradesh; spray Chloropyriphos 20 EC in 1 litre of water for termite and Endosulphan 35 EC or Quinolphos 25 EC @ 2 ml per litre of water for caterpillar.
- Due to partly cloudy sky and increase in minimum temperature in Budelkhand Zone in Madhya Pradesh, farmers are advised to monitor the chickpea crop against attack of pod borer and if noticed, spray Endosulfan or Quinolphos @ 2 ml per litre of water.
- Weather is congenial for early blight in potato, leaf curl and *Alternaria* blight in tomato in Budelkhand Zone in Madhya Pradesh; farmers are advised to spray Mencozeb @ 2.5 ml per liter of water to control early blight and Imidacloprid @ 0.5 ml per liter of water for leaf curl and Mencozeb @ 2.5 ml per liter of water for *Alternaria* blight.
- Weather is congenial for *Alterneria* blight in wheat in Northen Hill Zone in Chattisgarh; spray Mencozeb 75 EC @ 1.5 to 2.0 Kg / ha.

#### **Animal Husbandry & Poultry**

- Save calves from cold (night temperature); use heater, curtains to save them.
- Farmers are advised to protect the animals from low temperature and provide concentrate feed enrich diet having protein, carbohydrate, fat, vitamins etc.
- The minimum temperature will be around 10°C in Budelkhand Zone of Madhya Pradesh; farmers are advised not to leave the goat in open sky conditions and also do the vaccination against P.P.R to goats.
- As humid weather condition is prevailing, keep cattles in dry and clean place. Create neem leaves smoke in night to save them from mosquitoes and bees.

**Annexure I**  
**List of Varieties**

**Orissa**

**Groundnut:** Smruti (OG 52-1), Phule Pragati, ICGS-44, TAG-24, TG-3, TMV-2 and TG 38.

**Sunflower:** Modern and Hybrid Varieties PAC 36, KBSH, MSFH-8 and MSFH 17.

**Cauliflower:** Pusa snowbell and Pusa hybrid-2.

**Cabbage for late planting:** Drum Head, Sri Ganesh Goal.

**West Bengal**

**Sunflower :** Morden, Surya (90-95 days duration), Pack (hybrid variety, 104 days duration), KBSH (90-95 days duration).

**Maharashtra**

**Summer Groundnut:** TPG-41, TG-26, TAG-24, SB-11 and ICGS-11.

**Suru Sugarcane:** CO-86032, COM-0265 (Phule 265) and CO-94012.

**Summer sunflower:** KBSH-1, KBSH-44 or Bhanu and MSFH-17

**Ladies finger:** Phule utkarsha, Parbhani kranti, Arka Anamika and Arka Abhay.

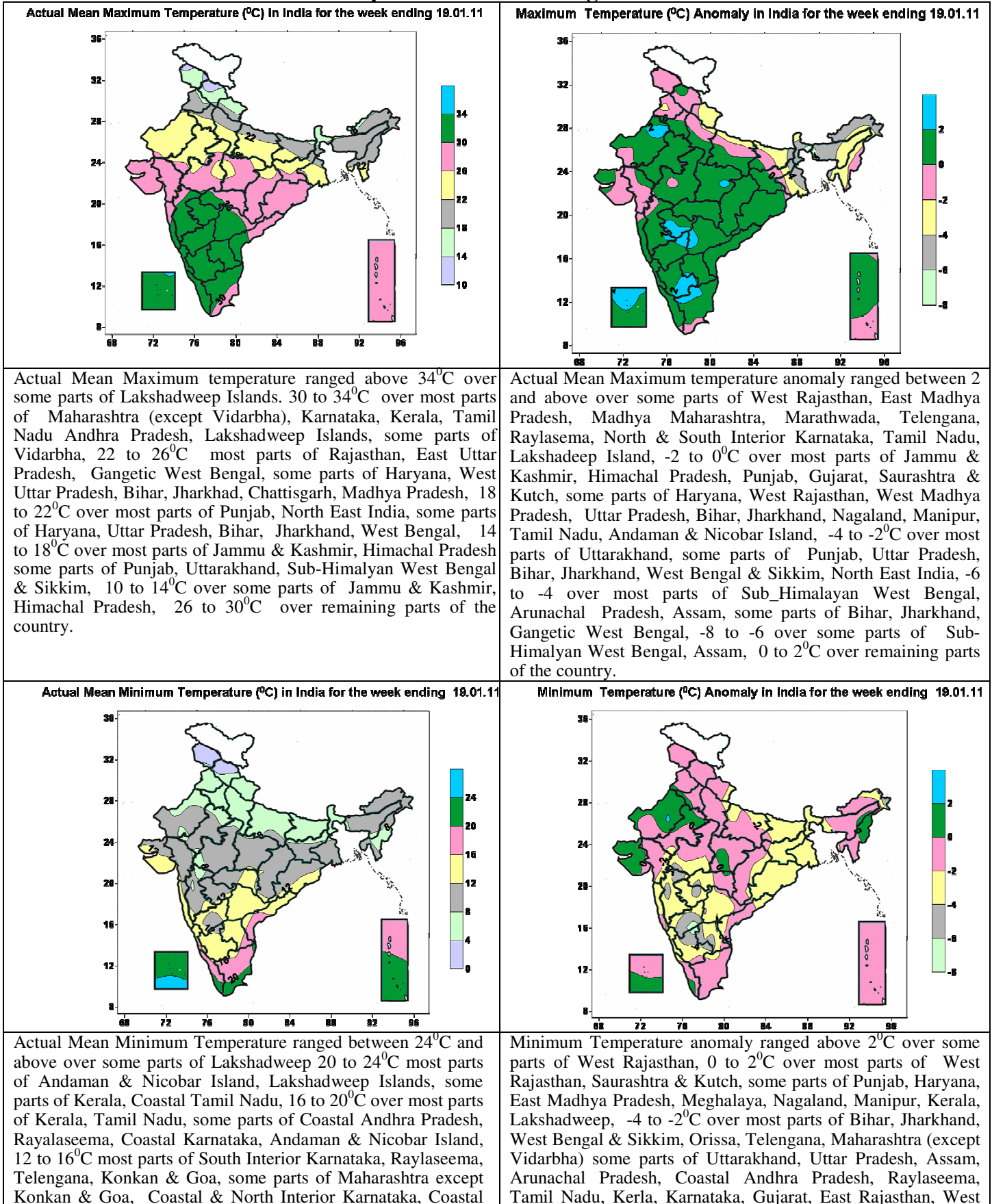
**Watermelon :** Sugar-baby, Arka Manik and Arka -Jyoti

**Musk melon.:** Pusa Sarbati, Hara Bhanu, Punjab Sunhari, Durgapura Madhu.

**Gujarat**

**Chilli:** GVC-101, GVC-111, GVC- 121, AVNPC-131.

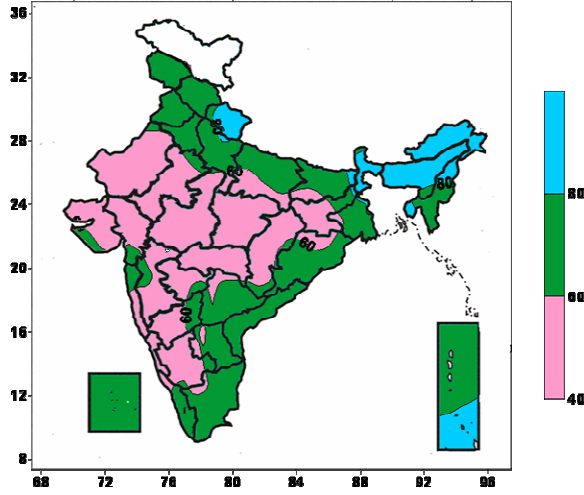
## Annexure II Contour maps for the week ending 19.01.2011



Andhra Pradesh, Orissa, Saurashtra & Kutch, 4 to 8°C over most parts of Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, some parts of Rajasthan, Madhya Pradesh, Jharkhand, Madhya Maharashtra, Manipur, Mizoram, 0 to 4 °C over most parts of Jammu & Kashmir, Himachal Pradesh, 8 to 12°C over remaining parts of the Country.

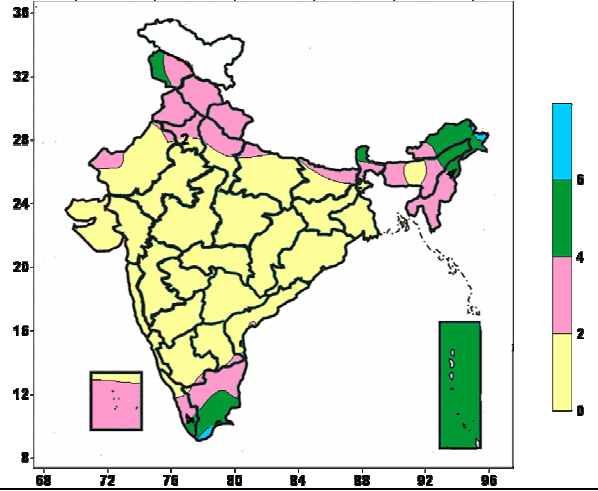
Madhya Pradesh, Chattisgarh, -6 to -4°C over most parts of North Interior Karnataka, some parts of West Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, South Interior Karnataka, Rayalaseema, -8 to -6°C over some parts of North & South Interior Karnataka, -2 to 0°C over remaining parts of the Country.

**Relative Humidity (%) over India for the week ending 19.01.11**



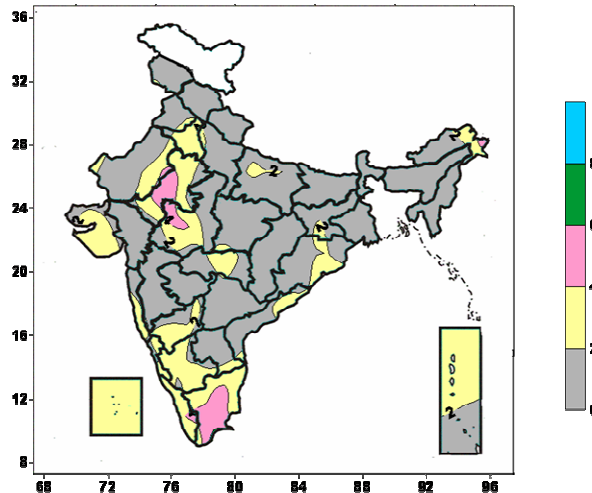
Relative humidity between 80% and above over most parts of, Uttarakhand, Sub-Himalayan West Bengal, Sikkim, Arunachal Pradesh, Assam & Meghalaya, some parts of West Uttar Pradesh, Bihar, Nagaland, Tripura, Andaman & Nicobar Islands, 40 to 60% most parts of Rajasthan, Gujarat, Saurashtra & Kutch, Maharashtra Madhya Pradesh, Chhattisgarh, Jharkhand, Karnataka, some parts of East Uttar Pradesh, Bihar, Orissa, Raylaseema, Telengana, Tamil Nadu, Kerala, 60 to 80% over remaining parts of the country.

**Cloud amount (okta) over India for the week ending 19.01.11**



Cloud amount 6 okta and above over some parts of Coastal Tamil Nadu, 4 to 6 okta over most parts of Arunachal Pradesh, Sikkim, Andaman & Nicobar Island some parts of Jammu & Kashmir, Meghalaya, Nagaland, Manipur, Coastal Tamil Nadu, Kerala, 2 to 4 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Sub-Himalayan West Bengal, Assam, Manipur, Mizoram, Tripura, Lakshadweep Islands, some parts of, Uttar Pradesh, Bihar, Raylaseema, Tamil Nadu, Kerala, 0 to 2 okta over remaining parts of the country.

**Wind speed (knots) over India for the week ending 19.01.11**



Wind speed ranged between 4 to 6 knots over most parts of Tamil Nadu, some parts of East Rajasthan, West Madhya Pradesh, 2 to 4 knots over most parts of Haryana, Delhi, Saurashtra & Kutch, Coastal & south Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Punjab, Rajasthan, Uttar Pradesh, Jharkhand, Arunachal Pradesh, Orissa, Coastal Andhra Pradesh, Raylaseema, North Interior Karnataka, Konkan & Goa, Vidarbha, Madhya Pradesh., 0 to 2 knots over remaining parts of the country.