



# Summary of Agromet Advisory Services for different States of the country

Issued by

Agricultural Meteorology Division, India Meteorological  
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(For the period 20<sup>th</sup> to 24<sup>th</sup> December, 2007)

The extended version of the bulletin is also available at <http://imdagrmet.org>

## *Agromet Advisory*

### *North West India (Haryana, Punjab, Rajasthan, Uttar Pradesh, Delhi, Himachal Pradesh, Jammu & Kashmir and Uttarakhand)*

#### **Punjab**

- Weather remained mainly dry during the period. Cold wave conditions prevailed in parts of Punjab during the period and likely to continue for next 24 hrs with bit respite thereafter.
- Mainly dry weather is likely over the State.

#### **Advisories**

- As dry weather and cold wave condition are likely to continue over the State, apply light and frequent irrigation to sugarcane, *rabi* oilseeds, pulses, early sown wheat and Horticultural crops.
- Continue picking of cotton.
- Monitor the sugarcane crop for shoot borer infestation & if exceeds economic threshold level, for effective control spray Endosulfan 50 EC @ 600 ml in 600 liter of water/acre.
- Preparation of field and sowing of late sown wheat can be completed.
- Late blight of potato has been observed in pockets. If required, spray Indofil M-45 / Anracol @ 500-700 g per acre in 250 -350 liter of water.

#### **Haryana**

- Weather remained mainly dry during the period. Cold wave conditions prevailed in parts of Punjab during the period and likely to continue for next 24 hrs with bit respite thereafter.
- Mainly dry weather is likely over the State.

#### **Advisories**

- As dry weather and cold wave condition are likely to continue over the State, apply light and frequent irrigation to sugarcane, *rabi* oilseeds, pulses, timely sown wheat and Horticultural crops.
- Continue picking of cotton.
- Monitor the sugarcane crop for shoot borer infestation & if exceeds economic threshold level, for effective control, spray 600 ml Endosulfan 50 EC in 600 liter of water/acre.

#### **Rajasthan**

- Weather remained mainly dry in all the divisions of the State.
- Mainly dry weather is likely over the State.
- Night minimum temperatures were appreciably below normal in Jodhpur division and near normal in rest divisions of the State.

#### **Advisories**

- Complete sowing of *rabi* crops viz, mustard, barley, taramira and gram.
- Apply irrigation to early sown *rabi* crops as there was no significant rainfall during last week and mainly dry weather is likely for the next three days.
- This is proper time for land preparation and planting of potato in and around Bharatpur. Select among Kufri Jyoti, Kufri Badshah, Kufri Sutlej and Kufri Anand. Maintain spacing of 45-60 cm between rows and 15-20 cm between plants for optimum plant population.
- Complete land preparation and sowing of wheat. Select among Raj 3077, HD 2329, HD 2236, WH147 and PBW 343. Adopt seed rate of 100 kg / ha. At the time of last ploughing, apply 50-60 kg N and 50 kg P<sub>2</sub>O<sub>5</sub> per ha.

### **Uttar Pradesh**

- Cold wave conditions prevailed in some parts of UP and likely to continue and weather was mainly dry in the State on 17<sup>th</sup> to 19<sup>th</sup> December.
- Mainly dry weather is likely over the State.

### **Advisories**

- As there was no significant rainfall in most of the districts during last week and mainly dry weather is likely over the State, apply irrigation to vegetable, pulses, rai, mustard and toria.
- Prepare the field and undertake sowing of onion and garlic.
- Spray the solution of dimethoate @ 1.5 ml / litre of water to control stemborer in turmeric.
- Complete sowing of late wheat varieties, Malviya-234, Narendra-236, TWT-373 and use seeds rate of 125 kg / hectare after seed treatment by Carbendazim and Thiram.

### **Himachal Pradesh**

- Weather was mainly dry.
- Mainly dry weather is likely over the State.

### **Advisories**

- As mainly dry weather is likely over the State for next three days, apply irrigation to vegetables and toria and early sown wheat, barley and gram crops.
- There is mild chance of attack of leaf spot disease in cabbage and cauliflower. If attack crosses economic threshold level, spray Dithane M – 45 to control the disease.
- Continue sowing of spinach, raddish and carrot in low and mid hills.
- Prepare land and complete sowing of wheat within this month. 90-100 kg seed / ha is required for timely sown crops.
- Prepare land and complete sowing of barley within this month. The crop should be sown by kera in lines 22 cm apart. 100 kg seeds per hectare are optimum for sowing. Additional 20 to 25 kg seed should be used under rainfed conditions.
- Prepare land and complete sowing of rapeseed and mustard crops within this month.
- Continue sowing of Autumn varieties of potato.
- Provide mulch to apple in the basins for soil moisture conservation and protection against winter injury. White-wash the trunks to protect against sun burn and cold injury.

### **Uttarakhand**

- Very light to light rain occurred at many places on 12<sup>th</sup> & 13<sup>th</sup> December and at a few places on 14<sup>th</sup> December while mainly dry weather prevailed during rest of the period. Sky remained mainly clear to generally cloudy during the week.
- Mainly dry weather is likely over the State.

### **Advisories**

- As there was no significant rainfall in most of the districts during last week and mainly dry weather is likely over the State, apply irrigation to pea and potato.
- Undertake intercultural operations in potato and in orchards to keep the field weed free.
- Undertake weeding to conserve soil moisture in pea.
- Undertake harvesting of matured crops of sugarcane, pea and toria.
- Continue field preparation and sowing of wheat using certified seeds.

### **Jammu & Kashmir**

- Weather remained mainly dry.
- Isolated rain / snow is likely over Jammu & Kashmir.

### **Advisories**

- Apply light irrigation to vegetables, pulses, wheat and oilseed crops as there was rainfall in the State during last week and isolated rain / snow is likely over the State.
- Continue transplanting of onion in Kashmir division.
- Continue land preparation and sowing of wheat in Jammu division. Adopt 125 kg / ha seeds for sowing. Apply 175, 110 and 42 kg / ha of Urea, DAP and MOP respectively. Out of this, apply entire quantity of DAP, MOP and 50% urea as basal dose at the time of sowing.
- Continue harvesting of matured toria in Jammu division.

### **Delhi**

- Weather remained mainly dry.
- Mainly dry weather is likely over the State.

### **Advisories**

- As there was no rainfall in the State during last few weeks and mainly dry weather is likely over the State for the next three days, apply irrigation to vegetables, mustard, gram, barley and wheat.
- Prepare field and undertake sowing of wheat. It is recommended to sow late varieties like UP 2338, UP 2425, HD 2285, Raj 3077, Raj 3765, PBW-226, PBW-373 etc. Adopt seed rate of 125 – 150 kg / ha. Sow seeds in line keeping distance between lines of 15 – 20 cm. Treat the seeds with 2-3 g bavistin 50 WP / kg to avoid the spread of kadwa disease.
- Prepare land and sow Nanteez variety of carrot and Pusa Himani variety of raddish.
- Apply half of the remaining dose of nitrogenous fertilizer at 21 – 25 days after sowing of wheat.

## ***Southern Region (AP, Tamilnadu, Karnataka and Kerala)***

### **Kerala**

- Rain/thundershowers are likely at most places over the State during next 24 hours and decrease thereafter.
- **Warning:** Isolated heavy to very heavy rainfall is likely over the State during next 24 hours and isolated heavy rainfall thereafter.

### **Advisories**

- As rain/thundershowers are likely at most places over Kerala along with isolated heavy to very heavy rainfall during next 24 hours, postpone irrigation to plantation crops viz., coconut,

arecanut, rubber and banana. Provide adequate drainage to avoid water logging due to heavy rain.

- Attack of rhinoceros beetle, red palm weevil, mite and leaf rot is reported in coconut. Fill the leaf axils with Sevidol 8G @ 25 gm mixed with 200 gm fine sand to control rhinoceros beetle. In the leaf rot affected plants, remove the rotten parts from the spear and the two adjacent leaves and pour 300 ml fungicidal solution at the base of the spear which can be prepared by mixing Hexaconazole @ 5 EC 2 ml or Mancozeb @ 3 gm in 300 ml of water. Prophylactic spraying with 2% neem oil + garlic emulsion may be done in the crown and bunches, 2<sup>nd</sup> to 7<sup>th</sup> bunches from top avoiding unpollinated inflorescence.
- Attack of pink disease is reported in rubber. Clean the affected portion and apply 1% boardeaux paste.
- Apply plant protection measures after current spells of rain.
- Harvest the matured *mundakan* rice crops in bright sunny days. Nursery raising and land preparation may be started for *puncha* rice crop in areas where *mundakan* crop is harvested.
- Continue nursery sowing, intercultural operations and application of fertilizers after current spells of rain.

### Tamilnadu

- Northeast monsoon had been vigorous over the State on 19<sup>th</sup> December and over Coastal Tamilnadu on 18<sup>th</sup> December. Rainfall occurred at most places over the State on 19<sup>th</sup> December, at many places over Coastal Tamilnadu, at one or two places over Interior Tamilnadu on 18<sup>th</sup> December and at one or two places over the State on 17<sup>th</sup> December.
- Rain / thundershowers are likely at most places over South Tamil Nadu and at many places over North Tamilnadu during next 24 hours and decrease thereafter.
- **Warning:** Isolated heavy to very heavy rainfall is likely over South Tamil Nadu during next 24 hours and isolated heavy rainfall thereafter.

### Advisories

- As rain / thundershowers are likely at many places over North Tamil Nadu and at most places over South Tamilnadu along with isolated heavy to very heavy rainfall during next 24 hours, postpone irrigation, intercultural operations and top dressing of fertilizers to sugarcane and early sown maize, groundnut, black gram, green gram and pulses. Provide adequate drainage facilities in south Tamil Nadu to avoid water logging due to heavy rainfall.
- The present cloudy weather is congenial for diseases like bacterial leaf blight (BLB) and blast in the current *samba* and *Thaladi* rice crops. To control the diseases spray Carbendazim @ 100 g or Ediphenphos @ 200 ml or Tricyclozole @ 200 g by mixing with 200 litre of water using the hand sprayer.
- Monitor maize for stem borer and aphids and if the pest population crosses ETL, spray Carbaryl 50% WP @ 400 g/acre to control the pest.
- Apply plant protection measures after current spells of rain.
- Continue sowing of rainfed groundnut, black gram, green gram and red gram after current spells of rain in coastal Tamilnadu. Use 112 kg pods / ha for groundnut and 20 kg / ha for pulse crops.
- Continue sowing of rainfed millet crops like jowar, bajra and samai after current spells of rain. Undertake seed treatment with *Azospirillum* before sowing.
- Continue picking of matured cotton bolls on bright sunny days. Picking may be done at early morning hours to maintain quality of kapas.
- Undertake land preparation and sowing of coriander in the main field after current spells of rain in southern region. Adopt 5 kg seeds / ac in the spacing of 20 x 15 cm under irrigated condition. If rainfed crop, seed rate @ 10 kg/ac has to be broadcasted evenly. Apply Urea @ 9

kg/ac / super @ 100 kg/ac and potash @ 13 kg/ac as basal for both rainfed and irrigated condition.

- Undertake weeding and application of fertilizers and pesticides after current spells of rain.

### **Karnataka**

- Rainfall occurred at a few places over South Interior Karnataka, at isolated places over Coastal Karnataka and mainly dry weather prevailed over North Interior Karnataka on 19<sup>th</sup> December. Mainly dry weather prevailed over South Interior Karnataka and dry weather prevailed over Coastal Karnataka and North Interior Karnataka on 18<sup>th</sup> December. Dry weather prevailed over the State on 17<sup>th</sup> December.
- Rain/thundershowers are likely at many places over South Interior Karnataka during next 24 hours and decrease thereafter. Isolated rain/thundershowers are likely over North Interior Karnataka during next 24 hours and mainly dry weather thereafter.

### **Advisories**

- Postpone irrigation in South Interior Karnataka as rain/thundershowers are likely at many places during next 24 hours. As there was no significant rainfall during last week in most of the districts and isolated rain/thundershowers are likely over North Interior Karnataka during next 24 hours and mainly dry weather thereafter, apply irrigation to sugarcane, *rabi* jowar, maize, cotton and sunflower.
- Undertake propping of sugarcane to prevent the crop from lodging.
- Undertake intercultural operation in *rabi* crops like maize, jowar, sunflower and cotton.
- Monitor *rabi* sunflower for powdery mildew and undertake spraying of Wettable Sulphur @ 3 g / litre of water, if required.

### **Andhra Pradesh**

- Rain occurred at a few places over Rayalaseema on 19<sup>th</sup> December and isolated rain occurred over Coastal Andhra Pradesh on 15<sup>th</sup>, 18<sup>th</sup> & 19<sup>th</sup> December and over Rayalaseema on 18<sup>th</sup> December. Weather has been dry elsewhere over the State.
- Rain / thundershowers are likely at a few places over south Coastal Andhra Pradesh and Rayalaseema during next 24 hours and decrease thereafter. Isolated rain/thundershowers are likely over north coastal Andhra Pradesh during next 24 hours and mainly dry weather thereafter. Mainly dry weather is likely over Telangana.

### **Advisories**

- As there was no significant rainfall in most of the districts during last week and rain/thundershowers are likely at isolated places over north Coastal Andhra Pradesh, at a few places over south Coastal Andhra Pradesh and Rayalaseema during next 24 hours and decrease thereafter and mainly dry weather is likely over Telangana for the next three days, apply irrigation to red gram and chillies.
- Complete harvesting of groundnut and continue harvesting of rice.
- Continue picking cotton.
- Monitor red gram for *Helicoverpa* and if the pest population crosses ETL, spray NSKE @ 5% to control egg and early instar larvae. To control adults, install bird perches @ 10-15 nos / acre. Arrange pheromone traps @ 4 per acre.
- The incidence of thrips, dieback, leaf spot, blight and powdery mildew is noticed in chillies. To control thrips, spray Fipronil @ 2.0 ml per litre of water. To control dieback, spray Captan @ 1.5 g per litre of water. To control leaf spot, spray Mancozeb @ 2.5 g or Carbendazim @ 1 g per litre of water. To control blight, spray Plantamycin or Poustamycin @ 0.2g or Streptomycin @ 0.1g + Copper oxychloride @ 3g per litre of water 2-3 times at 15 days interval. To control powdery mildew, spray Wettable Sulphur @ 3.0 g per litre of water.

- The deficiency of Zinc and Boron is noticed in chillies. The prevailing low temperature further hastens the deficiency. To correct zinc deficiency, spray ZnSo<sub>4</sub> @ 2g per litre of water. To correct boron deficiency, spray Borax @ 1.5 g per litre of water.
- Carry out intercultural operation and apply plant protection measures and fertilizers in south Coastal Andhra Pradesh and Rayalaseema on a non-rainy day.

### ***Eastern Region (Assam, Arunachal Pradesh, Bihar, Jharkhand, Sikkim, West Bengal)***

#### **Assam**

- Dry weather prevailed over the State during the period.
- Mainly dry weather is likely over the State.

#### **Advisories**

- As there was no rain in the State during last week and mainly dry weather is likely over the State for next three days, apply irrigation to arhar, winter vegetables, other *rabi* crops and wheat.
- Continue harvesting of matured crops of sugarcane. Red rot infested sugarcane may be harvested early and the field should be newly planted. Ratooning of infested plant should be discarded.
- Prepare land for winter vegetables such as spinach, reddish & coriander etc. and seeds of hybrid varieties of tomato, brinjal, capsicum, cauliflower and cabbage etc. may be collected from reputed sources and should be sown in the seed bed for raising seedling for planting in the main fields.
- Incidence of aphids and saw fly was noticed in mustard and rapeseed in few localities.
- Monitor mustard and rapeseed for aphids and saw fly and if the population exceeds economic threshold level, apply rogor or Malathion @ 2 ml / litre of water to control the disease.
- Low lying typical areas on common irrigation are to be selected for *boro* rice. Flat seedbed of size 125 cm breadth and 10 m in length with 30 cm gap between two seedbeds should be prepared and six such seedbeds should be prepared for transplanting one bigha of land. Pre-germinated seeds of varieties such as Masuri, Joya, IR-36, IR-50 and Krishna Hamsa etc. are to be sown @ 650-1000 g per bed. Seed requirement for one bigha is roughly 6 Kg. For irrigated areas fertilizer should be applied @ 18 Kg Urea, 27 Kg SSP & 6 Kg MOP and for non-irrigated low lying area Urea 12 Kg, SSP 18 Kg & MOP 4 Kg may be applied.

#### **Arunachal Pradesh**

- Mainly dry weather prevailed over the State during the period.
- Mainly dry weather is likely over the State.

#### **Advisories**

- As there was no rainfall in the State during last week and mainly dry weather is likely for the next three days, apply irrigation to vegetables, wheat, potato, pea, *rabi* maize and mustard.
- Harvest the matured crops of ginger, millet, wet seeded rice and *Jhum* rice.
- Apply first top dressing (33 kg Urea / ha) in potato.
- Undertake weeding and hoeing in pea, wheat, mustard and *rabi* maize to keep the field weed free.

#### **Bihar**

- Weather was mainly dry.
- Mainly dry weather is likely over the State.

### **Advisories**

- As there was no significant rainfall in most of the districts during last few weeks and mainly dry weather is likely over the State, apply irrigation to arhar, fodder maize and sugarcane.
- Complete sowing of raddish, spinach, carrot and gram.
- Complete field preparation and sowing of rai and linseed. Use certified seeds of rai varieties Rajendra Pichheti, Rajendra Annkul & Suphlam and linseed varieties 397, Shubhra, Garima and Sweta.
- Continue field preparation and sowing of late sown wheat. Select varieties like HD 2285, HD 2307 HD 2329, HD 2643, HP 1744, HUW 234, HUW 2045, PBW 373, PBW 524 and Raj 3765. Use seed rate @ 150 Kg / ha.
- Heavy infestation of lucerne caterpillar is reported in early sown lentil. Spray Nuvan @ 500 ml / ha or Monocrotophos @ 1 litre / ha to control the pest.

### **Jharkhand**

- Weather remained mainly dry. Cold wave condition prevailed at many places with severe cold wave at isolated places.
- Mainly dry weather is likely over the State.

### **Advisories**

- Apply irrigation to vegetables and gram as there was no significant rainfall during last few weeks and mainly dry weather is likely over the State for the next three days.
- Earthing up and top dressing of urea (125 kg / ha) may be done in early sown potato.
- Continue field preparation and sowing of wheat. For late sowing use recommended varieties like HD 2402, HUW 234, HP 1744, HUW 2045, HD 2643, PBW 373, NW 1014, K 9107 etc. and K 8962, GW 173, DL 7882 etc. in rainfed area.

### **Sikkim**

- During the week, weather was mainly dry over East Sikkim.
- Mainly dry weather is likely over the State.

### **Advisories**

- As there was no rainfall during last week and mainly dry weather is likely over the State for the next three days, apply irrigation to *rabi* vegetable crops like cabbage, cauliflower, carrot and beet root.
- Continue harvesting of ginger and orange.
- Undertake intercultural operations and application of fertilizers in mustard, wheat, *rabi* vegetable crops like cabbage, cauliflower, carrot and beet root.
- Undertake nursery sowing of large cardamom.

### **West Bengal**

- Weather was mainly dry during the period over Sub Himalayan West Bengal and Gangetic West Bengal.
- Mainly dry weather is likely to prevail over the State.

### **Advisories**

- As there was no rainfall in the State during last week and mainly dry weather is likely for next three days, apply irrigation to sugarcane and arhar and *rabi* crops like mustard, rapeseed, wheat, gram, lentil, potato and sunflower.
- Keep vigil against late blight disease of potato. Uproot and burn the affected plants. Apply water soluble mankozeb @ 2.5 g / litre of water in the remaining healthy plants.

- Keep vigil against red rot disease of sugarcane. Uproot and burn the diseased plants to prevent further spread of the disease.
- Continue preparation of land and sowing of sunflower. Apply 8 – 10 tonnes of organic matter along with 30 kg N, 80 kg P<sub>2</sub>O<sub>5</sub> and 35 kg K<sub>2</sub>O as a basal dose in irrigated areas. In non-irrigated areas the dose will be 20 kg N, 60 kg P<sub>2</sub>O<sub>5</sub> and 35 K<sub>2</sub>O. Select hybrid varieties from Surya-51, Pack-36 and M.S.F.H-17 from sowing. Adopt seed rate of 3.5 to 4 kg / ha. Treat the seeds with Thyrum @ 3g / kg of seeds.
- Low lying typical areas on common irrigation are to be selected for *boro* rice. Flat seedbed of size 125 cm breadth and 10m in length with 30cm gap between two seedbeds should be prepared and six such seedbeds should be prepared for transplanting one bigha of land. Pre-germinated seeds are to be sown @ 650-1000 g per bed. Seed requirement for one bigha is roughly 6 Kg. Fertilizer should be applied @ 18 Kg Urea, 27 Kg SSP & 6 Kg MOP per bigha.

## ***Central Region (Gujarat, Chhattisgarh, Maharashtra, MP & Orissa)***

### **Gujarat**

- Weather remained dry during the period.
- Mainly dry weather is likely to prevail over the State.

#### **Advisories**

- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail over the State for next three days, apply irrigation to *kharif* cotton, castor, mustard and early sown wheat.
- Stop irrigation 10 – 15 days before harvesting of sugarcane. Start harvesting the crop when brix reading of sugarcane will be 19 or more.
- In some places cotton crop is infested with mealy bug. Monitor the crop for mealy bug and if damage exceeds ETL, to control the pest spray Methyl dimeton 25 EC @ 10 ml or Phosphamidon 85 EC @ 5 ml or Dimethoate 30 EC @ 10 ml in 10 liters of water.
- Prepare land for late sowing of irrigated wheat by one harrowing and ploughing with application of FYM @ 10 – 15 MT before ploughing. Apply 60 kg N and 60 kg P<sub>2</sub>O<sub>5</sub> as basal dose at the time of sowing. Select varieties from Lok-1 and GW-173 for late sown irrigated crops.

### **Chhattisgarh**

- Weather was mainly dry in all divisions of the State.
- Mainly dry weather is likely to prevail over the State.

#### **Advisories**

- As there was no rainfall during last week in the State and mainly dry weather is likely over the State for next three days, apply irrigation to sugarcane, toria, vegetables, rapeseed and mustard and early sown wheat, potato and other *rabi* crops.
- Prepare land for sowing of wheat. Treat the seeds with thirum @ 3 g or bavistin @ 2 g / kg of seeds. Select varieties from Kanchan, Sujata, Amar, GW-273 and Bilasa for sowing.
- Prepare land for sowing of other *rabi* crops. Treat the seeds with thirum @ 3 g or bavistin @ 2 g / kg of seeds. Seeds of pulse crops may be treated with rizobium culture.
- Prepare land for plating of potato. Select varieties from kufri badsha, Kufri Jyoti, Kufri Bahar etc. Before planting treat the seeds by dipping them for 30 minutes in solution of thyrum @ 3 g or bavistin @ 2 g / litre of water.

### **Maharashtra**

- Mainly dry weather prevailed over the State.



- Mainly dry weather is likely over the State.

#### **Advisories**

- As there was no rain in the State during last week & mainly dry weather is likely over the State during next three days, apply irrigation to sugarcane (Pre-seasonal), sugarcane (*suru*), *kharif tur*, *rabi jowar*, safflower, potato, gram, onion, wheat and maize.
- Apply 50 kg Nitrogen/ha to black soil, 40 kg/ha to medium & 25 kg Nitrogen/ha to low fertile soil after 25 to 30 days from sowing of *rabi jowar*.
- Second dose of 50 kg Nitrogen / ha may be applied to potato as top dressing after weeding.
- Second dose of 50 kg Nitrogen / ha may be applied after 30 days from planting of onion & irrigation may be given immediately.
- Apply second dose of 60 kg Nitrogen / ha at 30 days after sowing of wheat.
- Mild incidence of white woolly aphids in Kolhapur and Pune division in Sugarcane (pre-seasonal) & sugarcane (*Suru*), pod borer in Amravati division in *kharif tur*, shoot fly in Latur, Aurangabad and Nasik division in *rabi jowar* and aphids in Kolhapur division in safflower is reported.
- Monitor the Sugarcane (pre-seasonal) & sugarcane (*Suru*) for White Woolly Aphids & if exceeds economic threshold level, for effective control spray 500 ml Endosulphan 35%+ Metasystox 1000 ml & 500 ml Sticker or 500 gm detergent powder / ha in 500 liters of water. For the biological control of White Woolly Aphids, release 25000 larvae of *Chrysoperla carnea* or *Dipha aphidivora* / ha as predator after 15 days from the above dose.
- Monitor the crop for pod borer in tur & if exceeds economic threshold level, first spray 5% neem extract or 20 – 25 ml fenvalerate in 100 litres of water.
- Monitor the crop for shoot fly in *rabi jowar* & if exceeds economic threshold level, spray 5% neem seed extract or 35% endosulphan @ 14 ml or 30% dimethoate @ 10 ml + 10 ml sticker per 10 liter of water.
- For the biological control of aphids in safflower, release 10000-15000 larvae of *Chrysoperla carnea* or apply 5% neem extract.
- This is the proper time for planting of onion. For plantating N-2-4-1, Pusa red, Arka nikan, for export Phule suvarna & for onion powder Agri found white-1, Phule safed, N-257-9-1 varieties may be selected. Apply Nitrogen, Phosphorus & Potash 50 kg each / ha before planting. Prepare plane beds of Suitable size & plantation may be done at 12.5 X 7.5 cm distance & 4.5 cm depth. Flood irrigation may be given 24 hours before the transplanting of seedlings. Plant seedlings of 0.5 cm base diameter. Seedling roots may be dipped in 1 % Urea & apex in Monocrotophos 12.5ml + DaithenM-45, 25 gm in 10 liters solution followed by solution of 4 packets of Azotobacter in 10 liters before planting.

#### **Madhya Pradesh**

- Severe cold wave conditions prevailed in North East M.P. on 19<sup>th</sup> December. Cold wave conditions prevailed in the parts of North East M.P. on 17<sup>th</sup> December, North M.P. on 18<sup>th</sup> December and over the State on 19<sup>th</sup> December. Dry weather prevailed over the State.
- Mainly dry weather is likely over the State.

#### **Advisories**

- As dry weather prevailed during last week in the State and mainly dry weather is likely over the State for next three days, apply irrigation to sugarcane, linseed, lentil, gram and mustard and also to wheat wherever the crops are at crown root initiation stage.
- Undertake intercultural operation in sugarcane and other *rabi* crops to keep the field weed free.

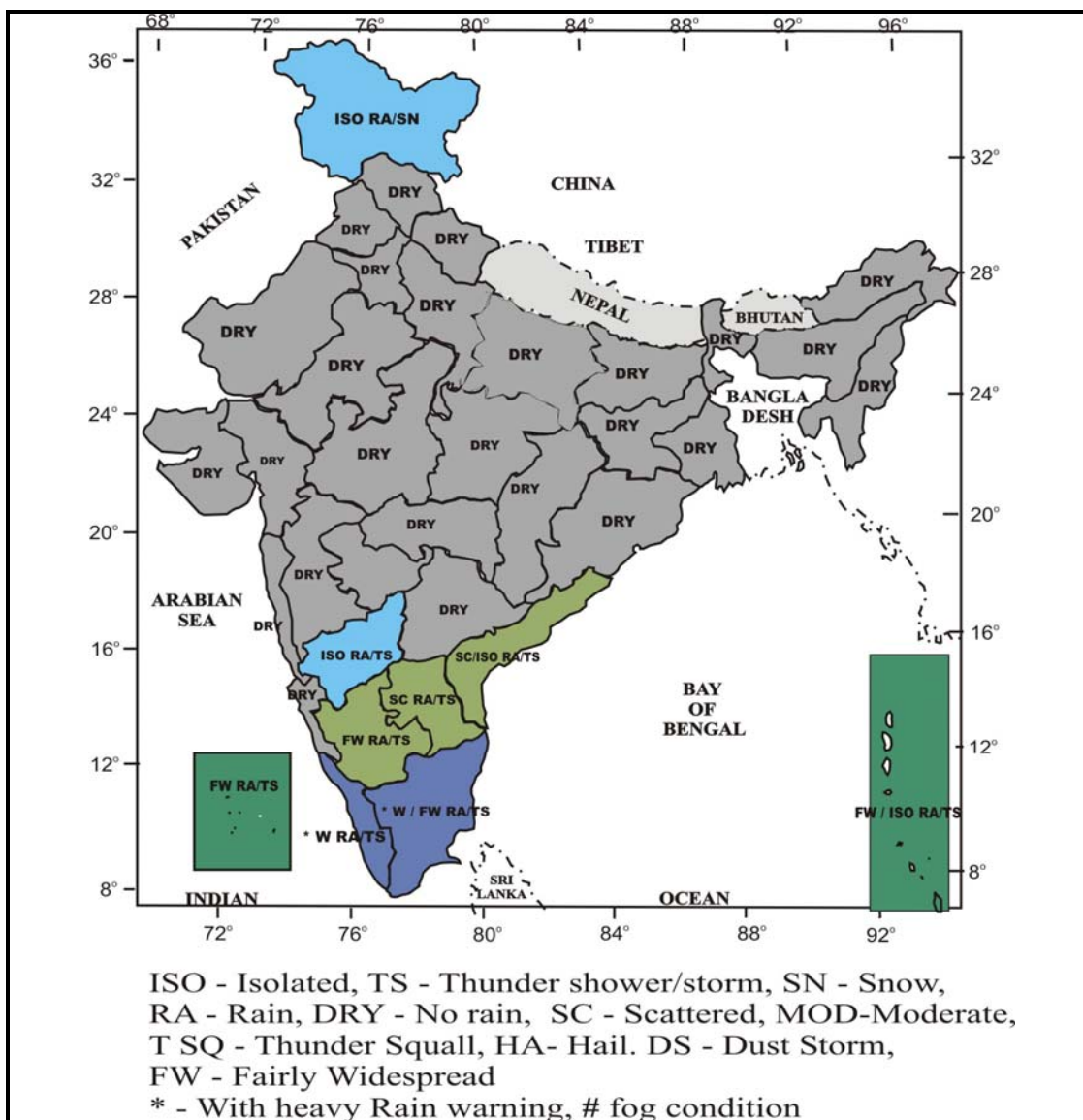
#### **Orissa**

- Weather has been mainly dry over the State during the above period.
- Mainly dry weather is likely to prevail over the State.

#### **Advisories**

- As there was no significant rainfall over the State during last few weeks and mainly dry weather is likely to prevail over the State for the next three days, apply irrigation to vegetables, sugarcane and pulse crops.
- Complete field preparation and sowing of groundnut. Select groundnut varieties like AK 1224 or Smruti and maintain a spacing of 30x10 cm.
- This is the proper time for nursery sowing of *Dalua* rice. Use varieties like Khandagiri, Parijat and Lalat etc.

### *Forecast Valid upto 23<sup>d</sup> December 07*



### *Salient weather features for the week ending 19/12/07*

#### METEOROLOGICAL ANALYSIS

- Last week's low pressure area over southwest Bay of Bengal off southeast coast of Sri Lanka became well marked over the same area on 13 December morning. The well marked low pressure area lay over southwest Bay of Bengal and adjoining coastal areas of south Tamil Nadu & north Sri Lanka, on 14<sup>th</sup> and became less marked on 15<sup>th</sup>. However, an associated cyclonic circulation extending upto mid tropospheric levels lay over Comorin area and adjoining south Tamil Nadu and Kerala and became less marked on 16<sup>th</sup>.

- Last week's upper air cyclonic circulation in lower tropospheric levels over West Madhya Pradesh and neighbourhood lay over West Uttar Pradesh and neighbourhood on 13<sup>th</sup> and became less marked on 14<sup>th</sup>.
- Easterly waves sometimes with embedded upper air cyclonic circulations at lower tropospheric levels passed through Andaman & Nicobar Islands, South Bay of Bengal, extreme south peninsula and southeast Arabian Sea.
- Cold wave conditions prevailed over some parts of Rajasthan, Haryana, Punjab, Jammu & Kashmir, East Uttar Pradesh, Bihar and Jharkhand during second half of the week.
- A western disturbance as an upper air system lay over Jammu & Kashmir and neighbourhood on 13<sup>th</sup>, over Himachal Pradesh and neighbourhood on 14<sup>th</sup> and moved away eastward thereafter.
- An another western disturbance as an upper air system lay over north Pakistan & adjoining Jammu & Kashmir on 18<sup>th</sup>, over Jammu & Kashmir and neighbourhood on 19<sup>th</sup>.

#### **RAINFALL**

Under the influence of the above systems:

- Fairly widespread to widespread rain/thundershowers with isolated to scattered heavy to very heavy falls occurred over extreme south peninsula on 14<sup>th</sup>, 15<sup>th</sup>, 18<sup>th</sup> & 19<sup>th</sup>. Isolated rain/thundershowers occurred on remaining days of the week.
- Isolated to scattered rain/snow occurred over Jammu & Kashmir and Uttarakhand on 13<sup>th</sup> and over Himachal Pradesh on 13<sup>th</sup> & 14<sup>th</sup> December.
- Isolated to scattered rain/thundershowers occurred over West Uttar Pradesh and West Madhya Pradesh on 13<sup>th</sup> & 14<sup>th</sup>.
- Isolated to scattered rain/thundershowers occurred over coastal Orissa and Coastal Andhra Pradesh on a few days of the week.
- Fairly widespread to widespread rain/thundershowers with isolated heavy to very heavy falls occurred over Andaman & Nicobar Islands on 16<sup>th</sup>. Isolated to scattered rain/thundershowers occurred on remaining days of the week.
- Mainly dry weather prevailed over remaining parts of the country during the week.

#### **MINIMUM TEMPERATURE**

- The minimum temperatures were below normal by 2-5°C over many parts of northwest India during the week.
- They were below normal by 2-5°C over south Rajasthan and West Madhya Pradesh on many days of the week.
- The minimum temperatures were above normal by 3-7°C over East India and East Madhya Pradesh during first half of the week and they were below normal by 2-5 °C during second half of the week.
- They were above normal by 2-5°C over Chhattisgarh, Andhra Pradesh, Vidarbha and Marathawada on many days of the week.
- The minimum temperatures were below normal by 2-4°C over Gujarat during the first half of the week. They were above normal by 2-5°C during second half of the week.
- They were near normal over remaining parts of the country during the week.

#### **RAINFALL DURING THE WEEK (FOR THE WEEK ENDING ON 19<sup>TH</sup> DECEMBER, 2007)**

Rainfall was excess/normal in 7, deficient/scanty in 12 and no rain in 17 out of 36 meteorological sub-divisions (Actual: 7.6 mm, Normal: 4.1 mm and Departure: +87 %).

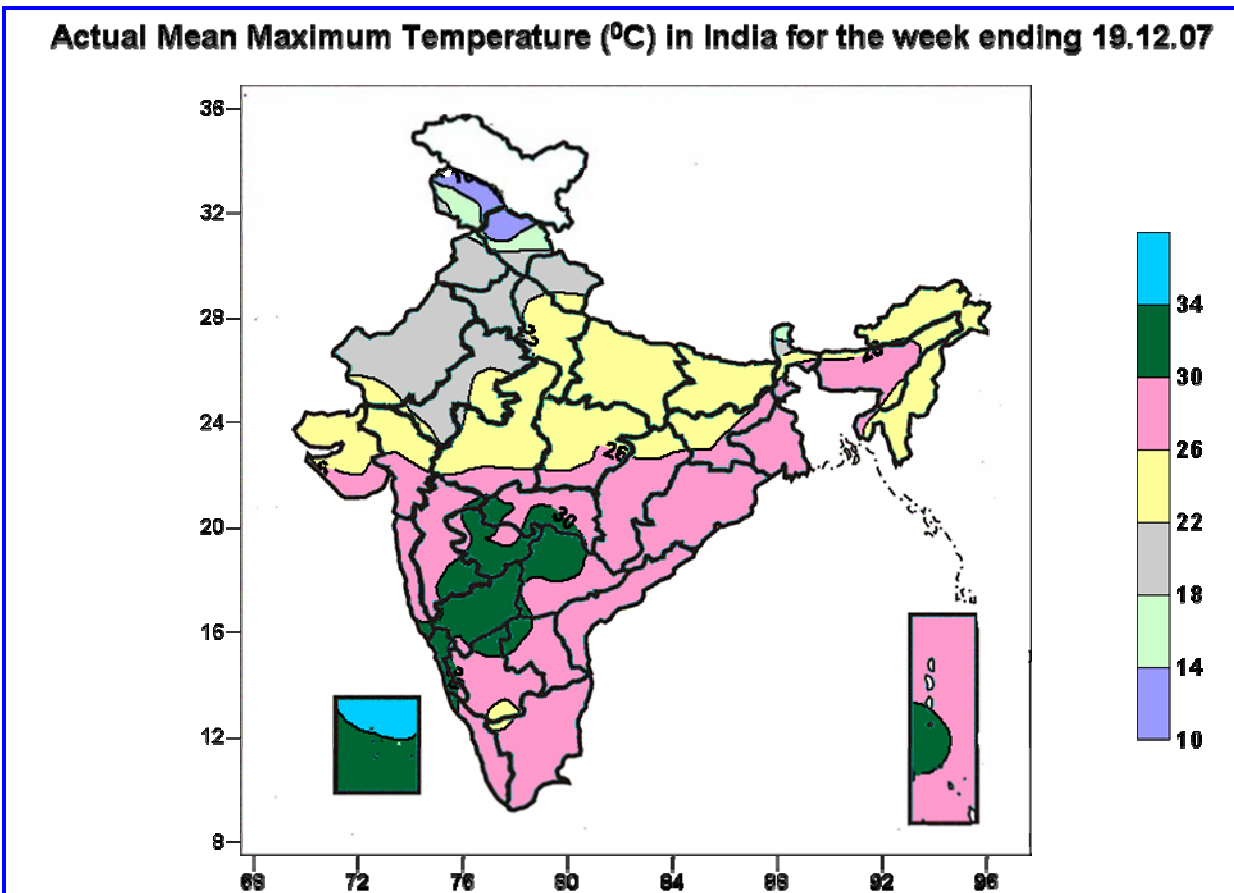
#### **CUMULATIVE SEASONAL RAINFALL (1<sup>ST</sup> OCTOBER TO 19<sup>TH</sup> DECEMBER, 2007)**

Rainfall was excess/normal in 9 and deficient/scanty in 27 out of 36 meteorological sub-divisions. (Actual: 80.3 mm, Normal: 118.8 mm and Departure: -32%).

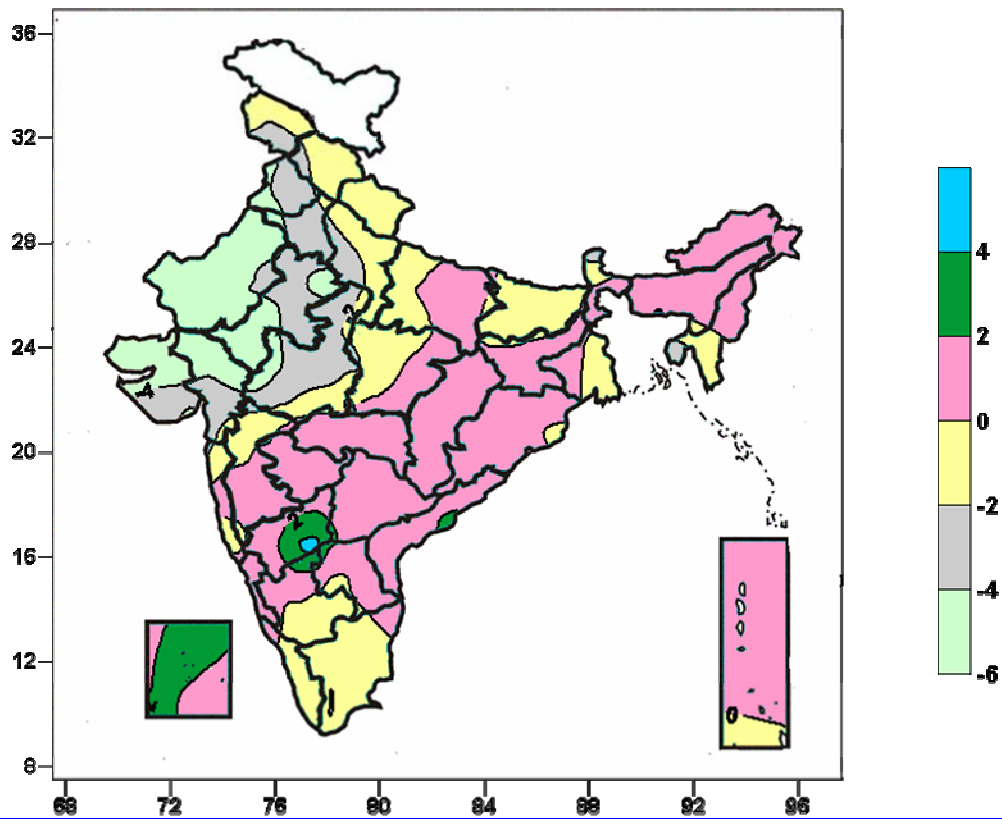
#### **OUTLOOK FOR THE WEEK ENDING ON 26<sup>TH</sup> DECEMBER, 2007.**

- Scattered to fairly widespread rain/thundershowers with isolated heavy falls is likely over extreme south peninsula during first half of the week.
- The minimum temperatures are likely to remain below normal by 2-4°C over plains of northwest & East India and adjoining central India.
- Isolated to scattered rain/snow is likely over some parts of Western Himalayan Region during second half of the week.

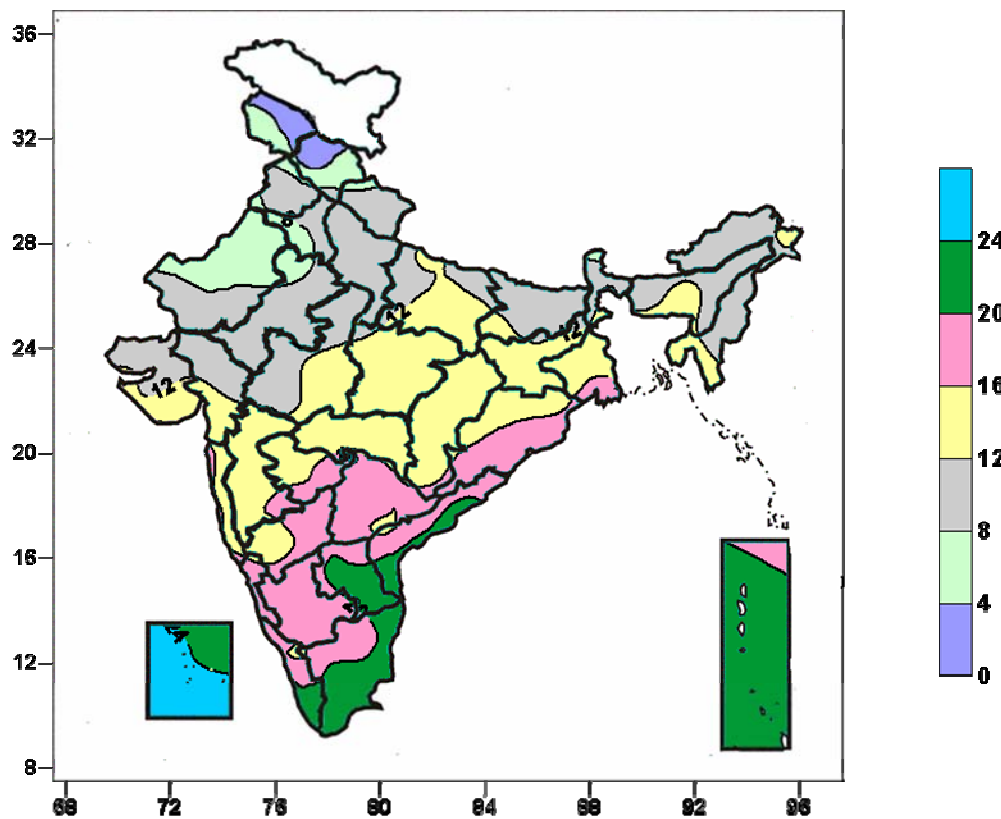
## Contour maps for the week ending 19<sup>th</sup> December, 2007



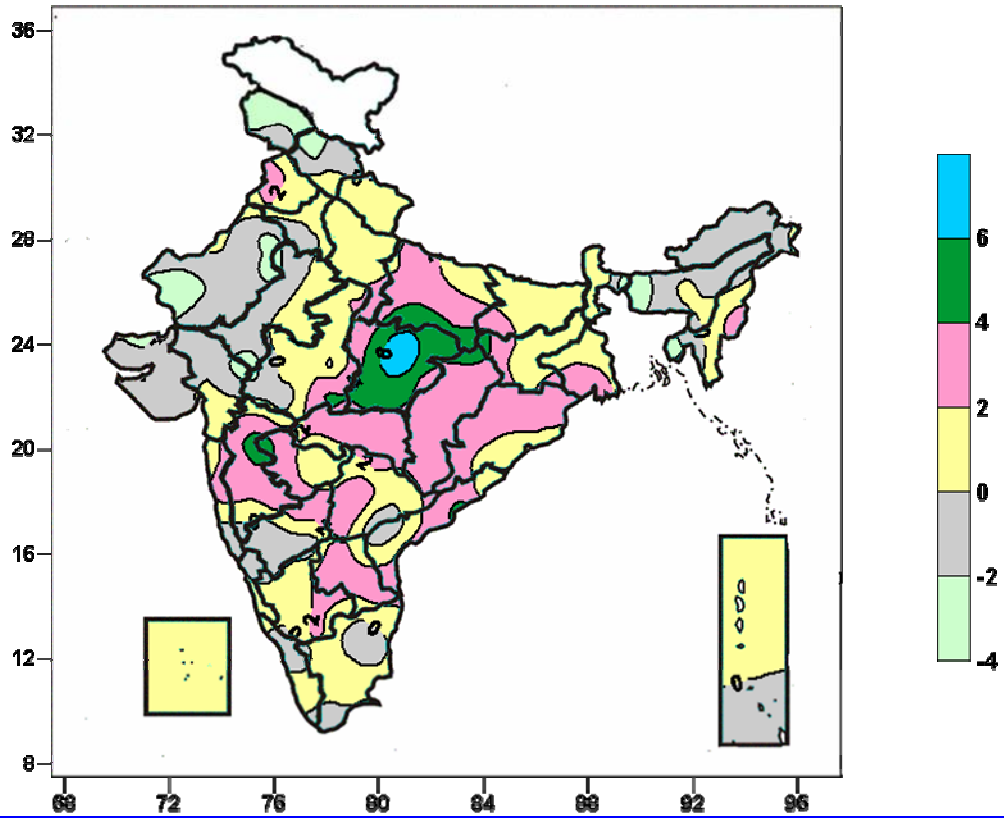
**Maximum Temperature (°C) Anomaly in India for the week ending 19.12.07**



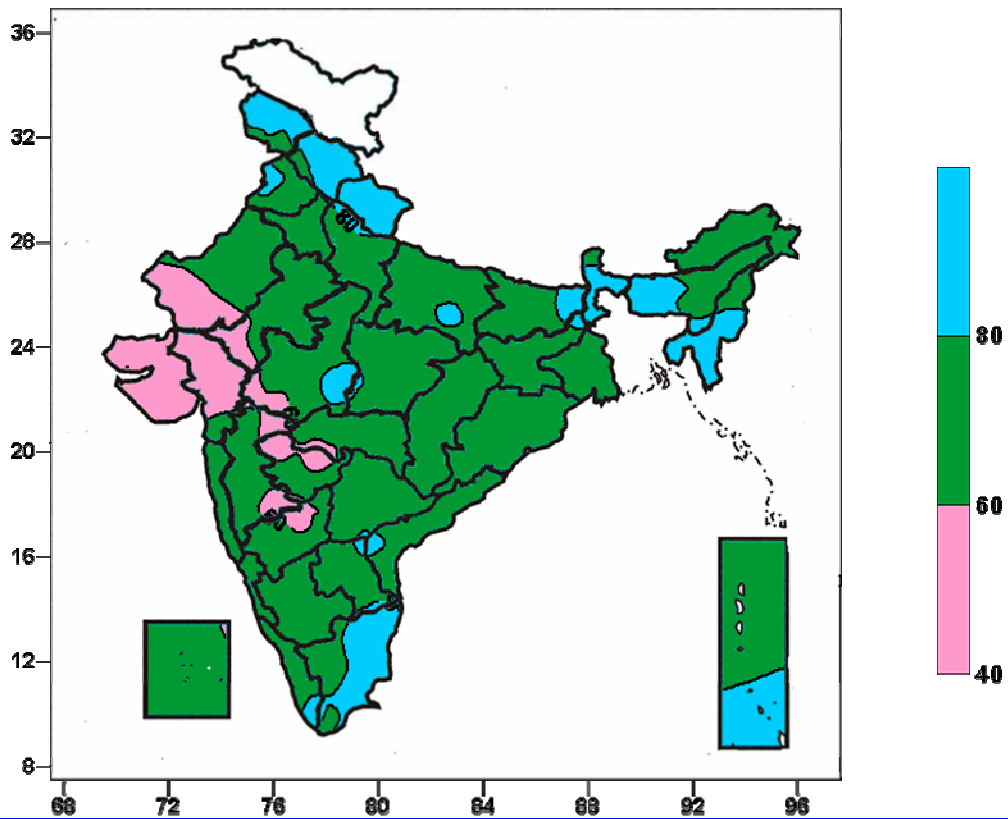
**Actual Mean Minimum Temperature (°C) in India for the week ending 19.12.07**



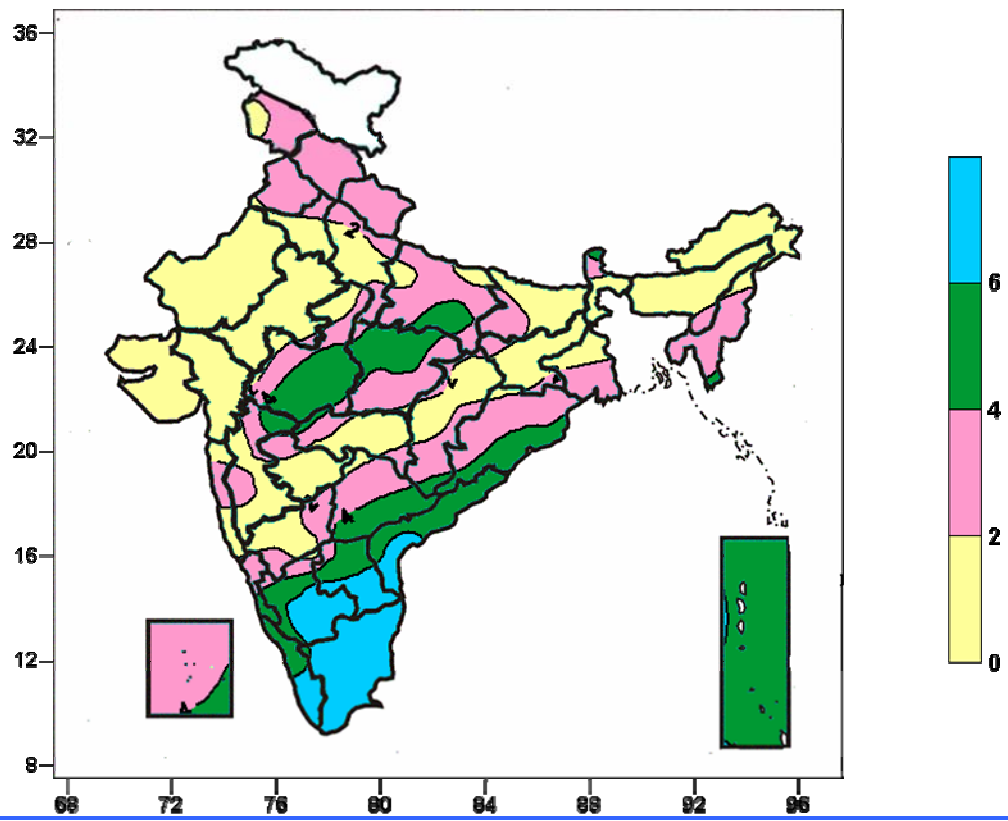
**Minimum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 19.12.07**



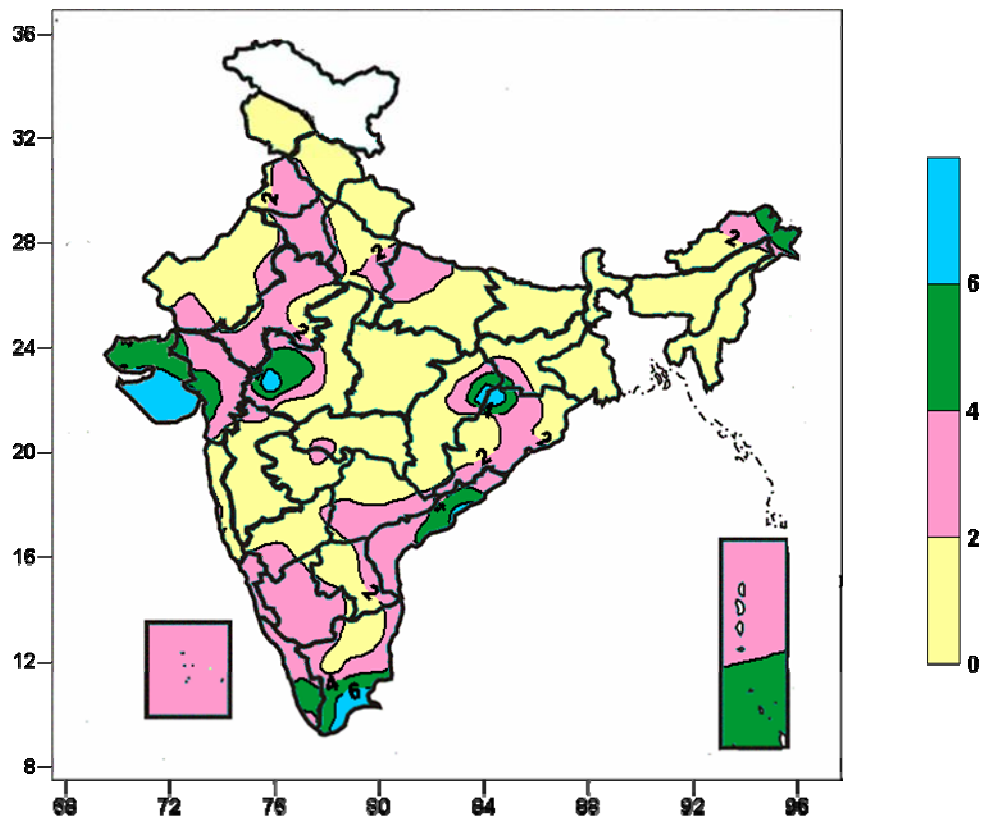
**Relative Humidity (%) over India for the week ending 19.12.07**



**Cloud amount (okta) over India for the week ending 19.12.07**



**Wind speed (knots) over India for the week ending 19.12.07**



## *Desert Locust Forecasting*



Under the prevailing weather conditions, there is no chance of locust infestation in Rajasthan and the adjoining areas during this week.

### *CROP – STATE – STAGE*

#### Delhi

Vegetables	Mustard	Wheat	Early sown wheat	Berseem
Vegetative	Vegetative	Sowing	Early vegetative / crown root initiation	Vegetative
<b>Gram</b>	<b>Barley</b>			
Vegetative	Vegetative			
Haryana				
<b>Sugarcane / Autumn sugarcane</b>	<b>Horticultural crops</b>	<b>Cotton</b>	<b>Cabbage, pea, garlic, potato</b>	<b>Toria</b>
Vegetative / early vegetative	Vegetative	Picking	Sowing	Flowering / fruiting
<b>Rabi oilseeds</b>	<b>Wheat</b>	<b>Rabi Pulses</b>		
Vegetative	Germination	Vegetative		

#### Himachal Pradesh

Vegetables (Ladies finger/ Cabbage, Cauliflower)	Potato	Apple	Toria	Wheat
Vegetative/ head formation Ladies finger -- Flowering/Fruiting	Sowing	New planting	Vegetative	Land preparation & sowing Early sown crops – germination / early vegetative / crown root initiation
<b>Barley</b>	<b>Gram</b>	<b>Oilseeds</b>		
Land preparation & sowing Early sown crops – germination / early vegetative	germination / early vegetative	Land preparation & sowing (Toria – vegetative)		



**Jammu & Kashmir**

Vegetable crops	Rice	Pulses	Brown Sarsun, Mustard	Toria
Early vegetative	Harvesting- Jammu div.	Early vegetative	Early vegetative	Harvesting
<b>Wheat</b>	<b>Barley, Oat</b>			
Crown root initiation / early vegetative	Land preparation for sowing			

**Punjab**

Sugarcane	Horticultural crop	Cabbage / garlic / pea / potato	Cotton	Rabi pulses
Vegetative	Vegetative	Sowing	Picking	Vegetative
<b>Autumn sugarcane</b>	<b>Wheat</b>	<b>Rabi Oilseeds</b>	<b>Irrigated toria</b>	
Early vegetative	Germination	Vegetative	Flowering / fruiting	

**Rajasthan**

Wheat & barley	Early sown wheat & barley	Rabi crops(Mustard, Barley, taramira, gram)	Early sown rabi crops	Potato
Sowing	Seedling	Sowing	Seedling / early vegetative	Planting
<b>Early sown potato</b>				
Sprouting				

**Uttar Pradesh**

Sugarcane	Vegetables	Rice	Rai , mustard	Toria
Cane maturity	Flowering / fruiting / maturity	Late Harvesting	Vegetative	Pod information
<b>Mango</b>	<b>Wheat</b>	<b>Rabi pulses</b>		
Vegetative	Seedling	Vegetative		

**Uttarakhand**

Pea	Toria	Sugarcane	Potato	Wheat
Pod formation	Maturity	Maturity	Tuber growth	Seedling / crown root initiation
<b>Mango/Litchi</b>				
Vegetative				

**Assam**

Sugarcane	Arhar	Horticultural plants	Boro rice	Winter vegetables
Harvesting	Pod formation / maturity	Planting	Nursery sowing	Land preparation & sowing / transplanting Early sown – early vegetative / vegetative
<b>Mustard, rapeseed, pea lentil etc.</b>	<b>Potato</b>	<b>Wheat</b>		
Vegetative / flowering / pod formation	Vegetative / tuber formation	Crown root initiation / tillering		

**Arunachal Pradesh**

WRC Rice	Ginger	Millet	Jhum Paddy	Potato
Harvesting	Harvesting	Harvesting	Harvesting	vegetative
<b>Rabi Vegetables</b>	<b>Wheat / Mustard</b>	<b>Pea / rabi maize</b>		
Vegetative	Early vegetative / vegetative (Mustard)	Vegetative		

**Bihar**

Vegetables & fruit crops	Maize fodder	Arhar	Sugarcane	Kharif rice
Sowing	vegetative	Vegetative	Vegetative	Harvesting
<b>Rabi oilseeds</b>	<b>Early sown Rabi oilseeds (rai, linseed)</b>	<b>Gram</b>	<b>Early sown pulses</b>	<b>Wheat</b>
Sowing	Early vegetative	sowing	Early vegetative stage	Late Sowing

**Jharkhand**

Pea, gram	Potato	Vegetables (Tomato, Brinjal, Bhendi)	Wheat
Early vegetative / vegetative	Early vegetative / vegetative	Early vegetative	Late Sowing

**Sikkim**

<b>Orange</b>	<b>Vegetables</b> (Cauliflower, Cabbage, Carot, Beat, tomato)	<b>Large Cardamom</b>	<b>Ginger</b>	<b>Rice</b>
Harvesting	vegetative	Nursery sowing	Harvesting	Harvesting
<b>Wheat</b>	<b>Mustard</b>			
Crown root initiation	Vegetative			

**West Bengal**

<b>Sugarcane</b>	<b>Arhar</b>	<b>Mustard / Rapeseed / Wheat / gram / lentil</b>	<b>Potato</b>	<b>Sunflower</b>
Cane development	Pod formation / pod maturity (Rabi arhar- early vegetative / vegetative)	Early vegetative / vegetative	Early vegetative / vegetative	Land preparation / sowing
<b>Early sown Sunflower</b>	<b>Boro rice</b>			
Germination / early vegetative	Nursery sowing			

**Chattisgarh**

<b>Sugarcane</b>	<b>Rapeseed, Toria, Niger, mustard</b>	<b>Early sown mustard, Toria and niger</b>	<b>Tomato, Brinjal, Chilli</b>	<b>Wheat</b>
Vegetative (autumn – Sprouting / early vegetative)	Rapeseed and mustard – Branching / Toria – vegetative / flowering	Germination / early vegetative	Vegetative / flowering	Land preparation & sowing
<b>Rabi crops</b>	<b>Early sown rabi crops</b>	<b>Potato</b>	<b>Early sown potato</b>	<b>Early sown Wheat</b>
Land preparation & sowing	Germination / early vegetative / vegetative	Land preparation & planting	Sprouting / early vegetative	germination / crown root initiation

**Gujarat**

<b>Sugarcane</b>	<b>Kharif Cotton</b>	<b>Castor</b>	<b>Mustard</b>	<b>Wheat</b>
Cane maturity/harvesting	Boll formation/ boll maturity / picking	Spike formation	vegetative	Land preparation & sowing
<b>Early sown wheat</b>				
Germination / early vegetative / crown root initiation				

**Maharashtra**

<b>Sugarcane Preseasonal</b> (Madhya Maharashtra, Marathwada & Vidarbha)	<b>Sugarcane (Suru)</b> (Madhya Maharashtra, Marathwada and Vidarbha)	<b>Rabi safflower</b> (Madhya Maharashtra, Marathwada & Vidarbha)	<b>Rabi Jowar</b> (Madhya Maharashtra, Marathwada & Vidarbha)	<b>Kharif Tur (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>
Active growth / elongation	Active growth / elongation	Active vegetative / flowering	Early vegetative	Pod formation / grain filling / grain maturity
<b>Kharif Cotton</b> (Madhya Maharashtra, Marathwada & Vidarbha)	<b>Irrigated cotton</b> (Madhya Maharashtra, Marathwada & Vidarbha)	<b>Potato (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Rabi onion (Madhya Maharashtra, Marathwada)</b>	<b>Early sown onion</b>
Boll maturity / picking	Boll maturity / picking	Early vegetative	Planting	Early vegetative
<b>Wheat (Konkan, Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Maize (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Gram (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>		
Germination / early vegetative / crown root initiation	Vegetative	Branching / flowering		

**Madhya Pradesh**

<b>Sugarcane</b>	<b>Rabi crops (linseed, lentil, gram, mustard)</b>	<b>Wheat</b>		
Grand growth	Early vegetative / vegetative	Germination / crown root initiation		

**Orissa**

<b>Kharif vegetables</b>	<b>Kharif rice</b>	<b>Dalua rice</b>	<b>Arhar</b>	<b>Mung and urd</b>
Vegetative / fruiting	Harvesting	Nursery sowing	Pod formation	Vegetative
<b>Sugarcane</b>	<b>Rabi oilseeds</b>	<b>Early sown oilseeds</b>		
Cane formation / maturity	Sowing	Early vegetative		

**Andhra Pradesh**

<b>Kharif Rice</b>	<b>Kharif Cotton</b>	<b>Kharif Groundnut</b>	<b>Rabi red gram / chillies</b>	
Harvesting	Picking	End Harvesting	Vegetative	

**Karnataka**

<b>Sugarcane (Ratoon crop)</b>	<b>Rabi Jowar/Maize/Cotton/Sunflower</b>			
Grand growth	Vegetative / flowering			

**Kerala**

<b>Rubber</b>	<b>Mundakkan Rice</b>	<b>Pepper</b>		
Tapping	Grain formation / maturity	harvesting		

**Tamil Nadu**

<b>Rice (Samba)</b>	<b>Sugarcane (Early, Mid season)</b>	<b>Special season sugarcane</b>	<b>Groundnut/Black gram/Green gram/Red gram</b>	<b>Early sown Groundnut/Black gram/Green gram/Red gram</b>
Vegetative	Cane development / maturity	Grand growth	Sowing	Early vegetative / vegetative
<b>Jowar/Bajra/Samai</b>	<b>Early sown jowar / bajra / samai</b>	<b>Cotton</b>	<b>Maize</b>	<b>Coriander</b>
Sowing	Early vegetative / vegetative	Picking	Grain formation	Sowing

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