

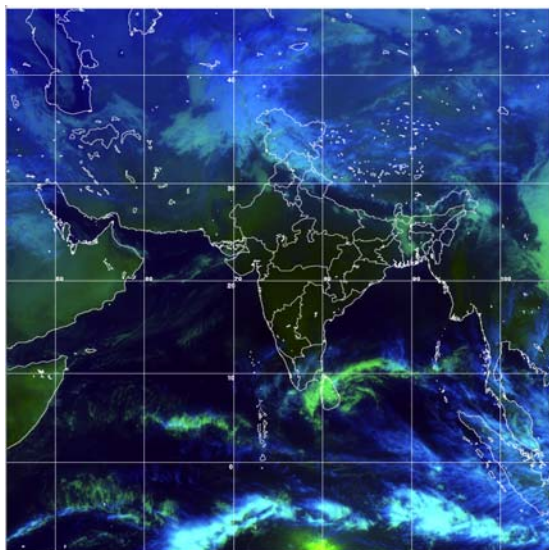


National Agromet Advisory Bulletin

Thursday, 13th January, 2011

(For the period 13th to 17th January, 2011)

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Executive Summary

Cold wave conditions prevailed over some parts of Uttar Pradesh, Bihar, interior Maharashtra, North Interior Karnataka, Telanaga and Rayalaseema and isolated pockets of Jharkhand, West Bengal and Orissa. However, minimum temperatures would rise by 2-3°C over parts of northwest, central and east India during next 2 days leading to abatement of cold wave conditions over some parts of these regions. Farmers in the above region 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, the nurseries of vegetables may be covered with polythene sheet to protect the seedlings from cold / frost injury.

Low temperature and foggy conditions are still prevailing over northwestern region mainly Punjab. 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.

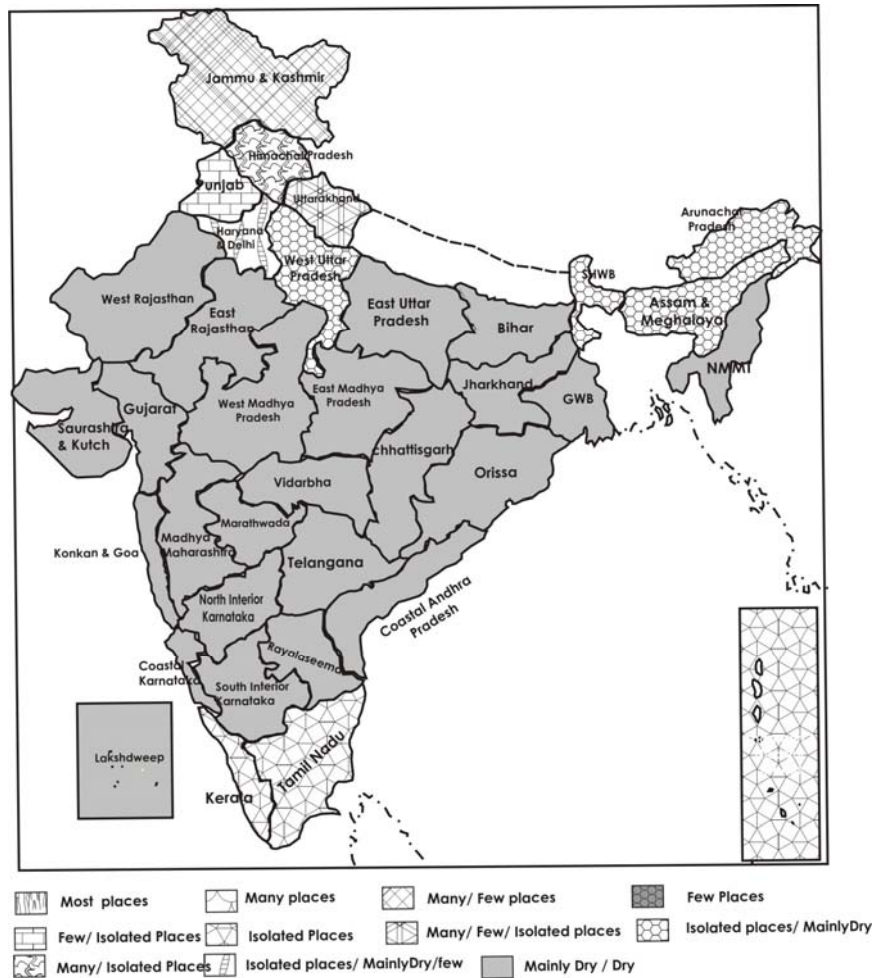
Rain / snowfall is likely to occur at many places over Jammu and Kashmir, Himachal Pradesh and Uttarakhand during next few days, which would be beneficial to the *rabi* crops in these region. However, farmers are advised to arrange for smoking around the field to prevent the crops from cold injury.

Due to fall in minimum temperatures in Nashik District (4.8°C), fruit growth has been affected in grapes. Fruit cracking in developed fruits is also noticed in parts of Nashik region. Severe cold wave also caused damaged to cotton, tur and chilli in some parts of Vidarbha region.

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.

Due to fall in temperature and high relative humidity in Central Plain Zone of Uttar Pradesh, incidences of blight in potato and powdery mildew in pea and mustard are reported. Farmers are advised to undertake plant protection measures to control the diseases.

Weather Forecast (Valid upto 0830 hours of 16th January, 2011)



Major Feature of Weather Forecast (upto 0830 hours IST of 16th January, 2011)

- Scattered rain/snowfall would occur over Jammu & Kashmir and isolated over Himachal Pradesh and Uttarakhand during next 24 hours and increase thereafter.
- Isolated rain/thundershowers would occur over parts of plains of northwest India during next 24 hours and scattered on 14th.
- Isolated rain/thundershowers would occur over extreme south peninsular India.
- Minimum temperatures would rise by 23°C over parts of northwest, central and east India during next 2 days leading to abatement of cold wave conditions over some more parts of these regions.
- Maximum temperatures may also rise by 23°C over parts of plains of northwest India, central and adjoining east India during next 2 days leading to abatement of cold day conditions from Uttar Pradesh and Bihar.
- The intensity and duration of dense fog prevailing over Gangetic plains would decrease during next 48 hours.

Weather Warnings

- Isolated heavy rain/snow would occur over Jammu & Kashmir and Himachal Pradesh on 14th and 15th.

Weather Outlook (upto 0830 hours IST of 11th January, 2011)

- Scattered rain/thundershowers would occur over northeastern states.
- Mainly dry weather conditions would prevail over remaining parts of the country.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Weather remained 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:**
 - Gram (vegetative / flowering / pod formation), mustard and sarson (vegetative / flowering / pod formation), wheat (crown root initiation / 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), knolkhol, turnip, beet, garlic, onion etc. (vegetative), barseem, lucerne, oat (sowing), coriander, fenugreek (sowing / germination) in Bihar.
 - Arhar and green pea (flowering / pod formation), wheat (crown root initiation / tillering), potato (vegetative / tuber formation), *toria*, mustard (flowering / pod formation), onion (vegetative), tomato (vegetative / flowering / fruiting), cabbage and cauliflower (vegetative / head formation), chilli and brinjal (transplanting), summer rice (nursery sowing / transplanting) in Jharkhand.
 - Cotton (maturity / picking), ragi (nursery raising and sowing), *rabi* rice (nursery raising / transplanting), *rabi* vegetables (vegetative / flowering / fruiting), *rabi* oilseeds like groundnut, mustard and sunflower (flowering), arhar (flowering / pod formation), wheat (crown root initiation / tillering), potato (vegetative / tuber initiation / tuber formation), *rabi* pulses like lentil, field pea and chickpea (vegetative / flowering / pod formation), sugarcane (harvesting), garlic (sowing) in Orissa.
 - Wheat (crown root initiation / tillering), 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 (active tillering / flowering), *rabi* potato (vegetative / tuber formation), ginger (harvesting), *rabi* vegetable (vegetative / flowering / fruiting / harvesting) mustard (flowering / pod formation / seed formation) 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 CRI stage of wheat and light and frequent irrigation to potato.
 - Farmers in Orissa are advised to undertake nursery preparation for summer rice. As the temperatures are low, cover the fresh nursery of 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 in Ganjam district.
 - Farmers in Interior Orissa and South Bihar Alluvial Zone are advised to apply irrigation and burn stubbles around standing potato, pulse and oilseed crops to save from cold wave.
 - Undertake weeding, hoeing in early sown potato in Orissa, utilizing the favourable dry weather during next three days.
 - As cold weather is likely to prevail in South Eastern Plateau zone of Jharkhand 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.
 - Farmers in West Bengal are advised to undertake nursery preparation for *boro* rice and field preparation for sowing of groundnut. 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 wave and falling of minimum temperature in New Alluvial Zone of West Bengal.
 - As there may be moisture stress condition in Orissa due to prevailing dry condition for last few days, irrigate sunflower, rapeseed and mustard and other standing crops in Orissa.
 - 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.

- Cold and cloudy weather favours the infestation of powdery mildew in Cuttack of Orissa. Spray 1 kg Sulfex WP in 200 litres of water per acre. Prevailing weather also favours the infestation of aphids in green gram, black gram, pea etc.; spray 50 ml Imidacloprid or 400 ml Dimethoate or Metasystox in 200 litres of water per acre.
- 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.
- Under present weather conditions wilt disease is likely in tomato and brinjal in Jharkhand. Undertake spraying of 100 mg streptomycin and 1.5 g copper oxychloride per liter of water.
- Due to favourable weather, insects 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 high humidity and fog incidence, leaf spot and blight disease may be noticed in tomato in West Bengal. Fruits may also be attacked by fruit borer and bacterial cancer. Spray the crop 3 g copper oxychloride and 2 ml spark per litre of water at 7-10 days intervals, if symptoms appear.
- Cold weather was observed for the last few days in Coastal Saline Zone of West Bengal, which may cause incidence of early and late blight disease in potato; spray 1.5 ml metasystox with copper oxychloride @ 4 g / litre or cymoxnil 8% + mancozeb 64% @ 2.5 g per litre of water at 7-10 days intervals.
- Weather is congenial for white streak disease in pea, lentil and Bengal gram in New Alluvial Zone of West Bengal; spray sulphex @ 2.5 g per litre of water.

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

- **Realised Rainfall:** No significant rainfall occurred during last week in most of the districts of the region.
- **Rainfall Forecast:** Mainly dry weather will prevail or isolated rain will occur over northeastern states 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 (crown root initiation / tillering) in Assam.
 - *Rabi* vegetables like cauliflower, cabbage, tomato etc. (early vegetative / vegetative), pea, mustard, maize, tomato and potato (vegetative) 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 & mustard (flowering / pod filling stage), *rabi* maize (vegetative stage), *rabi* maize at high hills (harvesting), wheat (CRI / tillering), winter potato (vegetative / tuber formation), winter potato at high altitude (harvesting) in Meghalaya.
 - Mustard / rapeseed (vegetative / flowering), field pea (vegetative / flowering), onion (vegetative), cauliflower and cabbage (vegetative / head formation) and potato (vegetative) in Manipur.
 - Khasi Mandarin (vegetative), banana (various stages), onion (transplanting / vegetative), pea (vegetative / flowering), 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 (maturity / harvesting) and maize (vegetative / tasseling / silking) in Mizoram.
 - Rajmash (vegetative / flowering), beans (flowering / pod formation), orange (harvesting), potato (vegetative / tuber initiation), pea (vegetative / flowering stage), *toria* (flowering stage), mustard (flowering stage) and papaya (fruiting stage) 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 CRI 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 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 and potato.
- Farmers in Tripura are advised to undertake nursery sowing / transplanting of *boro* rice.
- 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.
- 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. Farmers are also advised to undertake intercultural operation in vegetable crops taking the advantage of dry weather.
- 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 *toria* field during afternoon hours to control saw fly and aphids.
- The difference between day and night temperatures is more than 12⁰C 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 litter 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.
- 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:** No significant rain occurred during last week in this region.
- **Rainfall Forecast:** Rainfall is likely at a few places in Jammu & Kashmir and isolated places in Himachal Pradesh during next 24 hours and many places thereafter, and isolated rain during next 24 hours and few places on 14th and many places thereafter in Uttarakhand, dry in East Uttar Pradesh during next 24 hours and isolated places thereafter, Punjab & Haryana Isolated/few places during the period. Dry weather is likely over rest of the region.
- **Major Crops:**
 - Wheat (Crown root initiation/tillering), mustard, chickpea, pea and gram crop (Flowering/pod formation), broccoli, cauliflower, cabbage, onion (transplanting / early vegetative), lentil (early vegetative), garlic (planting) in Delhi.

- Wheat, potato (Crown root initiation/tillering) and vegetables (vegetative), tea (raising nursery), garlic (planting), Early sown crops are at early vegetative / vegetative stage in Himachal Pradesh.
- Gram, berseem / oats (late vegetative / flowering), wheat, barley (crown root initiation/ tillering), toria (pod formation / maturity / harvesting), mustard (late vegetative/ flowering), vegetable crops like tomato, chilli, brinjal, cucurbits, onion (vegetative) in Jammu & Kashmir.
- Sugarcane (maturity / harvesting), wheat (crown root initiation / tillering), potato (tuber initiation), toria (maturity / harvesting), mustard (flowering / pod formation), barley, lentil, gram, onion, garlic, seasonal vegetables (vegetative growth), pea (flowering / pod formation in hill zone), chilli (nursery sowing), lahi (fruiting / flowering) in Uttarakhand.
- Sugarcane (tillering / grand growth), barseem, wheat (Crown root initiation/ tillering), lentil, gram, radish, raya, African sarson (vegetative / late vegetative), ghobi sarson (vegetative), oilseeds (flowering), toria (harvesting), papaya (transplanting) in Punjab.
- Sugarcane (harvesting), wheat (tillering), gram, rapeseed and berseem (flowering / seed formation), mustard (flowering / seed formation) in Haryana.
- Wheat (crown root initiation / vegetative / tillering), barley, oats (vegetative / tillering), bajra (flowering / milking stage), 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 etc. (early vegetative / vegetative) in Uttar Pradesh.
- Sugarcane (grand growth / maturity), wheat, barley (crown root initiation / tillering), mustard (flowering/pod formation), gram (pre-flowering / flowering), lentil, oats, taramira, ajwain, fenugreek and isabgol (early vegetative / vegetative), potato (tuberization), cabbage, cauliflower (late vegetative), tomato, berry (flowering/ fruiting) in Rajasthan.

- **Advisory:**

- Low temperature and foggy conditions are still prevailing over northwestern region mainly in Punjab. 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.
- Rain / snowfall is likely to occur at many places over Jammu and Kashmir, Himachal Pradesh and Uttarakhand during next few days, which would be beneficial to the *rabi* crops in these region. However, farmers are advised to arrange for smoking around the field to prevent the crops from cold injury.
- Frost damage has been observed in Sub Montane & Low Hills Sub-tropical Zone of Himachal Pradesh. Gram and pea crops have been damaged to 5-10%. Yellowing of leaves is reported in wheat due to frost injury. Farmers are advised to undertake foliar spraying of urea as preventive measure.
- 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 Mid Hills Sub-Humid (Solan, Shimla, Sirmaur) of Himachal Pradesh are advised to undertake transplanting of onion and undertake sowing/ transplanting of radish, peas in Sub Montane & Low Hills Sub-Tropical Zone (Hamirpur, Kangra and Una Chamba districts).
- Farmers in Sub Tropical Zone (Jammu, Kathua and Reasi district) are advised to postpone sowing of lentil, fodder oat, potato, radish, carrot, garlic, peas, spinach knol-khol and tomato and transplanting of cauliflower till soil is in *batter* condition.
- Farmers are advised to start planting of spring potato during this period in Punjab
- Farmers in Bhabar and Tarai Zone in Uttarakhand are advised to land preparation for sowing of sunflower.
- There is possibility of white rust and Alternaria blight in the mustard crop and blight incidence in potato crop in Eastern zone of Haryana, Jammu & Kashmir, Rajasthan and U.P. White rust and aphid in the mustard crop Delhi due to high humidity and foggy weather and, than 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 notice the symptoms of the disease (yellowish pustules in lines on upper side of the leaves). Spray Tilt 25 EC (propiconazole) @ 200ml in 200 liter water/acre
- Mustard crop may be affected with white rust & stem rot. Pod borer attack may be seen in Pea crop at pod formation stage than farmers in Jaipur district of Rajasthan are advised to spray the recommended fungicide. To control pod borer attack spray Endosulfan 35 EC or Melathion 50 EC @ 1.0 ml per litre water is suggested.
- To protect sensitive crops like mustard, Rajmash, potato, gram from frost attack, Farmers in Jaipur district of Rajasthan are advised to spray dilute sulphuric acid @ 0.1% (1 litre H₂SO₄ in 1000 litre water).
- Due to fall in temperature and high relative humidity in Central Plain Zone of Uttar Pradesh, incidences of blight in potato and powdery mildew in pea and mustard are reported. Farmers are advised to undertake plant protection measures to control the diseases.

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

- **Realised Rainfall:** Either dry weather prevailed / no significant rainfall received in the region.
- **Rainfall Forecast:** Rain is likely at isolated places in Tamil Nadu and Kerala. Dry or mainly dry weather is likely to prevail during the period over the remaining region.
- **Major Crops:**
 - Pepper and arecanut are at maturity to harvesting stage in Kerala. Vegetables (harvesting), Punja rice (transplanting). Mundakan paddy (maturity to harvest stage).
 - *Late samba / thaladi* rice (grain development / maturity), sugarcane (cane development / maturity), banana (fruit bearing / maturity stage), pulses (maturity) Cotton (maturity) in Tamil Nadu.
 - Red gram (Pod formation stage), early sown *rabi* crops are at flowering / grain formation stage, groundnut (maturity to harvesting), rice (vegetative), Sunflower (flowering to seed development) in Andhra Pradesh.
 - Sugarcane (planting), cotton (square formation), pigeon-pea (maturity), Bengal gram (pod formation), rabi jowar (milking) safflower (flowering); paddy (harvesting), sunflower (harvesting), vegetables (flowering/fruitletting), 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.
 - As the minimum temperature is low in Central Dry Zone, it will have adverse effect on arecanut. To avoid the adverse effect it is informed to give irrigation.
 - To overcome cold injury and for better nursery growth of paddy in Andhra Pradesh, adopt the following measures.
 - Cover the nursery beds with polythene sheet during night and remove in the morning.
 - Irrigate the nursery bed every day in the morning.
 - Apply urea @ 2 kg to the nursery sufficient for one acre main field at 10-15 days after sowing.
 - Due to higher humidity, low temperature congenial condition for attaching Tea mosquito bug on newly emerged young leaves; hence farmers of Coastal Zone are advised to spray cahyalothrin @0.6ml/litre of water. (Spray at evening hours helps in managing the pest successfully).
 - Out break of pests and disease is noticed in crops like Rice and Vegetables in Kottayam district of Problem Areas Zone. Management measures have to be adopted immediately else leads to severe crop damage and present weather conditions favors further attack
 - In Samba paddy field of Cauvery delta zone, it the right time to sow rice fallow pulses. ADT-3 and ADT-4 blackgram varieties and ADT-3 greengram variety are suitable under rice fallow condition.

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), gram (flowering / pod formation), safflower (floral bud initiation / flowering), maize (vegetative / silking

/ tasseling), sunflower (vegetative / floral bud initiation), irrigated wheat (early tillering / tillering), sugarcane (Adsali) (active tillering), Sugarcane (preseasonal) (early vegetative), summer groundnut (sowing / germination in South Konkan) in Maharashtra.

- mustard (flowering), pigeon pea (flowering / pod development), gram (flowering / pod development), potato (tuber development), brinjal and tomato (vegetative / flowering / fruiting), *rabi* fennel (flowering), cumin (vegetative), early sown wheat (booting stage), timely sown wheat (tillering / flag leaf stage), late sown wheat (crown root initiation), isabgol (tillering), 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 conditions prevailed over parts of North Madhya Maharashtra, Marathwada & Vidarbha and are likely to continue, farmers are advised to apply light and frequent irrigation to orchard crops and also to make arrangement for smoking around the fields to protect the fruit crop especially grapes from cold injury.
- Farmers in Konkan region in Maharashtra are advised to continue rice transplanting of 3 to 4 weeks old seedlings. Also undertake sowing of improved varieties of leafy vegetables *viz.*, amaranthus, radish, fenugreek, coriander, spinach etc. on raised beds.
- Taking advantage of favourable weather, farmers in Pune division in Maharashtra are advised to sow summer bajra.
- Farmers in Madhya Maharashtra are advised to undertake preparatory tillage and sowing of summer groundnut.
- Farmers in Madhya Maharashtra and Marathwada are advised to undertake preparatory tillage and planting of *suru* sugarcane. Continue harvesting of already matured red gram.
- As dry weather prevailed during previous weeks and likely to prevail during next three days, 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.
- Farmers in the middle Gujarat zone are advised to undertake nursery sowing of chilli.
- Taking the advantage of favourable weather, farmers in the north Gujarat region are advised to undertake the picking of vegetable crops and also apply irrigations to the standing crops.
- Due to fall in night temperature there may be incidence of powdery mildew disease on cucumber, bitter gourd, ridge gourd and sponge gourd in Pune division of Maharashtra. Farmers are advised to spray Dinocap (Carothin) @ 1 ml per liter of water.
- Cloudy conditions during last fortnight made favourable weather for infestation of pod borer in gram and thrips and blight disease in onion in Madhya Maharashtra. Farmers are advised to take appropriate plant protection measures to control the above pests and diseases.
- Prevailing weather conditions are favourable for incidence of aphids in safflower in *rabi* jowar in Madhya Maharashtra. Farmers are advised to take appropriate plant protection measures if infestation is noticed.
- Due to cloudy condition there may be incidence of anthracnose on inflorescence of mango in Konkan region of Maharashtra. Farmers are advised to spray Carbendazim 10 g or Thiophenate methyl 10 g or Propineb 20 g per 10 litres of water. Due to cold weather there may be occurrence of recurrent flowering in mango. To avoid this twice spraying of Gibberlic acid @ 50 to 100 ppm at flowering stage and fruiting (mustard size) stage may be done.
- Due to congenial weather conditions infestation of pod fly in pigeon pea has crossed ETL in north Saurashtra region of Gujarat. Farmers are advised to spray Endosulphan 35 EC @ 20 ml / 10 litres of water to control the infestation.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rainfall occurred during last week in this region.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the region.
- **Major Crops:**
 - In Madhya Pradesh, wheat (tillering), chickpea (flowering/pod formation), pigeon pea (pod formation), sugarcane (planting), cotton (boll development).
 - Pigeon pea (pod development), wheat (vegetative / tillering) in Chattisgarh.

- **Advisory:**

- Frost condition in Kymore 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 prevent the crops from cold / frost injury.
- Farmers are advised to undertake intercultural operations in the early sown crops to keep the fields weed free.
- Farmers in Kymore Plateau Zone are advised to undertake planting / sowing of potato, coriander and fenugreek and prepare nursery for medium and late sown cauliflower, cabbage, carrot, radish and onion. Also farmers in Nimar Valley Zone are advised to prepare nursery for onion, sow garlic, transplant cauliflower and cabbage.
- Farmers in Jhabua, Nimar and Central Narmada Valley and Gird Zone in Madhya Pradesh are advised to continue sowing of cucurbitaceae vegetables.
- Looking to the prevailing severe cold wave conditions in Chattisgarh Plane Zone in Chattisgarh, farmers are advised to postpone the sowing operations of rabi crops for few days till the temperature becomes normal.
- Farmers in Bastar Plateau Zone in Chattisgarh are advised to prepare nursery for rabi vegetables.
- Looking to the minimum temperature there is a possibility of frost in chickpea in Malwa Plateau Zone in Madhya Pradesh, apply irrigation and create smoke near the bunds of the field by burning waste materials for frost and apply Sulphuric acid @ of 1ml/lit of water.
- Weather is congenial for caterpillar in gram in Central Narmada Valley Zone in Madhya Pradesh, spray Endosulphan 35 EC or Quinolphos 25 EC/2 ml per litre of water.
- Due to fall in temperature conditions in Bundelkhand zone in Madhya Pradesh, there are more chances for the incidences of aphids in mustard, lentil and kusum crops, spray Methyl Dematon 25 E.C. or Dimethoate 30 E.C. @ 2.0 ml. per litre of water.

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.

Annexure I List of Varieties

Assam

Cauliflower: Pusa Snow Ball K-1 and Snow Ball 16.

Cabbage: Drum Head.

Knolkhol: Purple Viena.

Jammu & Kashmir

Wheat - cv HD2329, PBW-154, PBW-343, Raj-3077, RSP-303, DBB17 and WH 542) under irrigated areas and PBW 175, PBW 396 and IWP 72 under rainfed areas.

Barley : cv: Ratna, Jyoti & Sonu.

Uttarkhand:

Sunflower: Divyamukhi, Ranjha, Raja, Badshah, MSFH-8, Heer, KBSH-1, NSFH-9, Morden

Madhya Pradesh

Wheat: (Jhabua Hill Zone)

Late Sown: M.P. 4010, Vidisha (DL 788-2), G W 173, Naveen Chandosi (HI 1418)

Maharashtra

Bajra: Shradha, Saburi or Shanti.

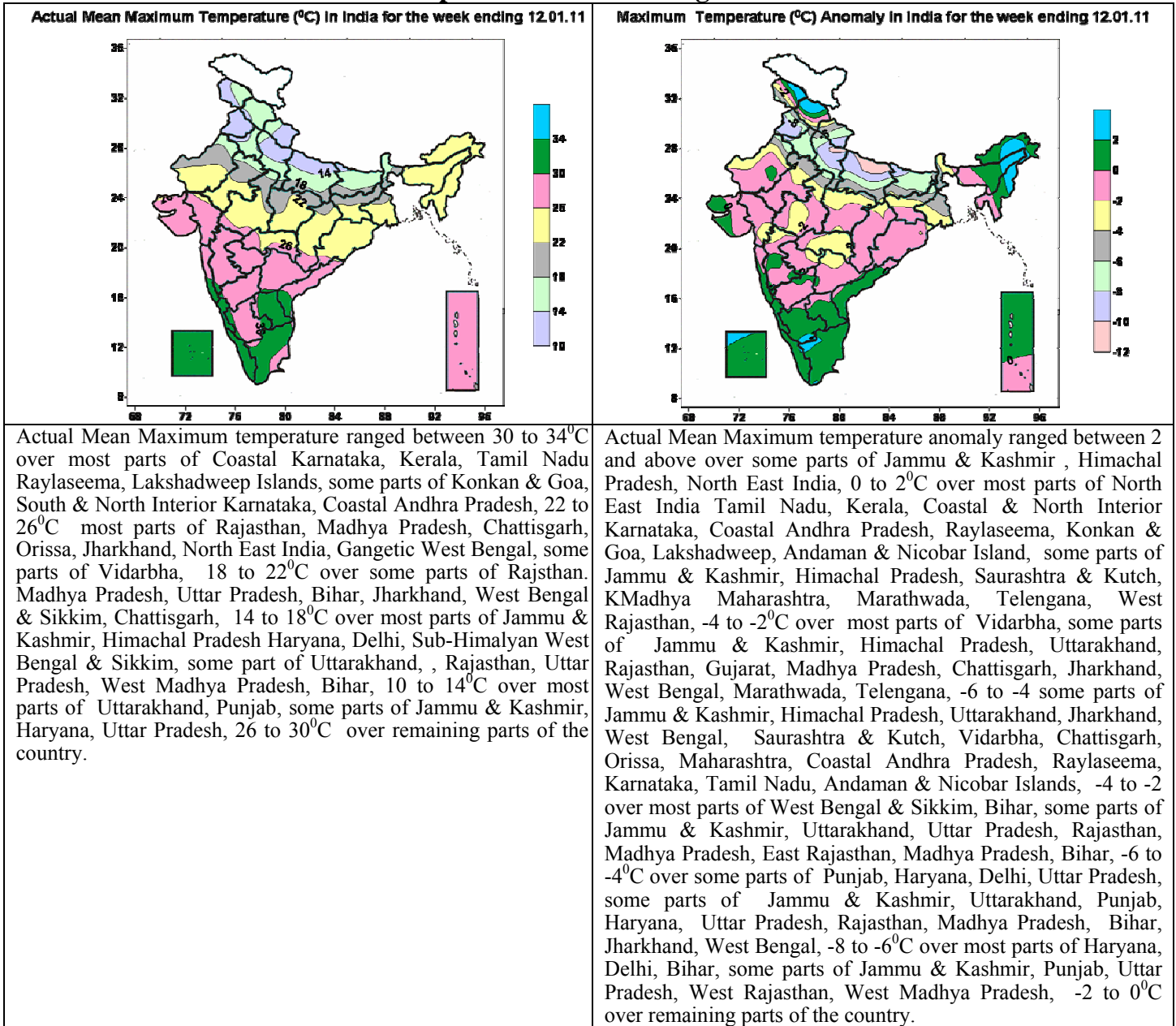
Summer Groundnut: TPG-41, TG-26, TAG-24, SB-11 and ICGS-11.

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

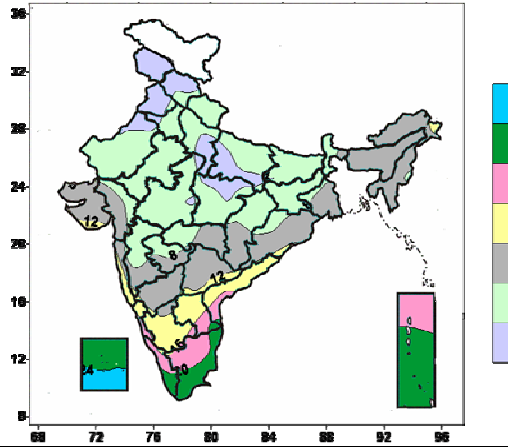
Gujarat

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

Annexure II Contour maps for the week ending 12.01.2011

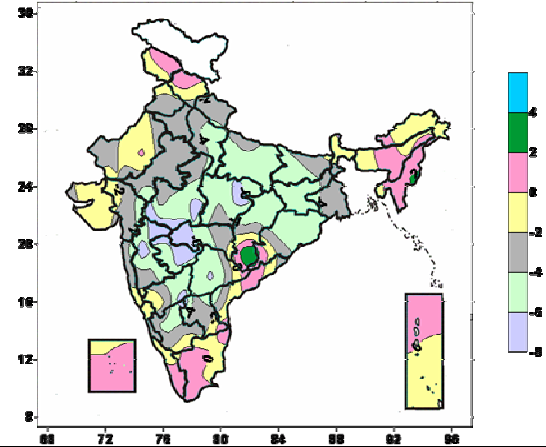


Actual Mean Minimum Temperature (°C) in India for the week ending 12.01.11



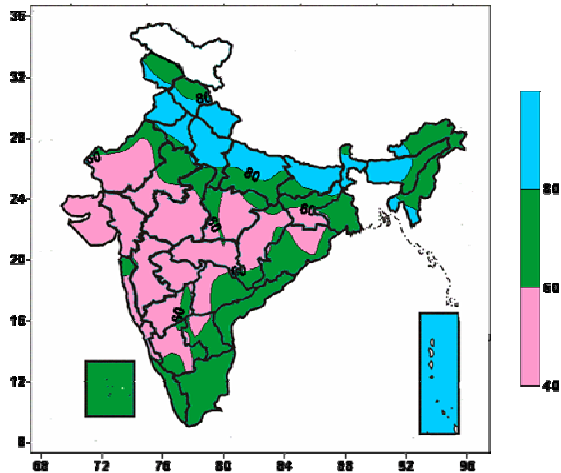
Actual Mean Minimum Temperature ranged between 24°C and above over some parts of Lakshadweep 20 to 24°C most parts of Andaman & Nicobar Island, Lakshadweep Islands, some parts of Kerala Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, 16 to 20°C over some parts of Coastal Andhra Pradesh, Telengana, Coastal Karnataka, 12 to 16°C most parts of North Interior Karnataka, Coastal Andhra Pradesh, Telengana, some parts of Konkan & Goa, Raylaseema, Coastal Karnataka, 4 to 8°C over most parts of Uttarkhand, Uttar Pradesh, Bihar, JHarkhand, Sub-Himalayan West Bengal & Sikkim, Rajsthan, Madhya Pradesh, Chattisgarh, Madhya Maharashtra, some parts of Marathwada, Vidarbha, Orissa, 0 to 4 °C over most parts of Jammu & Kashmir, Punjab, Himachal Pradesh, some parts of Uttar Pradesh, Madhya Pradesh, West Rajasthan, 8 to 12°C over remaining parts of the Country.

Minimum Temperature (°C) Anomaly In India for the week ending 12.01.11



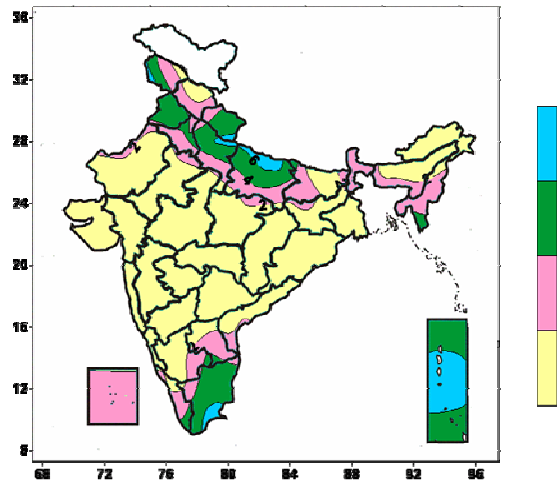
Minimum Temperature anomaly ranged between 2 to 4°C over some parts of, Chhattisgarh, 0 to 2°C over most parts of Jammu & Kashmir, Himachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Tamil Nadu, Kerala, Lakshadweep, Andaman & Nicobar Island, some parts of Himachal Pradesh, Arunachal Pradesh, Chattisgarh, Orissa, Coastal Andhra Pradesh, Telengana, -2 to 0°C over most parts of Saurashtra & Kutch, West Rajasthan, Sub-Himalyan West Bengal & Sikkim, Arunachal Pradesh, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Assam, Tripura, Gujarat, Chattisgarh, Orissa, Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Orissa, Coastal Andhra Pradesh, Telengana, Karnataka, Kerala, Tamil Nadu, Konkan & Goa, Lakshadweep Island, -6 to -4°C over most parts of East Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh, Chattisgarh, Orissa, Telengana, some parts of Coastal Andhra Pradesh, North & South Interior Karnataka, Maharashtra, Gujrata, -6 to -4°C over most parts of Bihar, some parts of East Uttar Pradesh, Jharkhand, Su-Himalayan West Bengal, -6 to -4°C over some parts of Maharsgtra except Konkan, Madhya Pradesh, -4 to 2°C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 12.01.11



Relative humidity between 80% and above over most parts of, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Sikkim, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh Jharkhand, Assam & Meghalaya, Arunachal Pradesh, Tripura, 40 to 60% most parts of Rajasthan, Gujarat, Saurashtra & Kutch, Maharashtra Madhya Pradesh, Chhattisgarh, Karnataka, some parts of Jharkhand, Raylaseema, Telengana, 60 to 80%

Cloud amount (okta) over India for the week ending 12.01.11

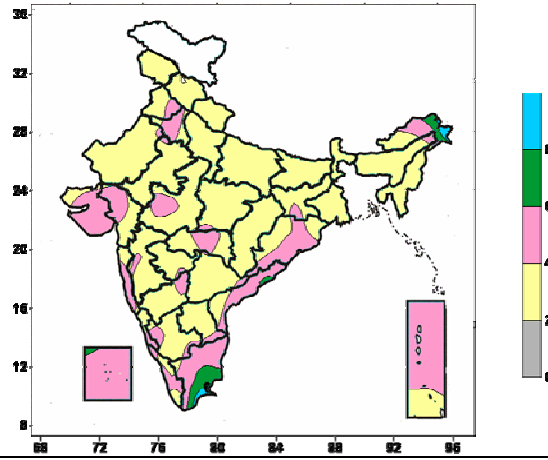


Cloud amount 6 okta and above over some parts of Uttarakhand, Uttar Pradesh, Coastal Tamil Nadu, 4 to 6 okta over most parts of Uttarakhand, Uttar Pradesh, Punjab, Tamil Nadu, Andaman & Nicobar Island some parts of Jammu & Kashmir, Haryana, Delhi, Tripura, Telengana, Kerala, 2 to 4 okta over most parts of Haryana, Delhi, Bihar, Sub-Himalayan West Bengal, Manipur, Mizoram, Tripura, Lakshdweep Islands, some parts of Jammu & Kashmir, Himachal Pradesh,

over remaining parts of the country.

Uttarakhand, Punjab, Uttar Pradesh, Jharkhand, Assam, Coastal Andhra Pradesh, Raylaseema, Tamil Nadu, Kerala, Coastal & North Interior Karnataka, 0 to 2 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 12.01.11



Wind speed ranged between 8 knots and above over some parts Arunachal Pradesh, Coastal Tamil Nadu, 6 to 8 knots over some parts of Arunachal Pradesh, Coastal Tamil Nadu, 4 to 6 knots over most parts of Gujarat, Konkan & Goa, Tamil Nadu, Coastal Adnhar Pradesh, Coastal Orissa, Andaman & Nicobar, Lakshadweep Island, some parts of Punjab, Haryana, Arunachal Pradesh, Assam, Jharkhand, Telengana, Raylaseema, Kerala, Karnataka, Maharashtra, West Madhya Pradesh, Rajasthan, 2 to 4 knots over remaining parts of the country.