



# 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 2<sup>nd</sup> to 6<sup>th</sup> August, 2007)

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



## Agromet Advisory

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

#### Kerala

- Southwest monsoon was weak over the State on 30<sup>th</sup> & 31<sup>st</sup> July. Rain occurred at most places on 1<sup>st</sup> August, at many places on 30<sup>th</sup> July and at a few places on 31<sup>st</sup> July.
- Rain/thundershowers are likely at many places in all the districts of the State.

**Warning:** Isolated heavy to very heavy rainfall is likely to occur over the State during next 48 hours.

#### Advisories

- Rain/thundershowers is likely to occur at many places over the State for the next three days. Under the circumstance, postpone irrigation to plantation crops viz., coconut, arecanut, rubber and banana.
- Postpone intercultural operations, application of fertilizers and pesticides in plantation crops.
- Arrange for drainage facilities to prevent water logging due to isolated heavy rainfall likely during next 48 hours.
- Monitor *virippu* rice for stem borer, leaf folder, brown plant hopper and gall midge and for blast & bacterial diseases. Spray Qunalphos 25 EC @ 750 ml/ha to control the pests and apply

*Pseudomonas* @ 2.5 kg along with 50 kg cowdung to control the diseases. Spraying of chemicals may be undertaken after current spells of rain.

- Attack of Rhinoceros beetle, red palm weevil, bud rot, stem bleeding and mite is reported in coconut. Fill leaf axil with 25 gm Sevidol 8G and fine sand 200 g to control rhinoceros beetle and red palm weevil. Spray 1% Bordeaux mixture to control bud rot. Chisel out the completely affected tissues and paint the wound with coal tar or Bordeaux paste to control stem bleeding disease. Spray 2% neem oil and garlic emulsion in the crown and bunches to control Eriophyid mite. Spraying of chemicals may be undertaken after current spells of rain.
- Attack of root grub and mahali disease is reported in arecanut. Apply Phorate @ 10 g/plant after current spells of rain to control root grub. Spray 1% Bordeaux mixture after current spells of rain to control the mahali disease.
- Attack of *Phytophthora* foot rot, quick wilt and pollu beetle is reported in pepper. Drench the vines over a radius of 45-50 cm with 0.2% copper oxy chloride. A foliar spray with 1% Bordeaux mixture also may be given after current spells of rain to control the diseases. Spray Quinalphos @ 0.05% to control pollu beetle. Spraying of chemicals may be undertaken after current spells of rain.
- Attack of bunchy top disease is reported in banana. Apply 25 gm phorate 10% G or 20 gm carbofuran 3 G per pit 20 days after planting around the rhizome and after current spells of rain. .

### **Tamilnadu**

- Rainfall occurred at many places over the State on 1<sup>st</sup> August and at a few places on 30<sup>th</sup> and 31<sup>st</sup> July.
- Rain/thundershowers are likely at a few places over the State.

### **Advisories**

- Undertake sowing of *samba* rice in the nursery. Do seed treatment with *Pseudomonas fluorescens* @ 10 g/kg before sowing. Transplanting may also be started where seedling are at proper age.
- As there was no significant rainfall in the state except in Chennai, Cuddalore, Dharmapuri, Krishnagiri, Nagappattinam, Pondicherry, Thiruvallaur, Thiruvannamalai and Vellore districts and rain/ thunder showers are likely at a few places only over the State for the next three days, apply irrigation to sugarcane and cotton. Postpone irrigation in the above mentioned districts as there was excess rainfall during last week .
- Undertake sowing of maize (*Adippattam* – July-Aug crop). Use 6 kgs of seeds/acre. Treat the seeds with *Azospirillum* and Phosphobacteria one packet each for one acre seeds.
- Monitor sugarcane for stem borer and if the pests population crosses ETL, release *Trichogramma* egg parasite @ 5cc/acre on non rainy day to control the pest.
- Continue picking matured cotton bolls on bright sunny days. Picking may be done at early morning hours to maintain quality of kapas.
- Continue sowing of rainfed groundnut, black gram, green gram and red gram. Use 112 kg pods/ha for groundnut and 20 kg/ha for pulse crops.
- Continue planting of special season sugarcane. Undertake sett treatment with *Azotobacter* before planting.
- Start sowing rainfed millet crops like jowar, bajra and samai. Undertake seed treatment with *Azospirillum* before sowing.

### **Karnataka**

- On 30<sup>th</sup> July, rainfall occurred at most places over Coastal Karnataka and at a few places over Interior Karnataka. On 31<sup>st</sup> July, rainfall occurred at most places over Coastal Karnataka, at many places over South Interior Karnataka and at a few places over North Interior Karnataka. On 01<sup>st</sup> August, monsoon was weak over Coastal Karnataka. Rainfall occurred at many places

over Coastal Karnataka and South Interior Karnataka and at isolated places over North Interior Karnataka.

- Rain/thundershowers likely at many places over Coastal Karnataka and at a few places over South Interior Karnataka and North Interior Karnataka.

**Warning:** Isolated heavy to very heavy rainfall is likely over Coastal Karnataka during next 48 hours.

#### **Advisories**

- Postpone irrigation to summer sugarcane, *Kharif* jowar, maize, cotton, groundnut and sunflower as rain/thunder showers is likely to occur at many places over Coastal Karnataka for the next three days Postpone irrigation in Bangalore, Chamrajnagar, Kodagu and Shimoga districts in South Interior Karnataka as there was excess rainfall during last week. Apply irrigation in the remaining districts as there was no significant rainfall during last week.
- Provide drainage facilities in Coastal Karnataka to avoid water logging due to isolated heavy to very heavy rainfall likely during next 48 hours.
- Continue intercultural operations, application of fertilizers and pesticides to *kharif* jowar, maize, cotton, groundnut and sunflower after spells of rain in Coastal Karnataka and on a non rainy day in Interior Karnataka.
- Monitor groundnut for red hairy caterpillar and if the pests population crosses ETL, undertake plant protection measures after spells for rain in Coastal Karnataka and on a non rainy day in Interior Karnataka to control the pest.
- Monitor sugarcane for white woolly aphids in Mysore, Mandya and Hassan districts and release predators *viz.*, *Dipha* sp after spells of rain in Coastal Karnataka and on a non rainy day in Interior Karnataka to control the pest.

#### **Andhra Pradesh**

- Rain/thundershowers are likely at a few places over the State.

#### **Advisories**

- Continue main field preparation and transplanting of *kharif* rice by utilizing the monsoon rainfall. Transplant rice seedlings at proper age. Apply pre-emergence herbicide Butachlor @ 1 litre/ha on 3<sup>rd</sup> day after planting.
- There was no significant rainfall in the state during last week except in Guntur, Nellore and Prakasam districts in Coastal Andhra Pradesh, Mehbubnagar district in Telangana and in Chittoor district in Rayalaseema and rain/thundershowers is likely to occur at a few places only for the next three days. Under the circumstances, apply irrigation to *kharif* crops *viz.*, groundnut, cotton, maize, green gram and black gram to bring the soil moisture to field capacity. Postpone irrigation in the above mentioned districts as there was excess rainfall during last week.
- Incidences of stem borer have been reported in maize. Spray Endosulphan @ 2 ml/litre of water on a non rainy day to control the pest if the damage crosses ETL.
- Monitor cotton for sucking pests and if the damage crosses ETL spray Imidachloprid @ 0.5 ml/litre of water on a non rainy day to control the pest.
- Undertake earthing up in early sown *kharif* crops on a non rainy day to keep the field weed free.

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

#### **Assam**

- Light to moderate rain occurred at most places with isolated heavy to very heavy falls on 1<sup>st</sup> August and isolated rather heavy to heavy falls on 30<sup>th</sup> July & 31<sup>st</sup> July over the State.
- Rain/ thundershowers are likely at a few places over the State.

## Advisories

- ***Sali* rice is damaged in few localities due to flood.**
- Prepare land for transplanting of *Sali* rice in main field. Apply urea @ 6 kg, SSP @ 17 kg, Mop @ 4 kg per bigha. The uprooted seedlings are to be washed and then the root portion is dipped in 0.2% solution of Chloropyriphos (1 ml per litre of water) along with 1% of urea for three hrs as protective measure against stem borer, gall midge and and hopper.
- As sufficient rain occurred in most of the districts of the State during last week, postpone irrigation to vegetables, sugarcane and arhar.
- Harvest already matured crop of jute and maize.
- Jute crop is to be harvested at small pod stage to get optimum yield and good quality fibre.
- Harvesting of maize should be done as soon as husk cover turns brown in colour and the silks are completely dry. Avoid harvesting immediately after shower. Birds may damage maize crop at maturity stage. The matured cobs can be protected from attack of birds by tying the cobs with leaves of same plant. Shining coloured strips may also be used to scare the birds.
- Old and dry leaves should be removed and sugarcane should be provided with mechanical support to prevent lodging.
- Incidence of hispa and stem borer was noticed in *Sali* rice in few localities. Monitor the infestation of hispa and stem borer. If one adult is noticed per hill, insecticides like Chloropyriphos 20 E.C. @ 2 ml per litre of water or Monocrotophos 40 EC @ 1.5 ml per litre of water is to be applied. Apply chemicals on a non-rainy day. For management of yellow stem borer *Trichogramma Japonicum* @ 50,000 per hectare in six releases are to be used.
- There is mild chance of attack of stem borer in sugarcane. Attack can be checked by burying and burning the infested canes. If attack crosses economic threshold level, apply Phosphomidon @ 1½ ml per litre of water (70 ml per bigha) on a non-rainy day 2-3 times fortnightly interval starting from the rush of egg laying.

## Arunachal Pradesh

- Sky remained mainly cloudy over the State during the period. Light to Moderate rain / thundershowers occurred at most places during this period.
- Rain/thundershowers are likely at a few places over the State.

## Advisories

- As there was excess in most of the districts during last week and rain/thundershowers are likely at a few places over the State for the next three days, postpone irrigation to millet, maize, *jhum* paddy and ginger crops. Arrange extensive drainage facilities to avoid water logging as ginger and maize crops are highly sensitive to water logging.
- Continue weeding, spraying and intercultural operations on a non rainy day.

## Bihar

- Moderate to heavy rain occurred at all places. Very heavy rainfall occurred at one or two places.
- Rain/thundershowers are likely at many 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.

## Advisories

- Transplanting of rice may be continued. Provide drainage in nursery bed and already transplanted field.
- As rain/thundershowers are likely at many places over the State during next 24 hours and decrease thereafter with isolated heavy to very heavy rainfall during next 24 hours, postpone irrigation to maize, arhar and sugarcane. Provide drainage facilities to avoid water logging due to heavy rainfall.

- Monitor the mango for mealy bug or hopper & if exceeds economic threshold level, then spray with Carboryl @ 2g/litre of water after current spells of rain.

### **Jharkhand**

- SW Monsoon was active over the State. Rainfall occurred at many places.
- Rain/thundershowers are likely at a few places over the State.

### **Advisories**

- Complete transplanting of *Kharif* rice and continue sowing of upland crops viz. maize, arhar, groundnut, soybean, urad, and rice.
- As there was sufficient rain in most of the districts in the State and rain/thundershowers are likely at a few places for the next three days, postpone irrigation to vegetables, maize, arhar, groundnut, soybean and urad. Provide drainage facilities to avoid waterlogging.
- To prevent from powdery mildew of small fruits in Mango and Litchi, spray sulfex@ 2gm/litre of water in a non rainy day.
- Monitor the crop for stem borer infestation and if exceeds economic threshold level, about 10 granules of carbofuron should be applied in earhead. After weeding, top dressing of urea @ 75 kg urea per hectare may be applied in a non rainy day and do earthing.

### **Sikkim**

- Sky remained overcast during the period. Moderate to nearly heavy rain occurred on 26<sup>th</sup> July to 28<sup>th</sup> July and moderate rainfall on rest days of the period at most places over East Sikkim. The rainfall was excess during the period.
- Rain/thundershowers are likely at many 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 hrs.

### **Advisories**

- As rain / thundershowers are likely at many places over the State, postpone irrigation and intercultural operation to large cardamom, orange, vegetables, maize and ginger.
- Arrange for drainage facilities to prevent water stagnation in the field as heavy to very heavy rainfall is likely to occur at isolated places in the next 24 hours.
- Maintain 4-5 cm water level in the rice field.
- Monitor large cardamom for chirkey and forkey disease and rouge out the affected plants to prevent further damage. Also collect and destroy leaf eating caterpillars.
- Continue harvesting matured vegetable crops as per market demand.
- Monitor ginger for rhizome rot and bacterial wilt and rouge out the affected plants and destroy completely to prevent further damage.
- Monitor orange for leaf miner and trunk borer. Spray neem based pesticides after spells of rain to control leaf miner. Plug trunk borer holes with cotton soaked with kerosene and later with mud after spells of rain to prevent trunk borer.

### **West Bengal**

- SW-Monsoon has been active over Gangetic West Bengal on 1<sup>st</sup> August and over Sub Himalayan West Bengal on 30<sup>th</sup> July to 1<sup>st</sup> August.
- Rain/thundershowers are likely at a few places over Gangetic West Bengal during next 24 hours and increase thereafter. Rain / thundershowers are likely at a few places over the rest region.

### **Advisories**

- As most of the districts received sufficient rain during last two weeks and rain / thundershowers are likely at a few places over the State, postpone irrigation to sugarcane, jute, groundnut and arhar.

- Transplant 25 – 30 days old seedlings of *aman* rice in the main field. Apply 15 kg N, 30 kg P<sub>2</sub>O<sub>5</sub> and 30 kg K<sub>2</sub>O / ha to short duration varieties and 20 kg N, 40 kg P<sub>2</sub>O<sub>5</sub> and 40 kg K<sub>2</sub>O / ha to medium and long duration varieties. Select varieties from Hira, Aditya, Prasanya etc. for broadcasting and Rassi, Tulsi, Annada, Biraj, IR – 64, IR – 36, Ratna, Swarna, Nalini, Amulya etc. for transplanting.
- Maintain 3 – 5 cm water in the field of *aus* rice.
- Undertake intercultural operation on a non-rainy day to keep the field weed free.

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

### Gujarat

- Monsoon was active over Gujarat Region on 30<sup>th</sup> July. Rainfall occurred at a few places over Saurashtra and Kutch on 30<sup>th</sup> July and over entire Gujarat State on 31<sup>st</sup> July. It occurred at isolated places over Gujarat Region on 1<sup>st</sup> August and at a few places on 2<sup>nd</sup> August. It also occurred at a few places over Saurashtra and Kutch on 1<sup>st</sup> and 2<sup>nd</sup> August.
- Rain/thundershowers are likely at many places over south Gujarat and at a few places over the rest of the State.

### Advisories

- Prepare the main field by puddling method and transplant 25 – 30 days old rice seedlings in the field.
- As rain / thundershowers are likely at many places over south Gujarat for next three days, postpone irrigation and intercultural operation to sugarcane, *kharif* groundnut, *kharif* cotton, *kharif* bajra and *kharif* maize.
- Apply irrigation to the crops and also undertake intercultural operation on a non-rainy day to keep the field weed free in remaining parts of the State.
- For monitoring and management of bollworm in *kharif* cotton, hang 5 pheromone traps in one ha of land. Change the lures at an interval of 15 days. Destroy trapped moths every day.
- Maintain 2 – 3 cm water after 3 – 4 days after transplanting of *kharif* rice. Maintain 3 – 5 cm water at tillering stage.

### Chhattisgarh

- Rainfall occurred at one or two places on 30<sup>th</sup> and 31<sup>st</sup> July and at a few places on 1<sup>st</sup> August over the State.
- Rain/thundershowers are likely at a few places over Chhattisgarh during next 48 hours and increase thereafter.

### Advisories

- Prepare land and transplant 25 – 30 days old seedlings of *kharif* rice in the main field. Transplant 2 – 3 seedlings per hill. Half part of Nitrogen and full dose of Phosphorus and Potash may be applied at the time of land preparation. Germinated sowing may be done in the field with excess water. The suitable varieties are Mahamaya, MTUS – 1010, IR-64, Bamleshwari, Chandrahasani etc.
- Maintain 2 – 3 cm water after 3 – 4 days after transplanting of *kharif* rice. Maintain 3 – 5 cm water at tillering stage.
- As rain / thundershowers are likely at a few places over the State during next 48 hours and enhanced rainfall activity with the isolated heavy to very heavy fall thereafter, postpone irrigation to sugarcane and maize and also to black gram, groundnut and soybean and also make arrangement to drain out excess water from the field.
- When the sugarcane crop attains a height of 5 – 6 feet, 4 – 5 plants may be tied together to prevent lodging from gusty wind.

### Maharashtra

- Monsoon was vigorous in Konkan on 30<sup>th</sup> July. Rain occurred at most places in Konkan, at a few places in Madhya Maharashtra, Marathwada & Vidarbha.

- Rain / thundershowers are likely at many places over Konkan & Goa and Madhya Maharashtra, at a few places over Marathwada and at isolated places over Vidarbha.

**Warning:** Isolated heavy to very heavy rainfall is likely over Konkan & Goa during next 48 hours.

### Advisories

- As there was no significant rain in Latur and Osmanabad of Marathwada and most of the districts of Vidarbha during last week and significant rain/thundershowers are also not likely to occur over these regions during next three days, apply irrigation to the standing crops.
- As sufficient rain occurred in rest of the districts of Marathwada during last week and rain / thundershowers are likely at many places over Madhya Maharashtra during next three days, postpone irrigation to the crops in these regions.
- Maintain 3 – 5 cm water in the rice field wherever crops are at tillering stage.
- A dose of 60 kg Nitrogen / ha may be applied after 30 days from sowing to *kharif* jowar.
- Apply 44 kg Urea / ha for non-irrigated *bajra* & 88 kg Urea / ha for irrigated *bajra* after 25 to 30 days from sowing to the crop.
- Apply 125 kg Gypsum per hectare after 25 to 30 days from sowing of *kharif* groundnut.
- A dose of 30 kg Nitrogen / ha may be applied after 30 days from sowing of *kharif* sunflower.
- Mild incidence of white woolly aphids, white fly, blast, rust in western Maharashtra in sugarcane (pre-seasonal) and sap sucking insects in Aurangabad division and aphids & jassids in Amravati & aphids, jassids, thrips in Nashik division in irrigated cotton is reported.
- Monitor sugarcane (pre-seasonal) 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 rust in sugarcane and if exceeds economic threshold level, spray Dithen M-45 1.5 gm / liter water with sticker (1 ml / liter water).
- Monitor blast in sugarcane and if exceeds economic threshold level, spray Carbendazim 1.5 gm / liter water.
- Monitor white fly in sugarcane and if exceeds economic threshold level, spray Oxydimeton methyle 3 ml or Dimethoate 2 ml / liter water.
- For the control of Sap sucking insects and aphids, jassids & thrips in irrigated cotton, spray 5 % Neem extract or release 10,000 to 15000 larvae of *Crysoperla carnea* and if infestation exceeds economic threshold level, spray 30 % WSC Diamethoate 1000 ml or 25 % WSC Methyl dimeton 320 ml / ha in 500 liters water.
- Undertake intercultural operation and apply fertilizer and plant protection measures on a non rainy day in Marathwada & Vidarbha. Postpone the same in Madhya Maharashtra.

### Madhya Pradesh

- Rainfall occurred at many places in South East M.P. on 31<sup>st</sup> July and 1<sup>st</sup> August, at a few places in South M.P. on 30<sup>th</sup> July, South West M.P. on 31<sup>st</sup> July and 1<sup>st</sup> August and at isolated places over the rest of the State for remaining period.
- Rain/thundershowers are likely at a few places over north Madhya Pradesh and isolated over rest region of the State.

### Advisories

- There was no significant rainfall in most of the districts in the State for the past two weeks. In order to save the crops from moisture stress, apply supplementary irrigation to sugarcane and other *kharif* crops viz., soybean, maize, urd and jowar.

- Monitor rice and soyabean for pests and diseases. Undertake plant protection measures if the damage crosses ETL. Spraying of pesticides may be undertaken on a non rainy day in north Madhya Pradesh.
- Undertake intercultural operation in sugarcane and *kharif* crops to keep the field weed free. Intercultural operations may be continued on a non rainy day in north Madhya Pradesh.

### **Orissa**

- Rain fall occurred at isolated places over Orissa during the above period.
- Rain / thundershowers are likely to occur at a few places over the State during next 48 hours and increase thereafter.

**Outlook for subsequent two days:** Enhanced rainfall activity is likely to continue over the state.

### **Advisories**

- As rain / thundershowers are likely at a few places during next 48 hours and enhanced rainfall activity with the isolated heavy to very heavy rainfall thereafter, postpone irrigation to the crops and also make arrangement to drain out excess water from the field.
- Continue sowing / transplanting of rice and vegetable crops for next 2 days and postpone thereafter as isolated heavy rain is expected.
- Monitor sugarcane for top shoot borer and if the damage exceeds ETL, undertake spraying of Monocrotophos or Triazophos or Prefonophos @ 400 ml/acre on a non rainy day to control the pest.
- Monitor jute for leaf eating caterpillar and spray Endosuphan @ 2.5 ml/liter of water if the damage crosses ETL on a non rainy day to control the pest.

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

### **Punjab**

- Rainfall occurred at isolated places during the period.
- Rain/thundershowers are likely at a few places over the State.

### **Advisories**

- Area which is uncovered may be diverted for *Kharif* Pulses. All available water resources may be utilized to save already transplanted paddy.
- As there was no significant rainfall in most of the districts during last three weeks and rain/thundershowers are likely at a few places over the State during next three days, apply irrigation to sugarcane, cotton, pulses, groundnut(early sown crop) and Horticultural crops.
- Attack of mealy bug in cotton has been observed. Farmers are advised to take adequate plant protection measures, and host plants may be destroyed to control further spread. They are also advised to spray recommended pesticides and to destroy them manually. Adequate arrangement be made to drain out standing water.

### **Haryana**

- Rainfall occurred at isolated places during the period.
- Rain/thundershowers are likely at many places over the State during next 48 hours and decrease thereafter.

**Warning:** Isolated heavy to very heavy rainfall is likely over the State, during next 24 hours.

### **Advisories**

- As rain/thundershowers are likely at many places over the State during next 48 hours and decrease thereafter, with isolated heavy to very heavy rainfall is likely over during next 24 hours, postpone irrigation to sugarcane, cotton, pulses, groundnut(early sown crop)and Horticultural crops. Arrange to provide drainage facilities in already sown crops.



- Area which is uncovered may be diverted for Kharif Pulses. All available water resources may be utilized to save already transplanted paddy.
- Incidence of thrips on cotton, white fly on moong, and shoot borer in sugarcane reported below ETL. Monitor the crop & if exceeds economic threshold level, for effective control of cotton thrips, spray 250ml Rogor 30EC per hectare, Metasystox 25EC 1ml/l of water to control white fly in moong, and sprinkle Endosulfan 5 percent granules in the leaf whorls and axils for effective control of shoot borer in sugarcane after current spells of rain.

### **Rajasthan**

- Light to moderate rain / thundershower occurred at few places with heavy rainfall at isolated places in East Rajasthan and light rain / thundershower occurred at isolated places in West Rajasthan.
- Rain/thundershowers are likely at many places over East Rajasthan and at a few places over the rest of the State.

### **Advisories**

- Postpone irrigation, intercultural operations and application of fertilizers and pesticides to early sown *kharif* crops viz., bajra, groundnut, maize, guar, moong, moth bean and urd in East Rajasthan as rain/thundershowers are likely at many places for the next three days.
- As rain/ thundershowers are likely at a few places only in West Rajasthan for the next three days, apply supplementary irrigation to the crops.
- Undertake intercultural operations in early sown *kharif* crops after spells of rain in East Rajasthan and on a non rainy day in West Rajasthan to keep the field weed free.
- Monitor *desi* and *American* cotton for sucking pests. If the pests population crosses ETL, spray Endosulphan @ 1.25 liters/ha to control the pests after spells of rain in East Rajasthan and on a non rainy day in West Rajasthan.

### **Uttar Pradesh**

- Moderate to rather heavy rain occurred at most places in Gorakhpur division and at few places in Faizabad division and at isolated places in Varanasi, Lucknow division and weather was mainly dry in remaining divisions of U.P. on 30<sup>th</sup> July. Monsoon been active in whole U.P. Heavy rain occurred at isolated places in Bareilly, Lucknow, Faizabad, division and at most places in Allhabad, Gorakhpur, Moradabad divisions of U.P. Light rain occurred at a few places in Varanasi, Lucknow division and at isolated places in Agra, Jhansi division and weather was mainly dry in remaining divisions of U.P. on 31<sup>st</sup> July. Very heavy rain occurred at isolated places in Faizabad division. Heavy rain occurred at most places in Meerut, Bareilly, Gorakhpur Varanasi, Allhabad divisions and at many places in Faizabad, Lucknow Kanpur divisions and at isolated place in Jhansi division .Weather being mainly dry in Agra, Moradabad division on 1<sup>st</sup> August.
- Rain/thundershowers are likely at many places over West Uttar Pradesh and East Uttar Pradesh during next 48 and 24 hours respectively and decrease thereafter.

**Warning:** Isolated heavy to very heavy rainfall is likely over the State during next 24 hours.

### **Advisories**

- Continue transplanting of *Kharif* rice. Aswani, Saket-U, Govind, Narendra-118, Narendra-97 varieties may be selected.
- Continue sowing of til and soybean after current spells of rain.
- As rain/thundershowers are likely to occur at many places over the State with isolated heavy to very heavy during next 24 hours, postpone irrigation to the standing crops. Provide adequate drainage facilities in the already sown crops.
- Proper drainage arrangements for avoiding waterlogging in Turmeric may be done.
- Monitor the top borer in sugarcane, if exceeds economic threshold level, apply Furadon 3G granules@ 33kg/ha near the drains of sugarcane field after current spells of rain.

## **Himachal Pradesh**

- Precipitation occurred at a few places in the State.
- Rain / thundershowers are likely at many places over the State till tomorrow and decrease thereafter.

**Warning:** Isolated heavy to very heavy rainfall is likely over the State during next 24hrs.

### **Advisories**

- Continue land preparation and transplanting of rice after current spells of rain. The seedbed should be irrigated a day before uprooting of the seedlings. The seedlings should be pulled gently so that the roots are not injured. Repair all bunds. Incorporate all the organic matter about two weeks ahead of transplanting by ploughing the field to enable decomposition. Begin puddling about 2-3 days before transplanting. Prepare the field into a soft puddle. This will help minimize losses due to percolation of water. Uniformly level the fields before application of fertilizers.
- Harvest already matured fruits of apple.
- As rain / thundershowers are likely at many places over the State, postpone irrigation, intercultural operation and fertilizer application to vegetables, potato and maize.
- As isolated heavy to very heavy rainfall is likely over the state during next 24 hrs, arrange for draining out of excess water from the field of standing crops.
- Maintain 3 – 5 cm water in rice field wherever crops are at tillering stage.
- There is mild chance of attack of leaf spot disease in cabbage and cauliflower. If attack crosses economic threshold level, spray dithane M - 45 after current spells of rain to control the disease.
- There is mild chance of attack of late blight disease in potato. If attack crosses economic threshold level, spray blitox – 50 / copper oxychloride @ 300 g in 100 litres of water after current spells of rain to control the disease.

## **Uttarakhand**

- Moderate to very heavy rainfall was recorded at many places on 1<sup>st</sup> August. Moderate to heavy rain at many places on 26<sup>th</sup> July. Moderate rain at many places on 31<sup>st</sup> July , very light to heavy rain at a few places on 30<sup>th</sup> July while light to moderate rain was recorded at a few places on rest of the days of the week.
- Rain/thundershowers are likely at many places over the State during next 48 hours and decrease thereafter.

**Warning:** Isolated heavy to very heavy rainfall is likely over the State during next 24 hours.

### **Advisories**

- As rain/thundershowers are likely at many places during next 48 hours and decrease thereafter with isolated heavy to very heavy rainfall for the next 24 hours over the state, postpone irrigation to sugarcane, potato, and ginger. Provide drainage facilities to avoid waterlogging due to heavy rainfall.
- Complete transplanting of rice. Apply pre-emergence herbicide Butachlor @ 1 litre/ha on 3<sup>rd</sup> day after planting to control weeds. Apply herbicide after current spells of rain due to heavy rain.
- Undertake intercultural operations after current spells of rain to keep the field weed free in potato, sugarcane, rice and in orchards.
- Monitor apple for thrips and mites, if the pest population crosses ETL and undertake plant protection measures after current spells of rain.

## **Jammu & Kashmir**

- Light rain has occurred at isolated places on 31<sup>st</sup> July and 1<sup>st</sup> August. Weather remained dry on 30<sup>th</sup> July over J & K divisions.
- Rain/thundershowers are likely to occur at a few places over the State.

### **Advisories**

- Continue land preparation and transplanting of rice in the main field in Jammu division. Transplant healthy seedlings @ 3 seedlings/ hill in 15x15 to 20x15 cm row to row and plant to plant spacing. Apply pre-emergence herbicide Butachlor @ 1 litre/ha on 3<sup>rd</sup> day after transplanting to control the weeds.
- There was no significant rainfall in the State during last week and rain/ thundershowers is likely at a few places over the state for the next three days. Under the circumstances, apply irrigation to maize, vegetable and fruit crops in Kashmir division and to maize in Jammu division.
- Maintain 5 cm standing water in rice field in Kashmir division.
- Monitor cucurbits for downey mildew and tomato for blight and *Septoria* leaf spot in Jammu division. Spray Dithane-Z-78 @ 0.3% on a non rainy day to prevent the disease. Rouge out yellow mosaic affected bhindi to prevent further damage.
- Continue sowing of cabbage, cauliflower, kale and knoll-khol in nurseries and sowing of carrot for seed purpose in Kashmir division.
- White wash bottom portion of trees on a non rainy day to prevent termite attack. Undertake planting citrus, litchi, loquat, guava and papaya in orchards in Jammu division.
- Monitor pulse crops for mosaic and rouge out the affected plants to prevent further damage.

### **Delhi**

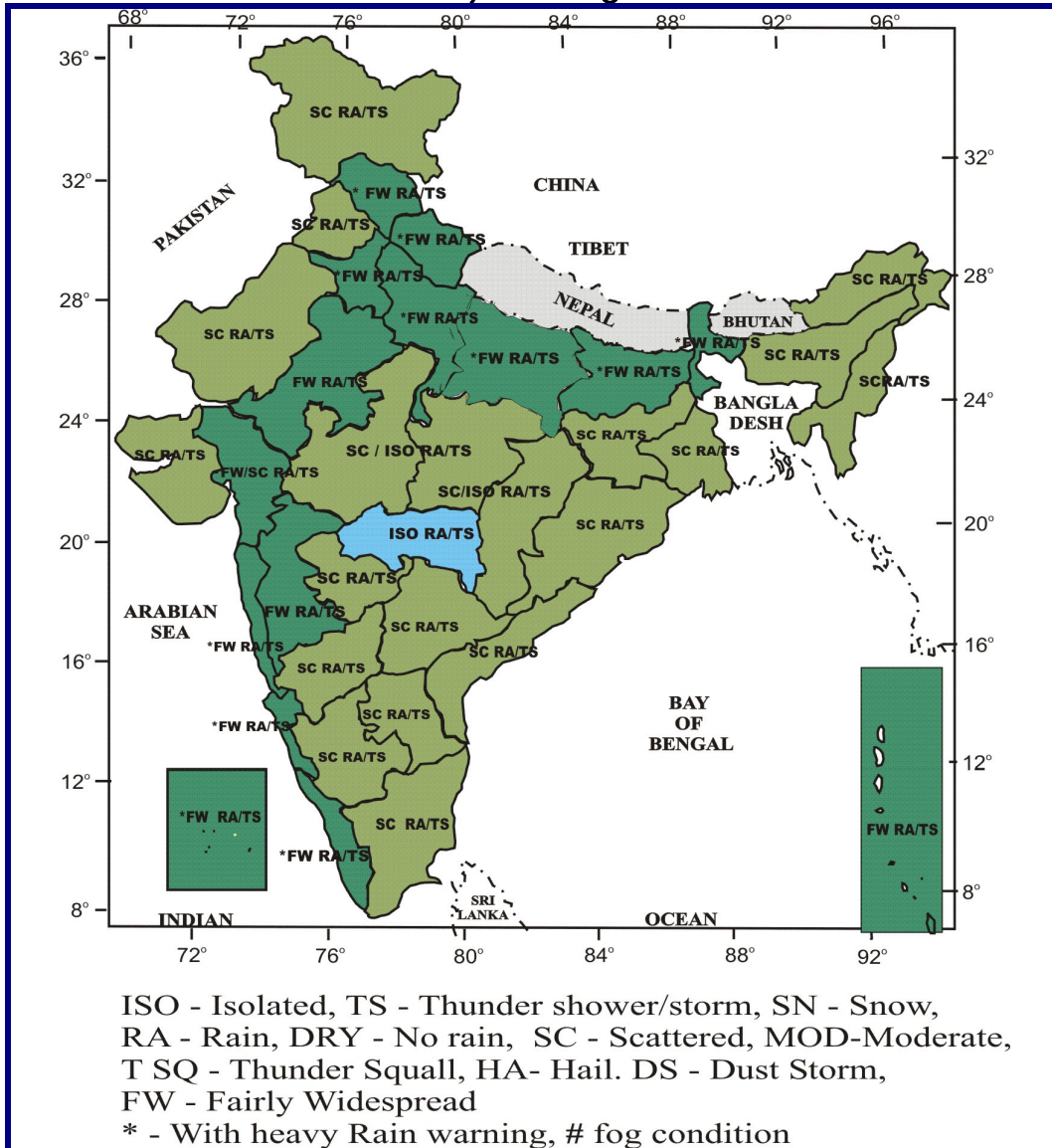
- Weather remained mainly dry.
- Rain / thundershowers are likely at many places over the State till tomorrow and decrease thereafter.

**Warning:** Isolated heavy to very heavy rainfall is likely over the State during next 24hrs.

### **Advisories**

- As rain / thundershowers are likely at many places over the State, postpone irrigation to vegetables and also to arhar, maize and bajra.
- As isolated heavy to very heavy rainfall is likely over the State during next 24 hrs, also arrange for draining out of excess water from the field.
- Maintain 3 – 5 cm water in the rice field at tillering stage. Apply urea @ 100 kg / ha after current spells of rain at 3 – 4 weeks after transplanting.
- Prepare land and perform sowing of transplanting of 5 – 6 weeks old early cauliflower and cabbage and nursery sowing of mid period cabbage and cauliflower after current spells of rain.
- Also postpone intercultural operation and application of fertilizer and plant protection measures to the crops.

**Forecast Map**  
**Valid upto 5<sup>th</sup> August 07**



*Salient weather features for the week ending 01/08/07*

**METEOROLOGICAL ANALYSIS**

- The axis of the monsoon trough ran close to the foothills of the Himalayas on 26th. It ran north of its normal position across Punjab, Haryana, Uttar Pradesh, Bihar and Assam during remaining days of the week.
- Last week's upper air cyclonic circulation in the lower tropospheric levels lay over Assam & adjoining Arunachal Pradesh persisted on 26th and moved away eastwards on 27th.
- The other cyclonic circulation over Tamil Nadu & neighbourhood became less marked on 26th.
- An off-shore trough extended from south Maharashtra coast to Kerala coast during 26-29th and from south Gujarat coast to Kerala from 30th July to 1st August.
- An upper air cyclonic circulation extending upto mid-tropospheric level lay over southwest Bay of Bengal and adjoining coastal areas of north Tamil Nadu and south Andhra Pradesh during 30th July to 31st July. It lay over south Coastal Andhra Pradesh & neighbourhood between 1.5 to 5.8 a.s.l. on 1st August.

- Last week's trough in westerlies extending from Jammu & Kashmir to northeast Arabian Sea across Pakistan persisted in lower tropospheric levels during 26 - 29th and became less marked thereafter. An embedded cyclonic circulation lay over north Pakistan and adjoining Punjab during 27 to 29th.
- Another trough in westerlies ran from north Pakistan to northwest Arabian Sea on 30th & 31st in lower troposphere levels. It ran from Jammu & Kashmir to northeast Arabian Sea on 1st August with embedded upper air cyclonic circulation over north Pakistan and adjoining Punjab.

## **RAINFALL**

Under the influence of the above systems:

- The central, west and adjoining northwest and peninsular India continued to experience subdued rainfall activity with isolated to scattered rainfall during many days of the week.
- Widespread to fairly widespread rainfall continued to occur over northeast India, West Bengal & Sikkim, Bihar, Jharkhand and East Uttar Pradesh during the week. Southwest Monsoon was active/vigorous over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim on many days and over Nagaland, Manipur, Mizoram & Tripura, Bihar, Jharkhand and East Uttar Pradesh on a few days.
- Widespread to fairly widespread rainfall occurred along the west coast during many days of the week. Tamil Nadu & Puducherry and Rayalaseema experienced vigorous monsoon condition on last day of the week.
- Rainfall During The Week (For the week ending on 1st August, 2007)

### **RAINFALL DURING THE WEEK (FOR THE WEEK ENDING ON 1<sup>ST</sup> AUGUST, 2007)**

Rainfall was excess/normal in 18, deficient/scanty in 18 out of 36 meteorological sub-divisions (Actual: 65.1 mm, Normal: 67.2 mm and Departure: -3%).

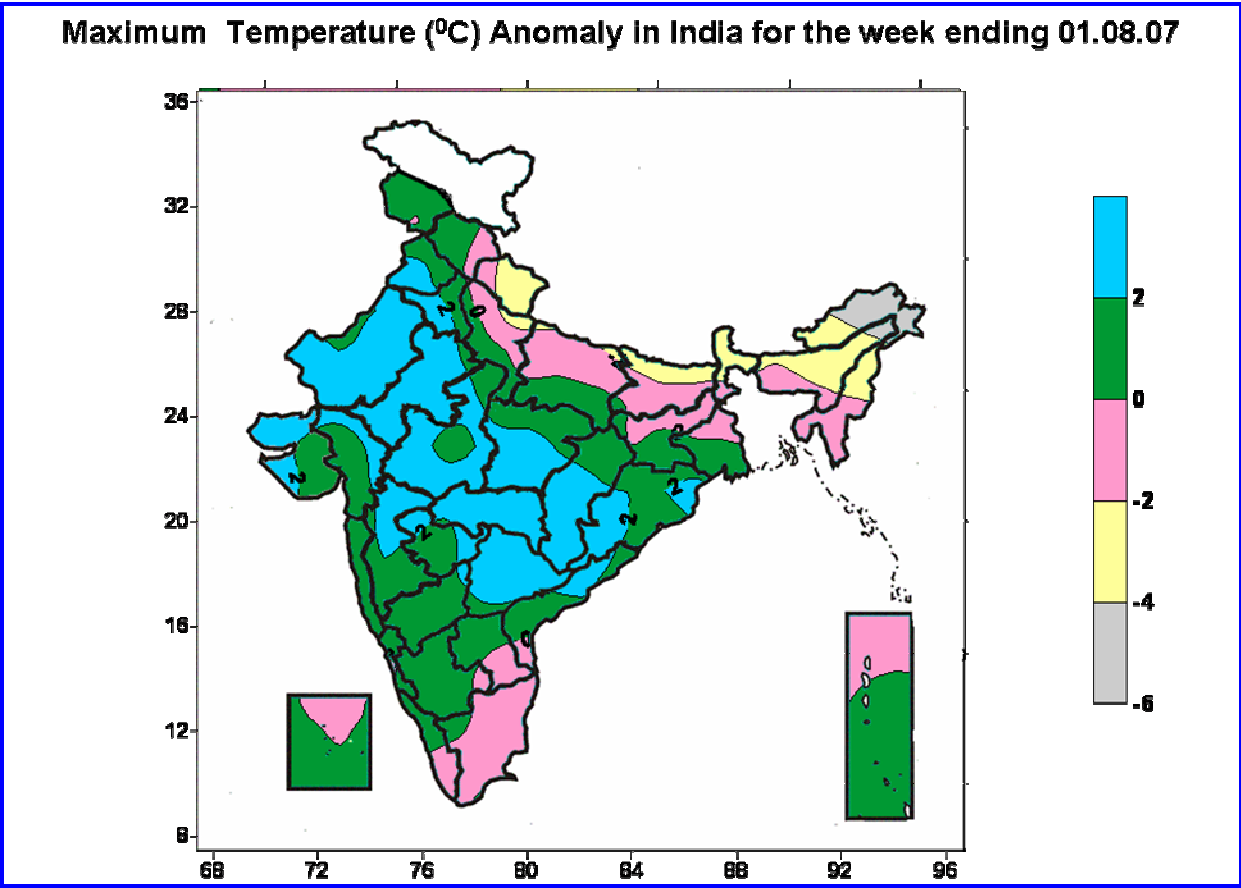
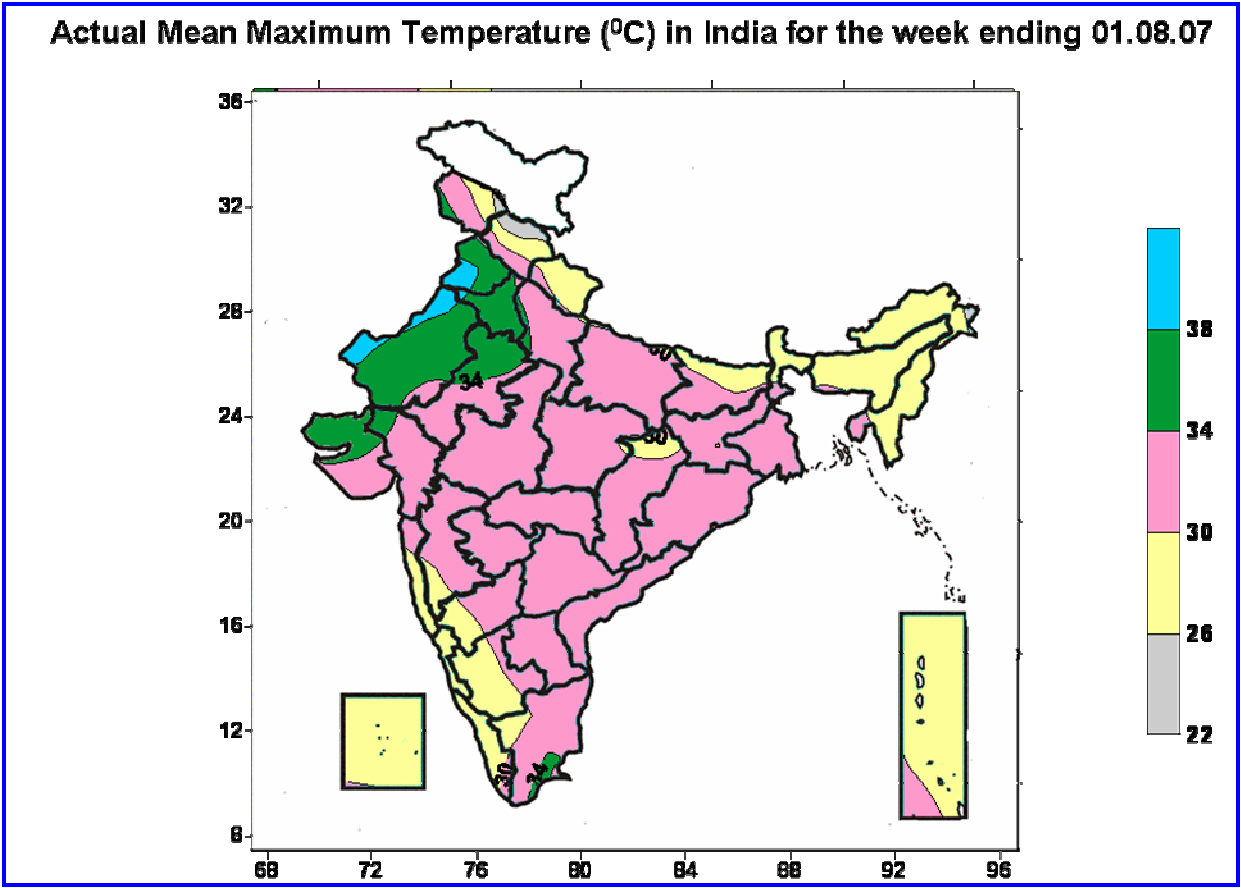
### **CUMULATIVE SEASONAL RAINFALL (1<sup>ST</sup> JUNE TO 1<sup>ST</sup> AUGUST, 2007)**

Rainfall was excess/normal in 31 and deficient in 5 out of 36 meteorological sub-divisions. (Actual: 471.0 mm, Normal: 455.6 and Departure: +3%).

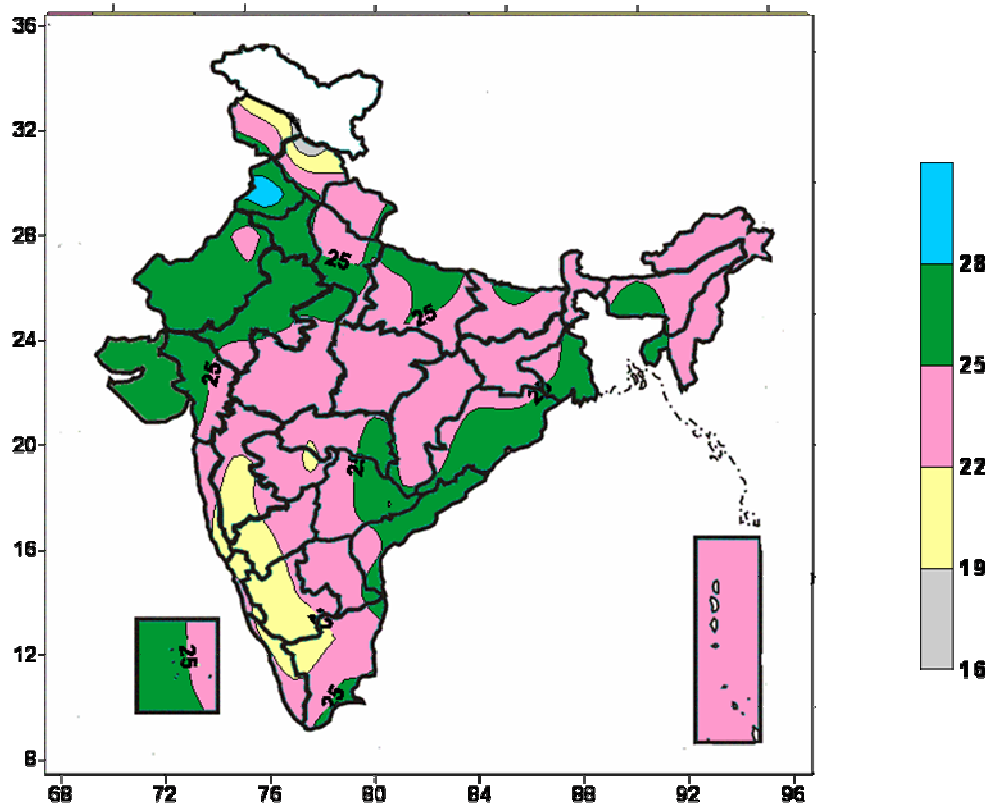
### **OUTLOOK FOR THE WEEK ENDING ON 8<sup>TH</sup> AUGUST, 2007.**

- The current meteorological conditions and interpretation of various numerical weather prediction models suggest the revival in monsoon activity over central & adjoining peninsular India, as a low pressure area is likely to form over northwest Bay of Bengal on 4th August along with a southward shift in monsoon trough. The low pressure area is likely to become more marked and move slowly in a west-northwesterly direction.
- Under this scenario, the enhanced rainfall with isolated heavy to very heavy falls are likely over Orissa, north Andhra Pradesh and Chhattisgarh during 4th to 7th August. Subsequently, the enhanced rainfall belt is likely to shift to Madhya Pradesh, Maharashtra, Gujarat and south Rajasthan during 8th -11th. Gujarat, Konkan & Goa and Madhya Maharashtra are also likely to receive extremely heavy rainfall (>25cm) particularly on 10th & 11th.
- Fairly widespread rainfall with isolated heavy to very heavy fall is likely along the west coast.
- Decrease in rainfall activity over Bihar, Sub-Himalayan West Bengal & Sikkim and northeastern states during the week.

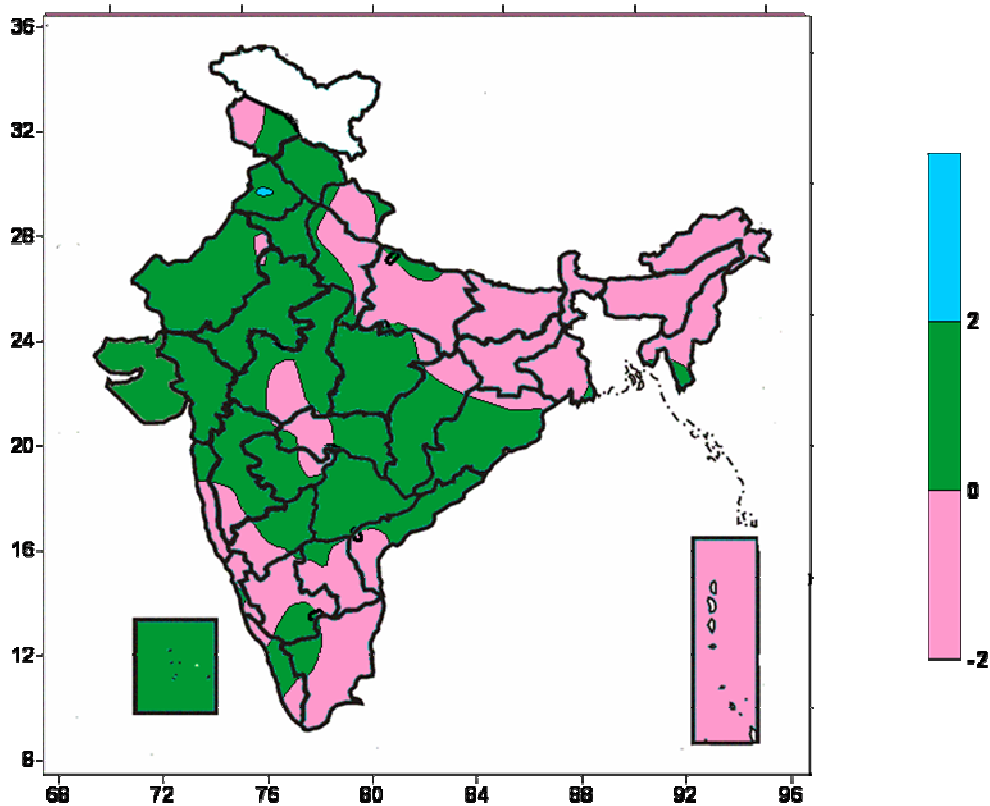
## Contour maps for the week ending 1<sup>st</sup> August, 2007



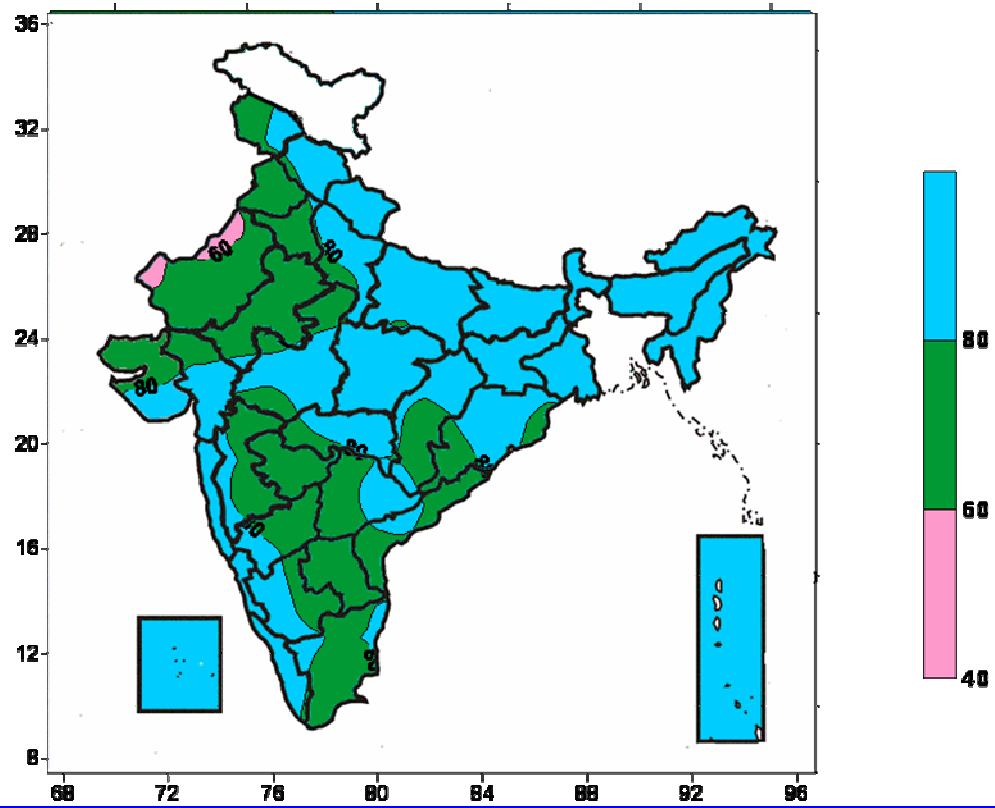
**Actual Mean Minimum Temperature ( $^{\circ}\text{C}$ ) in India for the week ending 01.08.07**



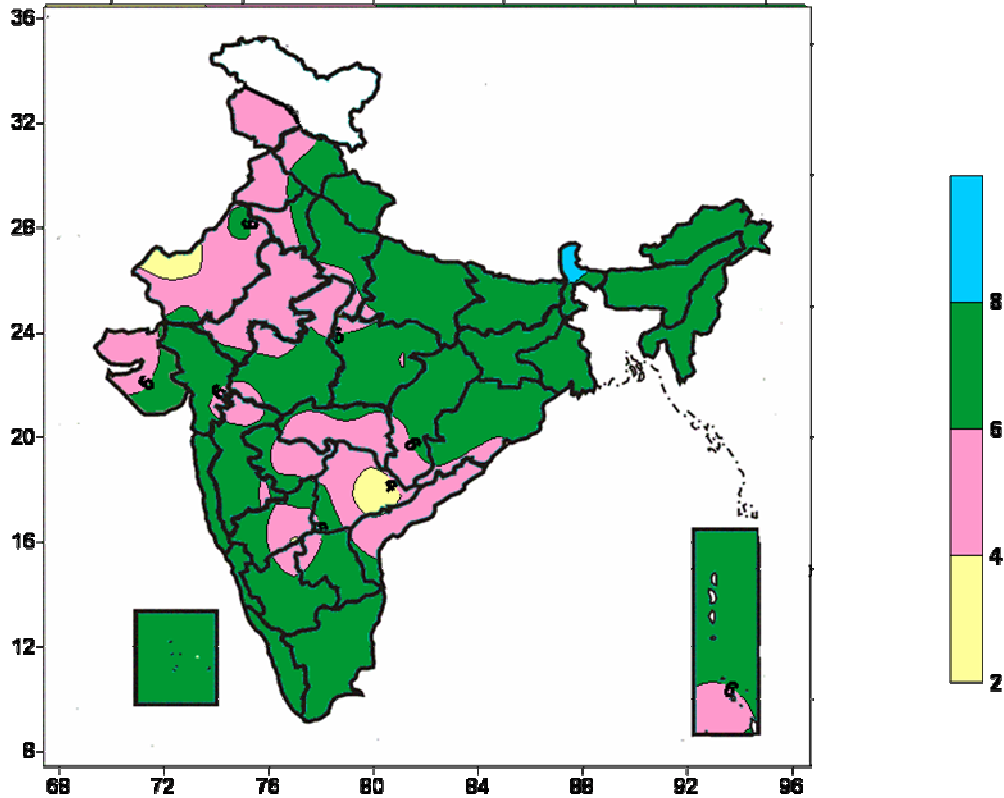
**Minimum Temperature ( $^{\circ}\text{C}$ ) Anomaly in India for the week ending 01.08.07**



Relative Humidity (%) over India for the week ending 01.08.07

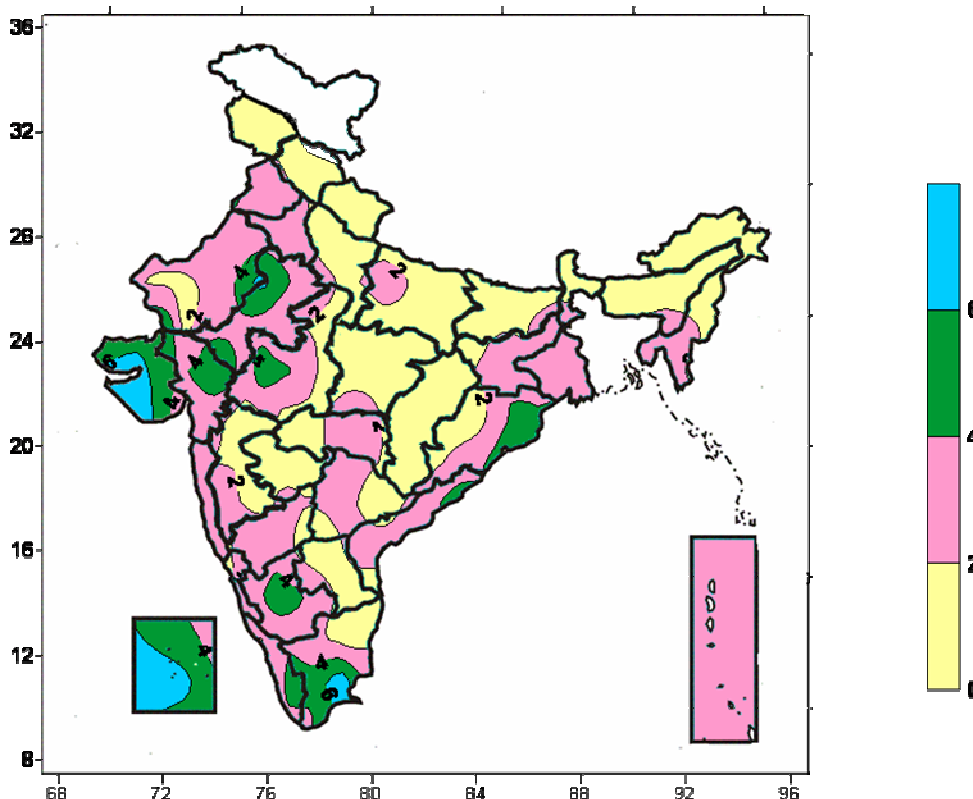


Cloud amount (okta) over India for the week ending 01.08.07

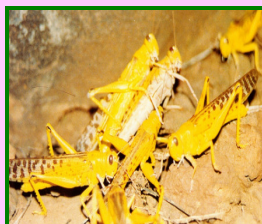




**Wind speed (knots) over India for the week ending 01.08.07**



## Desert Locust Forecasting



**Rainfall (mm)**

Station Name	26.07.07	27.07.07	28.07.07	29.07.07	30.07.07	31.07.07	01.08.07
Amritsar	-	-	-	-	-	-	-
Barmer	-	-	-	-	-	-	9.2
Sriganganagar	-	-	-	27.0	-	-	-
Jaisalmer	-	-	-	-	-	0.4	-
Kota	5.0	0.5	-	-	-	-	-
Deesa	-	-	0.2	31.6	2.2	0.5	-
Churu	-	-	-	-	2.0	-	-

**Temperature (degree Celcius)**

Station Name	26.07.07	27.07.07	28.07.07	29.07.07	30.07.07	31.07.07	01.08.07
Amritsar	30.5	31.5	28.0	30.0	-	32.0	30.5
Barmer	34.5	34.0	33.5	32.5	31.5	32.0	33.0
Sriganganagar	35.0	35.5	35.0	32.0	33.5	33.5	35.0
Jaisalmer	34.5	33.5	32.5	33.0	34.0	33.0	33.5
Kota	30.5	30.5	31.5	31.5	31.0	32.0	31.0
Deesa	32.0	31.5	31.0	29.5	-	30.0	30.5
Churu	-	-	-	-	-	-	-

Wind														
Station Name	26.07.07		27.07.07		28.07.07		29.07.07		30.07.07		31.07.07		01.08.07	
	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.
<b>Amritsar</b>	07	SW	27	SSW	05	ESE	05	ESE	-	-	-	-	-	-
<b>Barmer</b>	22	SSW	-	-	-	-	05	S	05	S	05	SE	12	S
<b>Sriganga nagar</b>	21	WSW	17	W	05	WSW	10	W	05	SSW	05	WSW	14	W
<b>Jaisalmer</b>	19	SW	18	SSW	05	NW	05	SSW	10	E	05	SW	23	NNE
<b>Kota</b>	12	W	13	WNW	-	-	10	WSW	10	SW	05	SE	11	W
<b>Deesa</b>	13	SSW	18	SW	-	-	-	-	05	W	-	-	-	-
<b>Churu</b>	21	WNW	-	-	25	W	10	W	10	W	-	-	17	W

Small-scale breeding is in progress in desert areas of the **Indo-Pakistan** border. Under the prevailing weather conditions, there is chance of pest incidence. All efforts should be made to monitor the situation closely and carefully and take appropriate plant protection measures.

## CROP – STATE – STAGE

### Delhi

Vegetables	Early sown summer vegetable crops	Rice	Arhar	Maize
Nursery sowing/Transplanting	Early Vegetative / vegetative	Vegetative/ Early tillering	Vegetative	Vegetative
	<b>Bajra</b>			
	Early vegetative / Vegetative			

### Haryana

Sugarcane	Oilseeds	Horticultural crop	Cotton	Paddy
Vegetative	Harvesting	Vegetative	Vegetative	Transplanting
<b>Kharif Groundnut</b>	<b>Kharif Pulses</b>			
Early vegetative	Vegetative/Flowering			

### Himachal Pradesh

Vegetables (Ladies finger/ Cabbage, Cauliflower)	Potato	Apple	Rice	Maize
Vegetative/Flowering/Fruiting—Ladies finger Nursery sowing- Cabbage, Cauliflower	Tuber formation	Maturing/Harvesting	Transplanting Early transplanted – Early vegetative/ Early tillering	Knee high / Vegetative

### Jammu & Kashmir

Vegetable crops	Rice	Early sown Rice	Maize	Pulses
Fruiting/harvesting—in Kashmir Div.	Transplanting – Jammu Div. Flowering- Kashmir Div.	Early vegetative	Vegetative- Jammu Div. Silking/Tasseling- Kashmir div.	Vegetative

### Punjab

Sugarcane	Sunflower	Horticultural crop	Cotton	Paddy
Vegetative	Harvesting	Vegetative	Vegetative	Early vegetative
<b>Kharif Groundnut</b>	<b>Kharif pulses</b>	<b>Arhar</b>		
Early vegetative	Flowering	Sowing		

### Rajasthan

<b>Kharif crops(Bajra, Groundnut, Maize, Guar, Moong, Moth bean, Urd)</b>	<b>Erly sown Kharif crops(Bajra, Groundnut, Maize, Guar, Moong, Moth bean, Urd)</b>	<b>Zaide Fodder</b>	<b>Cotton</b>	
Sowing	Early vegetative/Vegetative	Vegetative	Vegetative	

**Uttar Pradesh**

<b>Sugarcane</b>	<b>Kharif Vegetables</b>	<b>Mango</b>	<b>Kharif Rice</b>	<b>Early sown Kharif Rice</b>
Early vegetative	Sowing/Transplanting	Harvesting	Nursery preparation/Sowing	Early vegetative
<b>Kharif oilseeds</b>	<b>Early sown Kharif oilseeds</b>			
Sowing	Early vegetative			

**Uttarakhand**

<b>Apple</b>	<b>Ginger</b>	<b>Sugarcane</b>	<b>Potato</b>	<b>Kharif Rice</b>
Pre-Maturity/maturity	Rhizome formation	Tiller formation	Tuber growth	Seedling /vegetative
<b>Finger Millet/ Amranthus</b>	<b>Mango/Litchi</b>			
Vegetative	Seedling			

**Assam**

<b>Vegetables</b>	<b>Jute</b>	<b>Maize</b>	<b>Sugarcane</b>	<b>Regular Ahu Rice</b>
Flowering / Fruiting / Harvesting	Maturity / Harvesting	Maturity / Harvesting	Vegetative	Graun maturity/Harvesting
<b>Arhar</b>	<b>Sali rice</b>			
Vegetative	Transplanting/Early tillering			

**Arunachal Pradesh**

<b>Summer vegetables</b>	<b>Ginger</b>	<b>Millet</b>	<b>Jhum Paddy</b>	<b>Maize</b>
Late Harvesting	Rhizome formation	Flowering	Vegetative	Maturity
<b>WRC Rice</b>				
Vegetative				

**Bihar**

<b>Summer Vegetables</b>	<b>Maize</b>	<b>Arhar</b>	<b>Sugarcane</b>	<b>Kharif rice</b>
Maturity	Cob formation / Maturity	Early vegetative	Vegetative	Transplanting

**Jharkhand**

<b>Kharif rice</b>	<b>Ragi</b>	<b>Vegetables (Tomato, Brinjal, Bhendi)</b>	<b>Upland crops (Maize, arhar, groundnut, soybean, urad, rice and ragi)</b>
Transplanting	Transplanting	Vegetative/Maturity	Early vegetative

**Sikkim**

<b>Maize</b>	<b>Orange</b>	<b>Vegetables</b>	<b>Large Cardamom</b>	<b>Ginger</b>
Harvesting	Fruiting New planting in some places	Fruiting/Harvesting	Capsule maturity/Early harvesting	Flowering
<b>Rice</b>				
Tillering				

**West Bengal**

<b>Sugarcane</b>	<b>Jute</b>	<b>Aus rice</b>	<b>Kharif Groundnut</b>	<b>Arhar</b>
Vegetative	Vegetative	Panicle initiation/flowering/grain formation	Germination/Early vegetative/vegetative	Germination/Early vegetative/vegetative
<b>Aman rice</b>				
Land preparation / nursery sowing/Transplanting				

**Chattisgarh**

<b>Sugarcane</b>	<b>Black gram, Groundnut</b>	<b>Soybean</b>	<b>Kharif Rice</b>	<b>Maize</b>
Vegetative	Germination/Early vegetative/Vegetative	Germination/Early vegetative/Vegetative	Sowing/ Transplanting Early sown- Early vegetative/Early tillering	Vegetative

**Gujarat**

<b>Sugarcane</b>	<b>Kharif Rice</b>	<b>Early transplanted Rice</b>	<b>Kharif Groundnut</b>	<b>Kharif Cotton</b>
Vegetative	Transplanting	Early tillering	Vegetative	Vegetative
<b>Kharif Maize</b>	<b>Kharif Bajra</b>			
Vegetative	Vegetative			

**Maharashtra**

<b>Sugarcane Preseasonal (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Sugarcane (Suru) (Madhya Maharashtra, Marathwada and Vidarbha)</b>	<b>Irrigated cotton (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Kharif Rice (Konkan)</b>	<b>Kharif Rice (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>
Early vegetative / active growth	Early vegetative/active growth	Early vegetative/vegetative	Seedling /Transplanting – North Konkan Early tillering– South Konkan	Seedling /Transplanting Kolhapur – Early tillering
<b>Kharif Jowar (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Kharif Bajra (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Kharif Groundnut (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Kharif Sunflower (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Kharif Green Gram (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>
Germination/Early vegetative	Germination/Early vegetative	Germination/Early vegetative	Germination/Early vegetative	Germination/Early vegetative Nashik Div. - Vegetative
<b>Kharif Cotton (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Kharif Tur (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>	<b>Kharif Soyabean (Madhya Maharashtra, Marathwada &amp; Vidarbha)</b>		
Germination/Early vegetative	Germination/Early vegetative	Germination/Early vegetative Kolhapur- Vegetative		

**Madhya Pradesh**

<b>Sugarcane</b>	<b>Kharif crops (Soybean, maize, urd and jowar)</b>	<b>Kharif rice</b>		
Vegetative	Vegetative	Vegetative/Early tillering		

**Orissa**

<b>Kharif vegetables</b>	<b>Kharif rice</b>	<b>Sugarcane</b>	<b>Jute</b>	<b>Arhar</b>
Raising nursery	Seedling / early vegetative	Vegetative	Vegetative	Sowing / Seedling / early vegetative

**Andhra Pradesh**

<b>Kharif Rice</b>	<b>Kharif Maize</b>	<b>Kharif Cotton</b>	<b>Kharif Groundnut</b>	<b>Kharif Black gram, Green gram</b>
Transplanting	Vegetative	Vegetative	Vegetative	Vegetative

**Karnataka**

<b>Sugarcane (Ratoon crop)</b>	<b>Kharif Jowar/Maize/Groundnut/Sunflower</b>	<b>Early sown Kharif Jowar/Maize/Groundnut/Sunflower</b>		
Grand growth	Vegetative	Late vegetative/Flowering		

**Kerala**

	<b>Rubber</b>	<b>Virippu rice</b>		
	Tapping	Flowering/Boot leaf		

**Tamil Nadu**

<b>Rice (Kuruvai/Samba)</b>	<b>Cotton</b>	<b>Sugarcane (Early, Mid and Late season)</b>	<b>Maize</b>	<b>Groundnut/Black gram/Green gram/Red gram</b>
Samba- Nursery sowing Kuruvai - Tillering	Picking	Grand growth	Sowing	Sowing
<b>Jowar/Bajra/Samai</b>				
Sowing				