



Summary of Agromet Advisory Services for different States of the country

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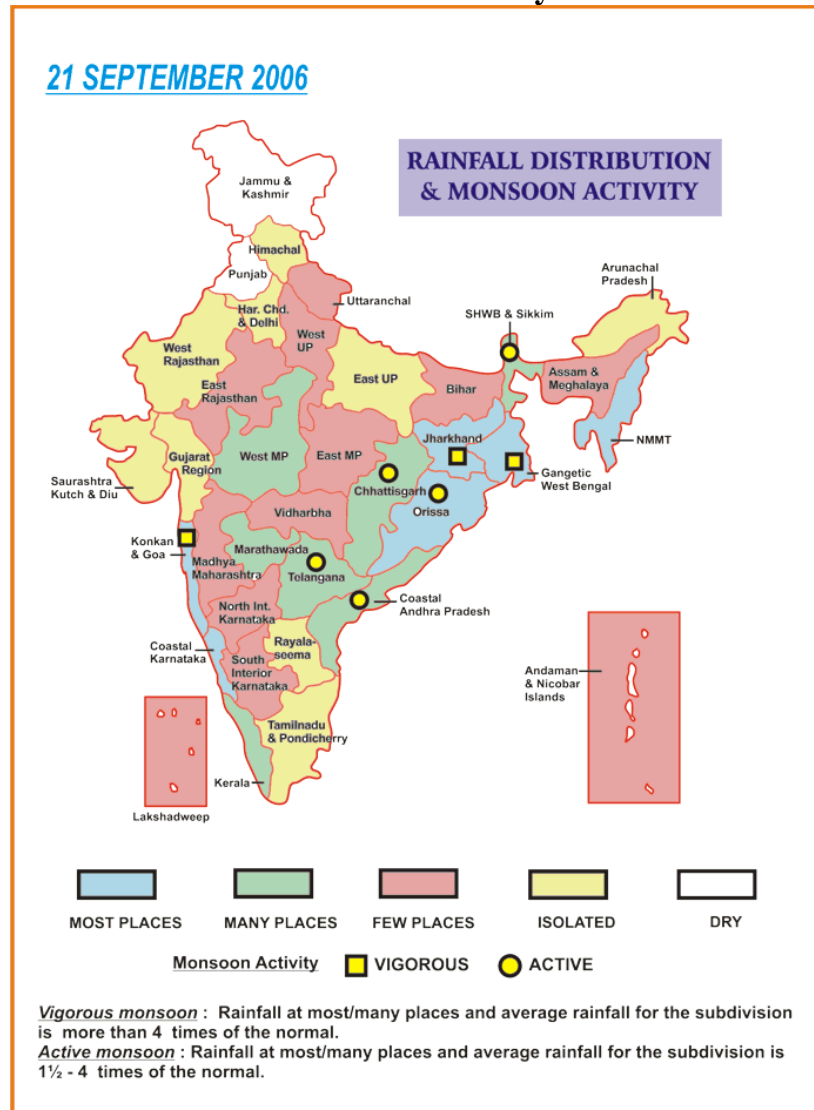
Agricultural Meteorology Division, India Meteorological
Department, Pune, India

Thursday, 21st September, 2006

(For the period 21st September to 25th September, 2006)

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

Monsoon Activity



North West India (Haryana, Punjab, Rajasthan, Uttar Pradesh, Delhi, Himachal Pradesh, Jammu & Kashmir, Uttaranchal)

Punjab & Haryana

Punjab

Rain/thundershowers occurred at isolated places on 19th September. Rain also occurred at a few places on 18th & 20th September.

Weather will remain mainly dry over the state.

Advisories

- There was no significant rainfall in the State during last week except in Ferozpur, Nawasahar, Ropar and Sangrur districts and weather will be mainly dry in the state for the next three days. Under the circumstances, apply required irrigation to **sugarcane, maize, groundnut, kharif pulses and cotton** to bring the soil moisture to its field capacity. Apply irrigation depending upon soil profile stored moisture in the above mentioned districts as there was excess rainfall during last week.
- Incidences of leaf folder and bacterial leaf blight are reported in **rice** in some pockets. Prevailing weather conditions are favorable for the further spread of bacterial leaf blight. If it crosses economic threshold level, spray Vitavax @ 2 g/litre of water. Monitor the incidences of leaf folder, if the pest population crosses ETL, take adequate plant protection measures. Avoid nitrogen application to prevent further attack of the pests and diseases.
- In view of prevailed high humidity, cloudiness conditions in preceding days **cotton** crop is susceptible to the incidence of bollworm and other leaf eating caterpillar. Farmers are advised to apply integrated pest management with application of synthetic pyrethroid to check the same, if damage exceeds economic threshold level. Also undertake plant protection measures against spotted boll worm by spraying Quinalphos @ 1.5-2 litres/ha in 800 litres of water.
- Incidences of shoot borer and Gurdaspur borer are reported in **sugarcane**. Spray Nuvacran @ 1.5 litres of water to control the pests, if the pests population exceeds ETL.
- Farmers are advised to monitor the locust and carry out antilocus operations i.e. spray of pesticides on standing crops and vegetation to monitor the damage from any possible locust invasion.
- Undertake sowing of berseem by utilizing the residual moisture. Also conserve excess soil moisture to take up sowing of rabi crops

Haryana

Weather remained mainly dry in the state during the period.

Rain / thundershowers are likely to be occur at isolated places over the state.

Advisories

- There was no significant rainfall in the state during last week except in Rohtak and rain/thundershowers are likely to occur at isolated places only for the next three days. Under the circumstances, apply required irrigation to **sugarcane, maize, groundnut, kharif pulses and cotton** to bring the soil moisture to its field capacity. Apply irrigation depending upon soil profile stored moisture in Rohtak as there was excess rainfall during last week.
- Incidences of shoot borer and Gurdaspur borer are reported in **sugarcane**. Spray Nuvacran @ 1.5 litres of water to control the pests, if the pests population exceeds ETL.
- Farmers are advised to monitor the locust and carry out **antilocust** operations i.e. spray of pesticides on standing crops and vegetation to monitor the damage from any possible locust invasion.
- Maintain 3-5 cm water level in **paddy** field.
- Undertake sowing of berseem by utilizing the residual moisture due to recent rainfall. Also conserve excess soil moisture to take up sowing of rabi crops.

Rajasthan

Light to moderate rainfall recorded at a few places in Udaipur division and at isolated places in Ajmer, Jaipur & Kota divisions. Weather remained mainly dry in Jodhpur & Bikaner divisions of the State.

Mainly dry weather is likely over the State.

Advisories

- There was no significant rainfall in the state in all the districts, during last week and mainly dry weather is likely to prevail for the next three days. Under these conditions, apply required irrigation to **cotton, pulses, jowar, maize, soybean and groundnut** crops to bring the soil moisture to its field capacity as the crops are now at critical stage for irrigation.
- Incidence of **tikka** disease in **groundnut** is reported in some places. Spray Mancozeb 2g/litre of water to control the disease, if damage exceeds economic threshold level.
- Incidence of **spotted bollworm** is reported in **cotton**. For the control of boll worms spray the crop with 2.0 litre of Endosulfan or 1 litre of Monocrotophos per hectare at 10 days interval, beginning two weeks after the start of flowering and stopping two weeks before the first picking, if damage exceeds E.T.L.
- Incidence of **Fatka** is reported in **bajra**. Spray Methyl parathion / Quinalphos / Endosulphan @ 2.5 litre/hectare to control **Fatka**, if damage exceeds E.T.L.

Uttar Pradesh

Rain occurred at few places in **Varanasi**, **Allahabad** divisions on 18th September and in **Bareilly** division on 19th September and at isolated places in **Gorakhpur**, **Lucknow** divisions on 18th September and in **Varanasi**, **Faizabad**, **Lucknow** division on 20th September and weather was mainly dry in remaining divisions on 18th, 19th and 20th September.

Rain/thundershowers are likely to occur at a few places over West U. P. and at many places over East U.P.

Advisories

- Rain/thundershowers are likely at many places over East UP and at a few places over West UP for the next three days. Under the circumstance, postpone irrigation to **summer sugarcane**, **vegetables** and **mango** crops in East UP. Apply irrigation depending on soil profile stored moisture in West UP.
- Continue weeding and hoeing, along with top dressing of nitrogen in **rice**, **maize**, **jowar**, **bajra**, **khariif pulses** and **vegetables** and **oilseeds** after spells of rain in East UP and on a non rainy day in West UP.
- Complete the sowing of **toria**.
- Monitor **sugarcane** for **borer pests** and to control borer insects spray the solution of Endosulphon 35EC @ 1.25 litre / hectare in water after spells of rain in East UP and on a non rainy day in West UP if the population exceeds E.T.L.
- Monitor **pulse** crops for **leaf roller** attack. If the population crosses ETL, spray Endosulphan @ 1.5 litres/ha after spells of rain in East UP and on a non rainy day in West UP.
- Weather conditions are favourable for the attack of **anthracnose** disease in **mango**. Monitor mango trees and spray Copper oxy chloride @ 3 g/litre of water after spells of rain in East UP and on a non rainy day in West UP.

Himachal Pradesh

Precipitation occurred at isolated places during this week in the State.

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

Advisories

- As there was no significant rain during last week except in **Hamirpur**, **Kulu**, and **Mandi** and rain / thundershowers are likely at a few places over the State for next three days, apply irrigation to **maize**, **moong**, **potato** and **early sown vegetable** crops. Apply irrigation depending on soil profile stored moisture in the above mentioned districts.
- Maintain 5 – 7 cm water in **rice** field.
- Continue land preparation and sowing of **Aricle peas** in the high hills, preparation of nursery of **cauliflower** and **cabbage** in lower hills and transplanting of **cauliflower** and **cabbage** in mid hills.
- Weather is conducive for attack of **citrus leaf minor**, if attack crosses economic threshold level, spray Nuvan @ 1ml per litres of water on a non rainy day and repeat spray if it persists.

Uttaranchal

Light to moderate rain was recorded at a few places on 16th and 17th September. Weather remained mainly dry during rest of the period. Sky remained mainly clear to generally cloudy.

Rain /thunder showers are likely at a few places over the State.

Advisories

- Light to moderate rain was recorded at few places in the state during last week. Rain /thunder showers are likely at a few places over the state for next 3 days. Under the circumstances, apply irrigation to **mango**, **apple**, **sugarcane** and **vegetable** crops to bring the soil moisture to its field capacity.
- Maintain 5 – 7 cm water in **rice** field.

- Carry out inter cultural operation, application of fertilizer and plant protection measures to **mango, apple, sugarcane, rice, cauliflower** and **vegetable** crops, on a non rainy day.

Jammu & Kashmir

Light to moderate rain / thundershowers occurred at isolated places on 20th September. Weather remained mainly dry for rest of the days over the State.

Rain/ thundershowers likely to occur at a few places over the State.

Advisories

- Keep vigil against **desert locust** to prevent crop damage.
- Light to moderate rain occurred at isolated places in Jammu division during last week. Rain / thundershowers are likely to occur at a few places only in J & K state for the next three days. Under the circumstances, apply irrigation to **vegetables, pulses, rice** and **maize** depending upon the soil profile stored moisture.
- Monitor **pulse** crops for **hairy caterpillar** and **jassid** due to prevailing weather conditions. If it crosses economic threshold level, spray Malathion @ 0.05% on a non rainy day to control the pest.
- Continue sowing of **carrot, beet root** and **turnip** for seed crop in Jammu division. Undertake transplanting of cabbage and knol-khol in Kashmir division.
- Continue sowing of **toria** crop in Jammu division and **brown sarson** in Kashmir division to utilize residual moisture. Before sowing, undertake ploughing followed by planking to conserve moisture.

Delhi

Weather remained mainly dry on remaining days.

Light rain likely to occur at isolated places.

Advisories

- As there was normal rainfall during last week and rain / thundershowers are likely at isolated places over the State for next three days, apply irrigation to **early sown kharif vegetable crops, fodder crops, maize** and **bajra**.
- Maintain 5 – 7 cm water level in **rice** field.
- Prepare land and continue transplanting of 4 – 6 weeks old early varieties of **cauliflower** and **cabbage** plants. Also undertake transplanting of **brinjal** and **chilly**.
- Also prepare nursery for **cabbage** varieties like Golden Acre, Pusa Ageti and mid time **cauliflower** varieties like Pusa Synthetic, Pusa Subhra and Pusa Himjyoti.
- Prepare land and perform sowing of Pusa Reshmi variety of **raddish**, Pusa Kesar variety of **carrot** and Pusa Kanchan variety of **turnip**.
- Prepare land and start sowing of **toria**. Select varieties from Type I, Sangam, T.L. – 15 and Ludhiana Composite etc.
- Monitor **ergot** disease of **bajra** and if noticed, remove the plants and burn them well outside the field.

Southern Region (AP, Tamilnadu, Karnataka and Kerala)

Kerala

Southwest monsoon was active over the State on 19th September. Rain occurred at most places during the period.

Rain / thundershowers are likely at many places over the State.

Warning: Isolated heavy to very heavy rain are also likely to occur in the State.

Advisories

- Rainfall is likely to occur at many places in the State for the next three days. Under the circumstance, postpone irrigation to plantation crops. Provide adequate drainage facilities in the standing crops.
- Continue intercultural operations and fertilizer application in arecanut, coconut, pepper, rubber and banana after spells of rain.
- Attack of bunchy top and pseudostem weevil is reported in banana. Eradicate the bunchy top affected plants. Spray Chlorpyrifos @ 2.5 ml/litre of water after spells of rain to control pseudo stem weevil.
- Attack of rhinoceros beetle and red palm weevil insects is reported in coconut. Hook out the beetles from the affected palms and fill the leaf axils with Sevidol 8 G @ 25 gm and fine sand 200 gm. Use Pheromone trap for controlling red palm weevil. Spraying of chemicals may be continued after spells of rain.

Tamilnadu

Rainfall occurred at isolated places over the State on 18th, 19th and 20th September.

Rain / thundershowers are likely at isolated places over the State.

Advisories

- There was no significant rainfall in the State during last week and rain/ thundershowers are likely to occur at isolated places over the State for the next three days. Under the circumstances, apply required irrigation to pulses, early/mid sugarcane and millets to bring the soil moisture to its field capacity.
- Continue intercultural operations to keep the field weed free and application of fertilizers and pesticides to the standing crops.
- Attack of internode borer is reported in sugarcane. Monitor the crop continuously as the weather conditions are favourable for further spread. Release parasite *Trichogramma chilonis* @ 5 cc once in 15 days to control the pest.
- Monitor groundnut for red hairy caterpillar and collect and destroy egg masses to prevent further spread of the pest.
- Aphids and pod borer attack is reported in black gram and green gram. Monitor the crop continuously as the weather conditions are favourable for further spread. Spray Malathion @ 0.1% to control the pests.
- Stem borer egg masses and thrips have been reported in rice. Collect and destroy egg masses as a preventive measure. Monitor the crop continuously for the pest as the weather conditions are favourable for further spread. Spray Dimecron @ 0.5 ml/litre of water to control thrips.
- Incidences of mite attack are reported in millets. Monitor the crop continuously as the weather conditions are favourable for further spread. Spray wettable sulphur to control mite.
- Continue harvesting late season sugarcane.

Karnataka

Monsoon was active on all the days over Coastal Karnataka. It was weak on 19th September over Interior Karnataka.

Rainfall occurred at many places on 18th September, at a few places on 20th September & at isolated places on 19th September over North Interior Karnataka. Over South Interior Karnataka, rainfall occurred at a few places on 18th & 20th September and at isolated places on 19th September.

Rain/thundershowers likely to occur at many places over Coastal Karnataka and at few places over rest part of the State.

Warning: Isolated heavy to very heavy falls are likely over Coastal Karnataka.

Advisories

- Rain/thundershowers are likely at many places over Coastal Karnataka and at a few places over Interior Karnataka. Under the circumstance, postpone irrigation in **sugarcane, maize, jowar** and **groundnut** crops in Coastal Karnataka. Apply irrigation to the crops depending upon soil profile stored moisture in Interior Karnataka. Provide drainage to the standing crops in Coastal Karnataka.
- Weeding, and intercultural operations may be continued after current spells of rain in Coastal Karnataka. Continue these operations on a non rainy day in Interior Karnataka.
- **Woolly aphid** incidence in **sugarcane** is reported in Mysore, Mandya, Hassan, Bidar & Bagalkote districts. Release predators like *Dipha* sp after current spells of rain in Coastal Karnataka and on a non rainy day in Interior Karnataka. Undertake inter-cropping with soyabean and pulses of short duration to reduce the incidence.

Andhra Pradesh

Southwest monsoon has been vigorous over Coastal Andhra Pradesh on 15th and 17th September over Telangana on 15th, 18th to 20th September and over Rayalaseema on 14th and 15th September and active over Coastal Andhra Pradesh on 16th, 18th to 20th September and over Telangana on 16th and 17th September. Rain occurred at a few places over Coastal Andhra Pradesh and Telangana on 14th September and over Rayalaseema on 16th September. Isolated rain occurred over Rayalaseema on 17th to 20th September.

Rain / thundershowers are likely to occur at many places over north Coastal Andhra Pradesh and at few places over rest part of the State.

Warning: Isolated heavy to heavy falls are also likely over Coastal Andhra Pradesh.

Advisories

- Rain/thunder showers likely to occur at many places over north coastal Andhra Pradesh and at a few places over south coastal Andhra Pradesh, Telangana and Rayalaseema for the next three days. Under the circumstances, postpone irrigation to **maize, groundnut, cotton, chilly** and **tur** in north coastal Andhra Pradesh. Apply irrigation depending upon soil profile stored moisture in rest of the region.
- Continue intercultural operations, application of fertilizers and pesticides in the standing crops after spells of rain in north coastal Andhra Pradesh. Continue these operations on a non rainy day in south coastal Andhra Pradesh, Telangana and Rayalaseema.
- Attack of **sucking pests** is noticed in **cotton**. Monitor the crop continuously and if damage exceeds economic threshold level, spray Monocrotophos @ 1.6 ml/ litre of water after spells of rain in north coastal Andhra Pradesh. Continue spraying on a non rainy day in south coastal Andhra Pradesh, Telangana and Rayalaseema to control the pest.
- **Stem borer** attack is reported in **maize**. Spray Endosulphan @ 2 ml/litre of water after spells of rain in north coastal Andhra Pradesh. Continue spraying on a non rainy day in south coastal Andhra Pradesh, Telangana and Rayalaseema to control the pest.

Eastern Region (Assam, Bihar, Sikkim, West Bengal)

Assam

Light rain occurred at isolated places during the period over the State. Partly cloudy sky on 18th & 19th September and Generally Cloudy sky on 20th September.

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

Advisories

- As there was no significant rainfall in the State except in **Morigaon** district during last week and rain / thundershowers are likely at a few places over the State for next three days, apply required irrigation to **sugarcane, vegetables** and **arhar**. Apply irrigation in **Morigaon** district depending on soil profile stored moisture.
- Maintain 3 – 5 cm water level in **Sali rice** field.

- Infestation of **stem borer** is reported in **sugarcane** in a few localities and weather conditions are favourable for further spread. Monitor the crop for **stem borer** and if crosses economic threshold level, apply Phosphomidon @ 1.5 ml per litre of water and 400 – 500 ml per bigha or Endosulfan @ 2 ml per litre of water and 1 – 1.5 litre per bigha on a non rainy day, two-three rounds fortnightly starting from the rush egg lying.
- Apply plant protection measures to **sali rice** when one adult of **rice hispa** per hill or one leaf is found damaged by **hispa**. Apply Monocrotophos 40 EC @ 1.5 ml per litre of water or Chloropyriphos 20 EC @ 2 ml per litre of water to control the insect. If attack of **stem borer** is noticed apply Monocrotophos 40 EC @ 1.5 ml per litre of water. Apply chemicals on a non rainy day.
- To control **Pod** and **Epion borer** in **arhar**, spray Malathion 50 E.C. @ 1.5 ml per litre of water or Fenitrothion 50 E.C. @ 2ml per litre of water on a non rainy day. For control of **Flea beetle**, **leaf roller**, **Jassids** insecticides should be applied when they appear.
- Incidence of **aphids**, **jassids**, **flea beetle** and **leaf spot** is reported in **black and green gram** in few localities. To control of pest such as **Aphid**, **Jassid**, **Flea beetles** spray Malathion 50 E.C @ 2ml per litre of water. For **leaf spot**, as soon as diseases appear spray Blitox or Fitlon 1.5 gram per litre of water at an interval of 7 to 10 days. Alternatively Bavistin @ 1 gram per litre of water should be spread at an interval of 12 to 15 days. Spray in non rainy days.
- Land preparation and sowing of **early winter vegetables** may be continued.

West Bengal

The South West Monsoon was weak over Gangetic West Bengal on 18th, 19th September and was vigorous on 20th September. During the period over Sub Himalyan West Bengal heavy rain occurred at one / two places on 18th September, rain occurred at many places on 20th September and mainly dry weather prevailed on 19th September. But during the said period over Gangetic West Bengal rain occurred at one / two places on 18th, 19th September and heavy rain occurred on 20th September.

Rain / thundershowers are likely at most places over Gangetic West Bengal and at many places over Sub Himalyan West Bengal.

Warning: Scattered heavy to very heavy falls with isolated extremely heavy falls are likely over Gangetic West Bengal.

Advisories

- As rain / thundershowers are likely at most places over Gangetic West Bengal and at many places over Sub Himalyan West Bengal, postpone irrigation to **sugarcane**, **green gram** and **groundnut**. Provide drainage for standing crops in Gangetic West Bengal.
- Undertake intercultural operation after current spells of rain to keep the field weed free.
- In **aman rice** apply 2nd top dressing of nitrogenous fertilizer @ 25 kg / ha for high yielding varieties and 20 kg / ha for medium duration varieties at 40 – 45 days after transplanting and 20 kg / ha for long duration varieties at 60 – 65 days after transplanting. Water may be drained out before the application of fertilizer and 3 – 5 cm water may be maintained in the field after 2 – 3 days. Application of fertilizers may be continued after current spells of rain.
- There is mild chance of attack of **caterpillar** and **tikka** disease in **groundnut**. If **caterpillar** population crosses economic threshold level, apply neem derivative insecticides 1000 ppm @ 4 gm / litre to control the pest. If **tikka** disease attack crosses economic threshold level, apply mancozeb 2% to control the disease after current spells of rain.
- Postpone intercultural operation and application of fertilizer and plant protection measures to the crops under prevailing weather condition.

Bihar

Rain occurred at isolated places.

Rain / thundershowers are likely at many places over the State.

Warning: Isolated heavy to very heavy falls are also likely over the State

Advisories

- Rain/thundershowers are likely at many places over the state for next three days. Under the circumstances, postpone irrigation to **vegetables, maize, pulses, and oilseed** crops and also provide adequate drainage facilities.
- Weeding and intercultural operations may done in rice and apply 25-30 kg/ha Nitrogen as top dressing. In moisture deficit areas spray 3-4 % urea solution as foliar spray. Also apply micronutrients. Continue these operations after current spells of rain
- Incidence of **mealy bug** and **sheath blight** is reported in **rice** in few places. To control **sheath blight**, drain out water from field and spray Acephate 200 g + velidamycin 2 litre/ha. and to control **mealy bug** spray Dimethoate 1 litre/ha or Phorate 10G 10 kg/ha after current spells of rain.

Jharkhand

Rain / thundershower occurred at many places.

Rain/thundershowers are likely at many places over the State.

Warning: Scattered heavy to very heavy falls with isolated extremely heavy falls are likely over the State.

Advisories

- As rain / thundershowers are likely at many places over the State for next three days, postpone irrigation to **vegetables, maize, and other** crops. Provide extensive drainage facilities to avoid water logging.
- Also, continue intercultural operation, application of fertilizer and plant protection measures after current spells of rain.
- Undertake weeding and top dressing in **rice** after current spells of rain.
- Maintain 3-5cm of standing water in the field.
- Incidence of **case worm** is noticed in **rice** in some places. To control **case worm**, drain the water from affected fields and spray Quinalphos 1.5 % dust or Parathion 2% dust@ 25 kg/ha after current spells of rain.

Sikkim

Sky remained generally cloudy during the period. Very light to light rain occurred at a few places on 18th September and very light rain occurred at a few places on 20th September during the period over East Sikkim. No rain occurred on 19th September over East Sikkim. Rainfall was scanty during the period.

Rain/thundershowers are likely at many places over the State.

Advisories

- As rain / thundershowers are likely to occur at many places over the State for next three days, postpone irrigation to **orange, large cardamom, ginger, kharif vegetables and rice** crops.
- Continue intercultural operations, application of fertilizers and pesticides in **orange, vegetables and ginger** after spells of rain.
- Monitor **large cardamom** crop for **caterpillar** infestation as the weather conditions are favourable for the incidence. Collect and destroy manually to prevent further incidences. Also collect and destroy **chirkey** and **foorkey** affected plants.
- Maintain water level of 3-4 cm in **rice** field to enable maximum tillering.
- Monitor **orange** for **trunk borer** and plug the holes in case of damage. Also monitor **orange** for **fruit fly**.

Keep bait made of 20 ml Malathion and 200 g molasses or gur in 2 litres of water after spells of rain to control **fruit fly** and prevent fruit drop.

Arunachal Pradesh

Rain / thundershower occurred at most places on 14th September; at many places on 17th September, at a few places on 15th September, at one or two places on 18th and 19th. Weather remained mainly dry on 16th and 20th September. Sky remained mainly cloudy on 14th and 17th September and partly cloudy on other days of the week over the State.

Rain / thundershower are likely to occur at a few places over the State.

Advisories

- There was no significant rainfall in the State except in **East Kameng, Papumpara, and west Kameng** districts during last week and rain/thundershowers are likely to occur at a few places in the State for the next three days. Under these conditions, apply required irrigation to new crop of **ginger, jhum rice** at grain formation stage and **wet seeded rice**. Apply irrigation depending on the soil profile stored moisture in the above mentioned districts.
- Drain out the water 15 days before harvesting in **wet seeded rice** field
- Field preparation for sowing of **potato, wheat and mustard** may be done.

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

Gujarat

Monsoon was active over the State on 18th September. Rainfall occurred at few places over Saurashtra, at isolated places over Gujarat region, Kutch, Daman, Dadra Nagar Haveli on 19th September. Rainfall occurred at few places over South Gujarat region, Saurashtra, Daman, Dadra Nagar Haveli at isolated places over North Gujarat region, and Kutch on 20th September.

Rain/thundershowers are likely at few places over south Gujarat and isolated places over North Gujarat.

Advisories

- As there was no significant rain in the State except **Broach, Dahod, Dangs, DNH & Daman, Mehsana, Narmada, Navsari, Patan, Surat, Valsad, and Surendranagar** districts during last week and rain / thundershowers are likely at a few places over South Gujarat and isolated places over north Gujarat for next three days, apply irrigation to **sugarcane, Kharif groundnut, Kharif bajra, Kharif maize, pre-monsoon irrigated cotton, Kharif cotton** and **castor**. Apply irrigation depending on the soil profile stored moisture in the above mentioned districts.
- Maintain 3 – 5 cm water in **rice** fields.
- There is possibility of attack of **stem borer** in **kharif rice**. Monitor the crop for stem borer and if crosses economic threshold level, apply carbofuran 3 % @ 25 kg / ha or cartap hydrochloride 4% @ 20 kg / ha for the control of the insect. To control the **sucking pest** spray Monocrotophous 12 ml or DDVP 5 ml or trizophous 10 ml in 10 liter of water.
- If population of **sucking pests** like **Aphid, Jassids, Thrips & Heliothis** of **cotton** crosses economic threshold level, release chrysoperla eggs or first in star larvae @ 10000 / ha twice at the interval of 15 days.
- For monitoring & management the **boll worms & heliothis** of **cotton** hang 5 pheromance traps in one ha. Change the lures at an interval of 15 days. Destroy trapped moths every day. If boll worm population crosses economic threshold level, release parasite tricogamma @ 1.5 lakhs / ha 5 to 6 times as per requirement depending upon infestation found in field.
- If **white fly** population crosses economic threshold level in **cotton**, spray Neem oil @ 4 liter / ha. For control of **top shoot borer** of **cotton** spray endosulphan 35 EC @ 2 liter / ha if population crosses economic threshold level. Continue spraying in north Gujarat and in a non rainy day in south Gujarat.

- Continue intercultural operation and application of fertilizer and plant protection measures to the crops in north Gujarat and in a non rainy day in south Gujarat under prevailing weather condition.

Chhattisgarh

Rain occurred at isolated places on 18th and 19th September and at a few places on 20th September over Bilaspur and Raipur division. Monsoon was active in Bastar division on 18th, 19th and 20th September.

Rain / Thundershowers are likely to occur at most places over North Chhattisgarh and at many places over South Chhattisgarh.

Warning: Scattered heavy to very heavy falls with isolated extremely heavy falls are likely to occur over North Chhattisgarh and isolated heavy to very heavy falls are also likely to occur over South Chhattisgarh.

Advisories

- As rain / thundershowers are likely to occur at most places over North Chhattisgarh and at many places over South Chhattisgarh for next three days, postpone irrigation to **Sugarcane, green gram, black gram, red gram, soybean, groundnut** and **vegetables**. Provide extensive drainage facilities.
- Drain out water from the **rice** field and apply second split dose of N @ 25 – 30 kg / ha at 45 – 50 days after transplanting as top dressing after current spells of rain. Maintain 3 – 5 cm water in the field after 2 – 3 days of fertilizer application.
- Prepare nursery for vegetables like **tomato, chilly, brinjal** etc. on the bed of 6-8 inch height after after current spells of rain.
- Continue sowing of **Niger seed** and **Kulthi** in Bastar division after current spells of rain. For **Kulthi** prefer variety like A.K. 21, Marukulthi, and B.K. 1 and for **Niger seed** I.G.P. 76, G.A.10, J.N.C. 6, and B.N. 1.
- There is possibility of attack of **stem borer** and **gall midge** in **rice**. Monitor the crops and if crosses economic threshold level, thimet 10 G @ 10 kg / ha or carbofuran 3 G @ 25 kg / ha may be applied after current spells of rain.
- There is possibility of attack of **leaf eating** or **leaf curl insects** in **pulses**. Monitor the crops and if crosses economic threshold level, endosulphon 35 EC @ 1000 ml or quinalphos or methyl demeton 25 EC @ 800 ml / ha may be applied after current spells of rain.

Maharashtra

Monsoon was active in Konkan, North Madhya Maharashtra on 18th September & in North Marathwada on 20th September. Rainfall occurred at most places over South Madhya Maharashtra, East Vidarbha & Konkan, at few places in Marathwada, North Madhya Maharashtra & West Vidarbha.

Rain / thundershowers are likely at many places over Konkan & Goa and Vidharbha and at a few places over Marathwada and Madhya Maharashtra.

Warning: Isolated heavy to very heavy falls also likely over Konkan & Goa.

Advisories

- As there was excess / normal rainfall during last week and rain / thundershowers are likely a few places over Madhya Maharashtra, Marathwada, apply irrigation to **Sugarcane, Jowar, Kharif groundnut, bajra, soybean, sunflower, kharif cotton, tur, moong** and **Cotton (irrigated)** depending on soil profile stored moisture. Postpone irrigation in Konkan & Goa and Vidarbha.

- Mild incidence of White Woolly Aphids in Aurangabad, Latur, Kohlapur and Pune and Pyrilla, White fly and Mealy bug in Nashik in sugarcane, Stem borer in Raigad, Army worm, Leaf roller, Blue beetle and Hispa in Konkan and Goa, Raigad and Sindhudurga and Aphids and Army worm in Sangli district & Blight and blast in Nagpur division in *Kharif* rice, Stem borer, aphids and jassids in Satara and Sangli dist. & shoot fly in Amraoti div. in jowar, Leaf eating caterpillar, Rust, Leaf roller in Kolhapur in Groundnut, Leaf eating caterpillar in Kolhapur, Latur and Amraoti div. and Wardha dist and White fly, Jassids & Thrips in Nashik division in soybean, Leaf caterpillar and sap sucking insects in Latur division in sunflower, Aphids & Jassids in Aurangabad & Chandrapur and Vidarbha div. and Root rot in Nashik in irrigated cotton and Aphids and Jassids in Aurangabad and Vidarbha division in *kharif* cotton, leaf roller in Amravati division in tur and White fly, Jassids & Thrips in Nashik & Sap sucking insects, Leaf caterpillar in Latur division in moong is reported.
- For the control of White Woolly Aphids in sugarcane, release 2500 eggs or larvae of *Krisoperla Karnea* or *Konobatra Aphidivora* parasite on the leaves or spray Endosulphan 1 ml plus Metasistox 1 ml mixed in 1 liter water on a non-rainy day in Madhya Maharashtra, and Marathwada and after current spells of rain in Konkan & Goa and Vidarbha.
- Monitor the stem borer population in rice and if crosses economic threshold level, use phorate 10G @ 10 kg or Quinalphos 5G @ 15 kg / ha on a non rainy day in Madhya Maharashtra, and Marathwada and after current spells of rain in Konkan & Goa and Vidarbha.
- Monitor the army worm population in rice and if crosses economic threshold level, spray 25 % Cypermethrin @ 120 ml or 36 % Monocrotophos @ 700 ml / ha in 500 liter water on a non-rainy day in Madhya Maharashtra, and Marathwada and after current spells of rain in Konkan & Goa and Vidarbha.
- Monitor the blast disease in rice and if crosses economic threshold level, Blitox 50 (Copper oxychloride) @ 2.25 kg or Bavistin 50 WP @ 750 g or Hinosan @ 750 ml in 750 litre water / ha may be applied on a non-rainy day in Madhya Maharashtra, and Marathwada and after current spells of rain in Konkan & Goa and Vidarbha.
- Monitor the stem borer, aphids and jassids population in jowar and if crosses economic threshold level, spray 5 % Neem seed extract or 35 % endosulphon @ 14 ml or 30 % dimethoate @ 10 ml plus 10 ml sticker in 10 liter water on a non-rainy day in Madhya Maharashtra, and Marathwada and after current spells of rain in Konkan & Goa and Vidarbha.
- Monitor the leaf roller population in groundnut and if crosses economic threshold level, spray 36% WSC monocrotophos @ 700 ml or 25% WSC quinolphos @ 1000 ml / ha in 500 liter water on a non-rainy day in Madhya Maharashtra, and Marathwada and after current spells of rain in Konkan & Goa and Vidarbha.
- Monitor infestation of rust in groundnut & if exceeds economic threshold level, spray 75 WP Mancozeb 1 kg/ha. in 500 liter water on a non-rainy day in Madhya Maharashtra, and Marathwada and after current spells of rain in Vidarbha.

Madhya Pradesh

Rainfall occurred at many places in South west M.P and North east M.P. on 18th September, East & South West M.P. on 19th September & South M.P. on 20th September & at isolated places over rest of the State during the period.

Rain / thundershowers are likely to occur at many places over East Madhya Pradesh and at a few places over West Madhya Pradesh.

Advisories

- Rain/thundershowers is likely to occur at many places over east Up. Under the circumstance, postpone irrigation to sugarcane, moong, *kharif* soybean, jowar, urad, tur, cotton and maize crops.
- There was no significant rainfall in West MP except in Bhopal, Dhar, Jhabua and Sehore districts during last week and rain / thundershowers likely to occur at a few places over. Under the circumstances apply irrigation to bring the soil moisture to its field capacity. Apply irrigation in the above mentioned districts depending on soil profile stored moisture as there was excess rainfall during last week.
- Maintain 3-5 cm water level in *Kharif* rice field. Conserve moisture wherever the *kharif* crops are at

maturity stage.

- Also continue intercultural operation and application of fertilizer and plant protection measures to the crops after spells of rain in East MP and on a non rainy day in West MP.
- Monitor **soyabean** for **pod borer**. If the population crosses ETL, undertake plant protection measures to control the pest after spells of rain in East MP and on a non rainy day in West MP.

Orissa

South monsoon was active over the State on 18th and 20th September. Rainfall occurred at many places over the State during the whole period. Heavy to very heavy falls occurred at isolated places over the State on 18th September and heavy rain at isolated places during the remaining days.

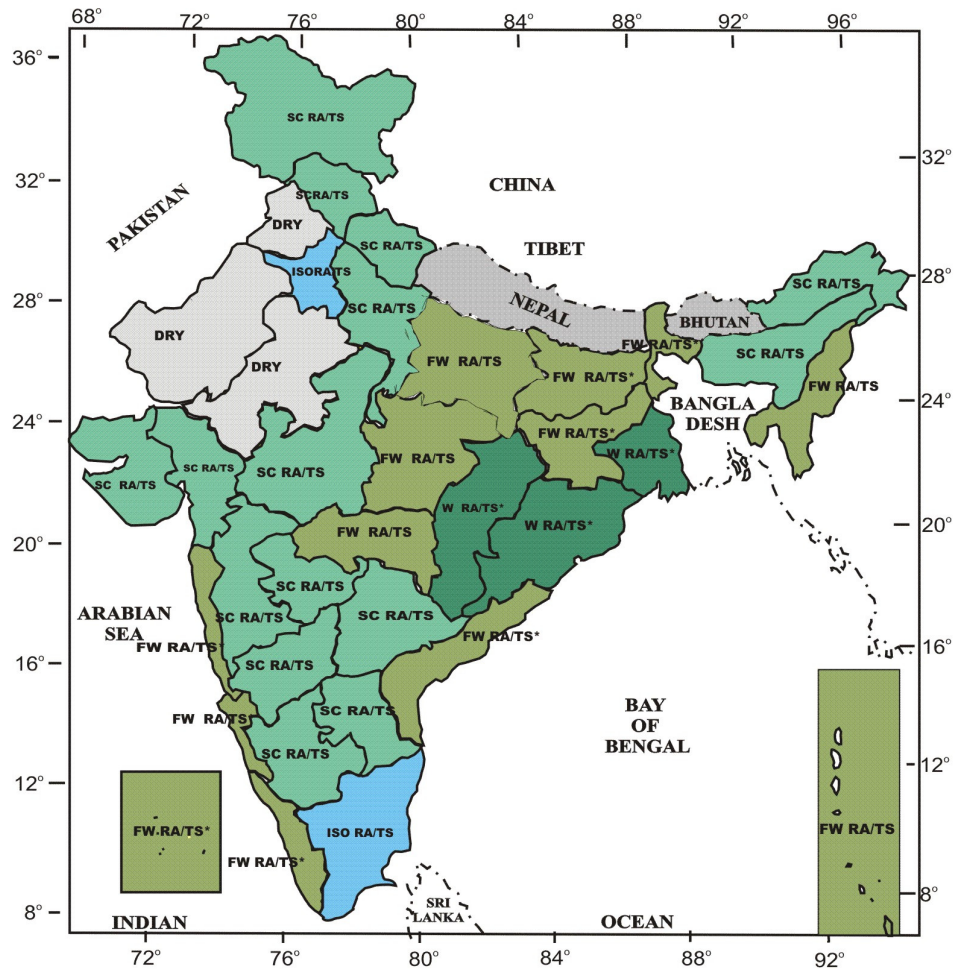
Rain / thunder showers are likely to occur at most places over the State.

Warning: Scattered heavy to very heavy falls with isolated extremely heavy falls are likely over the State.

Advisories

- Rainfall occurred at many places over the State during last week. Rain / thunder showers are likely to occur at most places over the State, associated with scattered heavy to very heavy falls and isolated extremely heavy falls over the State for next 3 days.
- Under the circumstances, postpone irrigation, fertilizer application and plant protection measures to **vegetables, sugarcane, groundnut and jute** crops.
- Drain out excess water from the field.
- Maintain 3 – 5 cm water in the **rice** field wherever crops are at tillering stage.
- At five months stage of **sugarcane** crop perform propping by combining plants of two rows so that the crops do not lodge by wind.

Forecast valid upto 24th September, 2006



ISO - Isolated, TS - Thunder shower/storm, SN - Snow,
 RA - Rain, DRY - No rain, SC - Scattered, MOD-Moderate,
 SQ - Squall, HA- Hail. DS - Dust Storm, FW - Fairly Widespread
 * - With heavy Rain warning

Salient weather features for the week ending 20/09/06

METEOROLOGICAL ANALYSIS

- Last week's upper air cyclonic circulation over west-central Bay of Bengal off south Andhra Pradesh coast persisted on 14th extending between 1.5 & 5.8 km a.s.l. Under its influence, a low pressure area formed over the same region on 15th. It persisted over the same area on 16th; lay over north Coastal Andhra Pradesh & neighbourhood during 17-18th and became less marked on 19th. However, the associated cyclonic circulation extending upto mid-tropospheric level persisted on 19th and became less marked on 20th.
- A low pressure area formed over east-central Bay of Bengal on 18th. It became well marked and lay over northeast Bay and neighbourhood on 19th, over northwest Bay off north Orissa- West Bengal coast on 20th morning and over Gangetic West Bengal and adjoining Orissa & Jharkhand on the same evening.
- Last week's upper air cyclonic circulation over coastal Karnataka and adjoining Arabian Sea persisted on 14-15th and lay over east central Arabian Sea off south Konkan coast on 16th. Under its influence a low pressure area formed over east central Arabian Sea and adjoining north Konkan & south Gujarat coasts on 17th. It persisted over the same area on 18th; lay over east central Arabian Sea and adjoining Saurashtra region on 19th and over east central Arabian Sea on 20th.
- An off shore trough at sea level ran from south Konkan coast to Kerala coast during 15-16th and from south Gujarat coast to Kerala coast on 17-20th.

- A western disturbance as an upper air system passed over extreme northern parts of the country during last 3 days of the week.

RAINFALL

Under the influence of the above systems:

- The monsoon was active/vigorous with isolated heavy to very heavy falls over Coastal Andhra Pradesh and Telangana on most days, over Kerala, Coastal & North Interior Karnataka on many days and over South Interior Karnataka and Rayalaseema on a few days of the week. Isolated extremely heavy falls (25 cm or more) also occurred over Telangana on a few days. Fairly widespread rainfall with isolated heavy falls occurred over Lakshadweep and Andaman & Nicobar Islands during many days of the week .
- The monsoon was active/vigorous with isolated heavy to very heavy falls over Sub-Himalayan West Bengal & Sikkim on first two days of the week; over Orissa during 18-20th and over Gangetic West Bengal towards the end of the week. Fairly widespread rainfall with isolated heavy falls also occurred over Sub-Himalayan West Bengal & Sikkim during 17-18th; over Orissa during 16-17th and over south Chhattisgarh during 18-19th.
- The monsoon was active/vigorous with isolated heavy to very heavy falls over Konkan & Goa on many days, over Gujarat state, Madhya Maharashtra, Marathawada on one day; each during the week. Fairly widespread rainfall with isolated heavy to very heavy falls also occurred over Madhya Maharashtra during many days of the week.
- The monsoon was active/vigorous with isolated heavy to very heavy falls over Himachal Pradesh during last two days of the week.
- The rainfall was subdued over remaining parts of the country where rainfall was scattered /isolated on many days of the week.

RAINFALL DURING THE WEEK ENDING ON 20TH SEPTEMBER, 2006

Rainfall was excess/normal in 20 and deficient/scanty in 16 out of 36 meteorological sub-divisions (Actual: 41.8 mm, Normal: 38.4 mm and Departure: +9%).

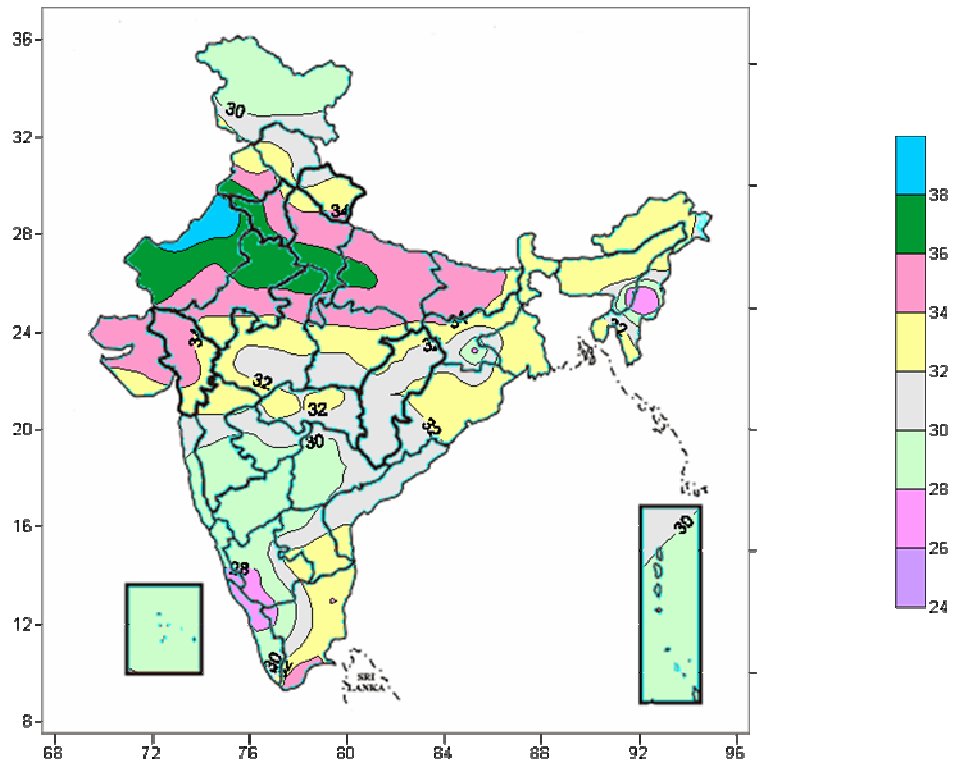
CUMULATIVE SEASONAL RAINFALL (1ST JUNE TO 20TH SEPTEMBER, 2006)

Rainfall was excess/normal in 25 and deficient in 11 out of 36 meteorological sub-divisions. (Actual: 834.8 mm, Normal: 843.3 mm and Departure: -1%).

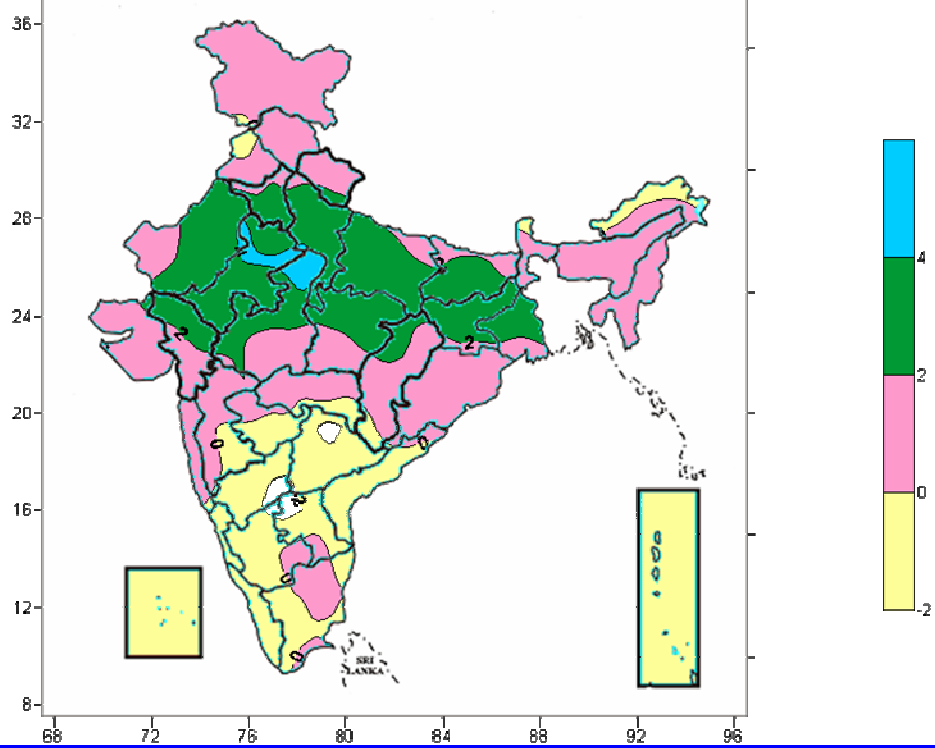
OUTLOOK FOR THE WEEK ENDING ON 20TH SEPTEMBER, 2006.

- The well marked low pressure area over Gangetic West Bengal and adjoining north Orissa & Jharkhand concentrated into a depression and lay over Jharkhand with its centre close to Jamshedpur at 0830 hours IST of today, 21st September 2006. It remained practically stationary at 1430 hours IST. The system is likely to move in a northwesterly direction and weaken gradually. Under its influence, the enhanced rainfall activity is likely over East India and Gangetic plains during first half of the week and decrease thereafter.
- Decrease in rainfall activity over south peninsula.
- Conditions are favourable for withdrawal of monsoon from parts of northwest India.

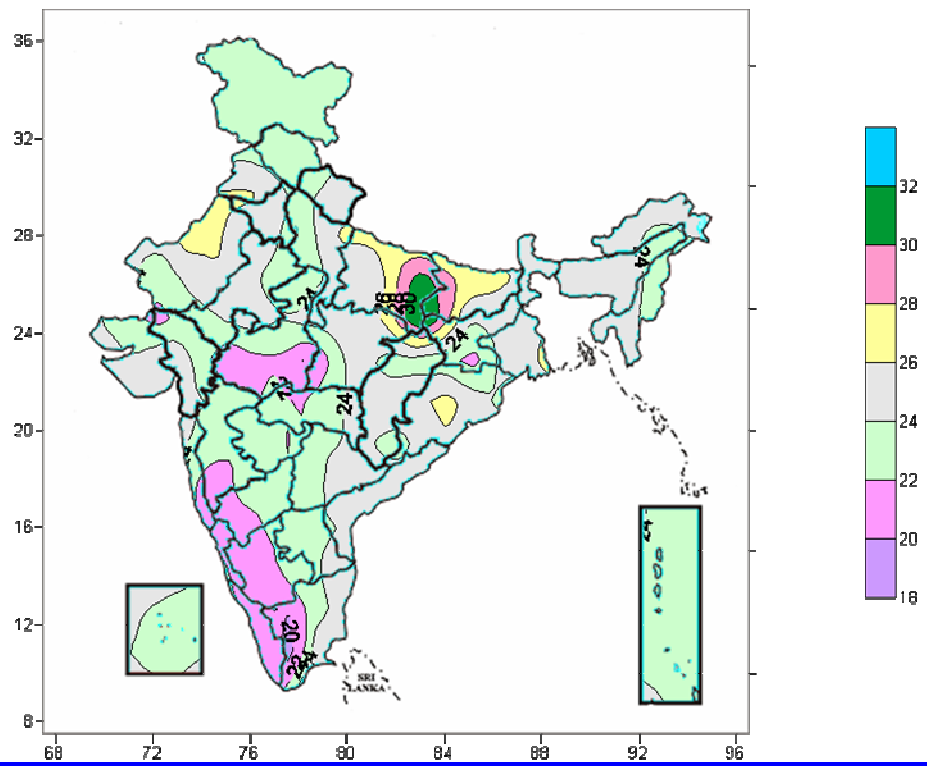
Actual mean maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 20.09.06



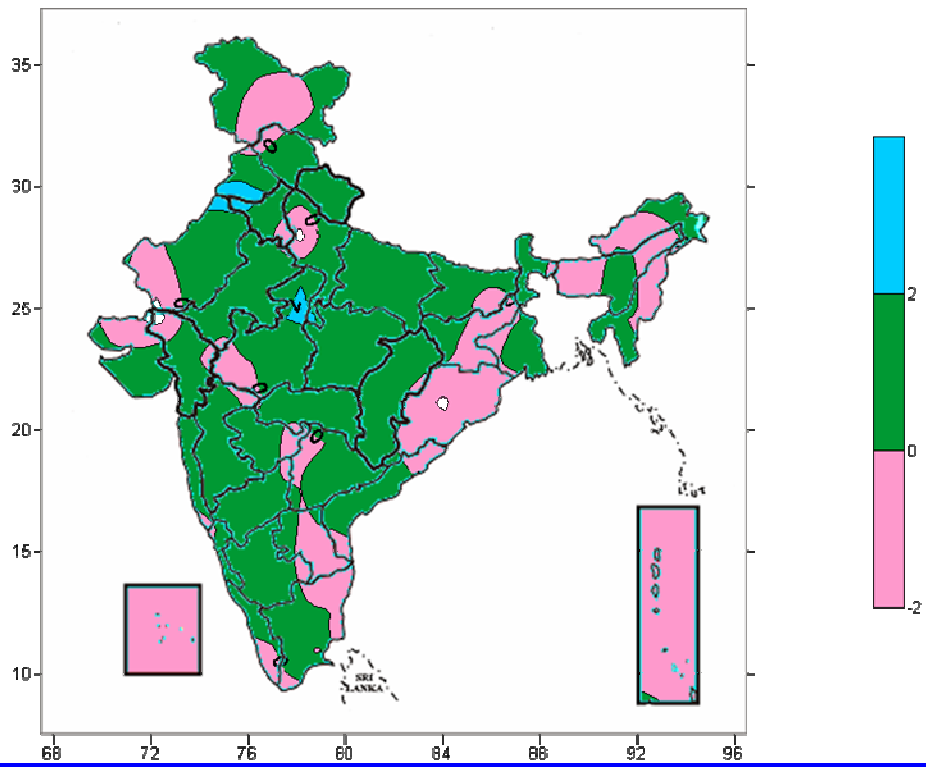
Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 20.09.06



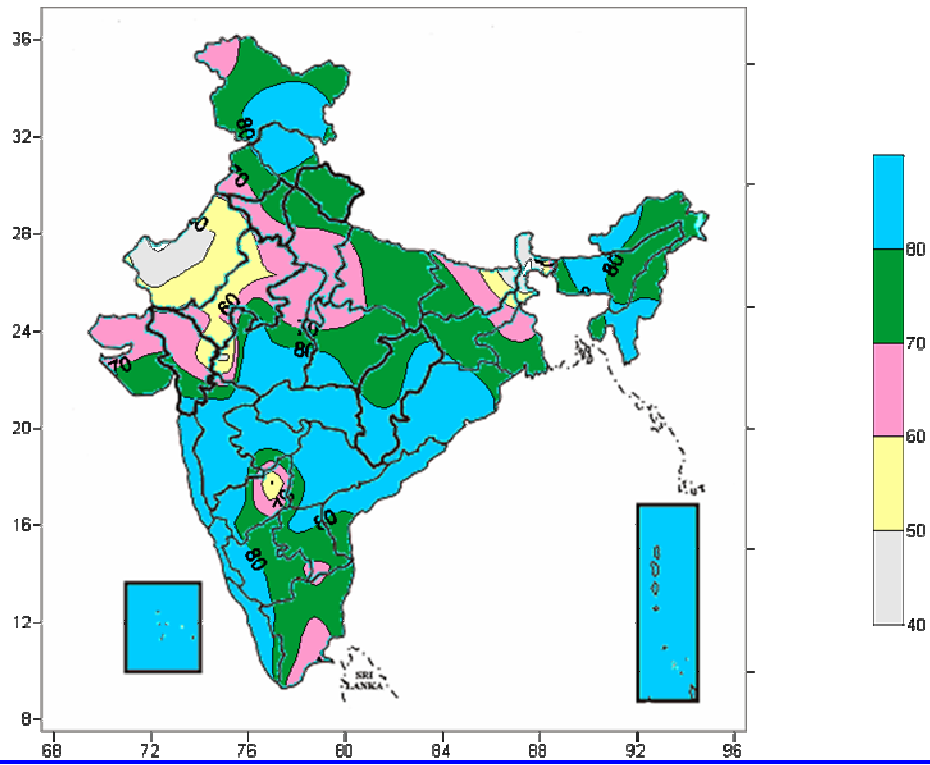
Actual mean Minimum Temperature (0C) In India for the week ending 20.09.06



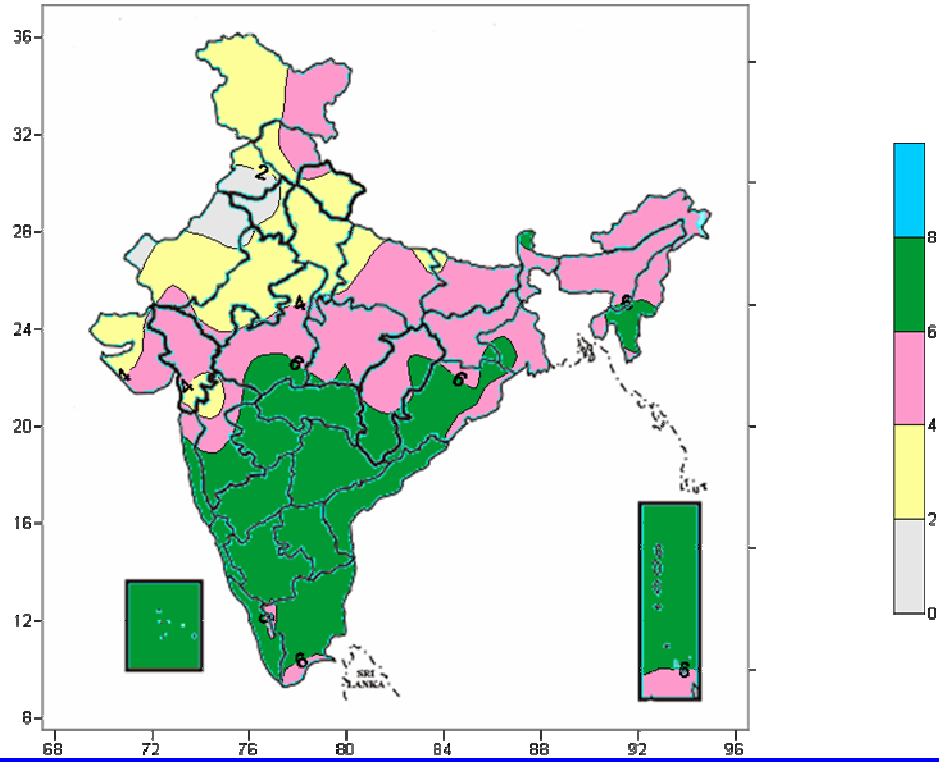
Minimum Temperature (0C) Anomaly In India for the week ending 20.09.06



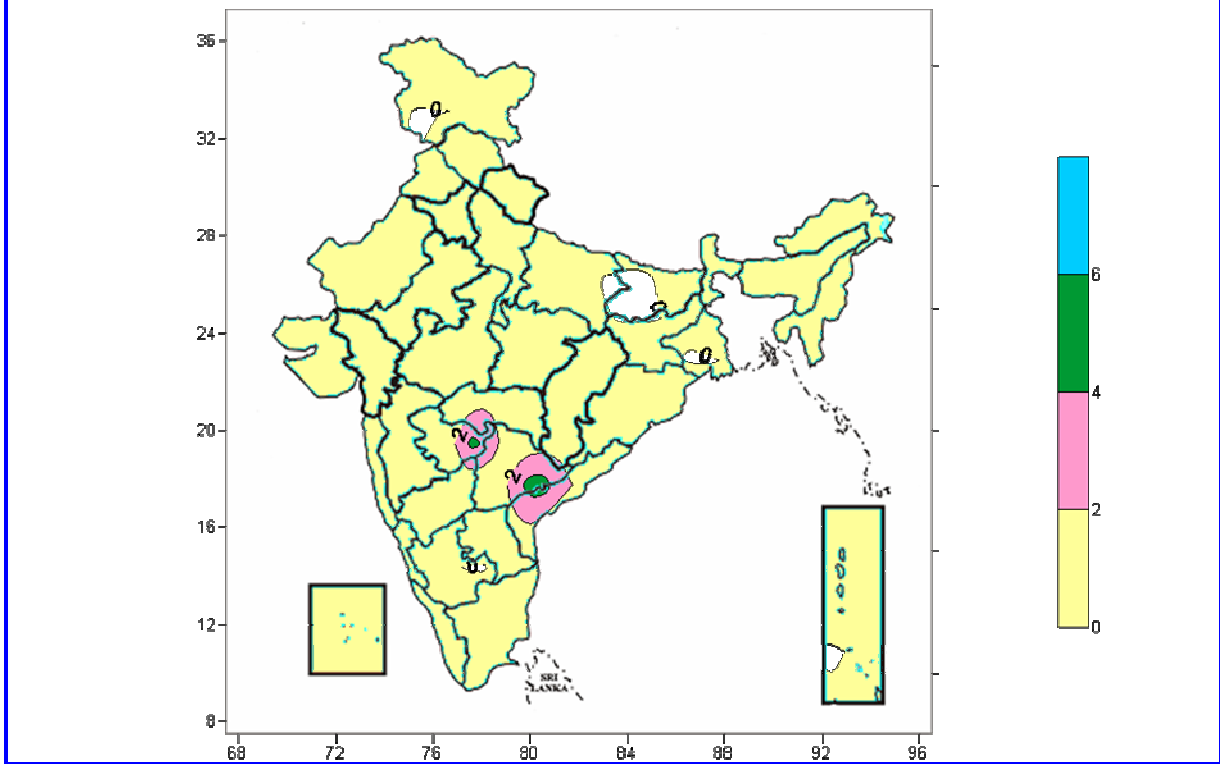
Relative humidity (%) over India for the week ending 20.09.06



Cloud amount (okta) over India for the week ending 20.09.06



Wind speed (knots) over India for the week ending 20.09.06



Desert Locust Forecasting



Rainfall (mm)							
Station Name	14.9.06	15.9.06	16.9.06	17.9.06	18.9.06	19.9.06	20.9.06
Amritsar	1.6	-	2.8	-	-	-	4.6
Barmer	-	-	-	-	-	-	-
Sriganganagar	-	-	-	-	-	-	-
Jaisalmer	-	-	-	-	-	-	-
Kota	-	-	9.4	-	-	-	10.0
Deesa	-	-	-	-	4.4	-	-
Churu	-	-	-	-	-	-	-

Temperature (degree celcius)							
Station Name	14.9.06	15.9.06	16.9.06	17.9.06	18.9.06	19.9.06	20.9.06
Amritsar							
Barmer							
Sriganganagar				Data			
Jaisalmer				Not			

Kota				Available			
Deesa							
Churu							

Wind

Station Name	14.9.06		15.9.06		16.9.06		17.9.06		18.9.06		19.9.06		20.9.06	
	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.	Speed	Dir.
Amritsar	04	SE	10	SW	-	-	05	SW	10	SSW	-	-	-	-
Barmer	12	SW	10	S	-	-	-	-	-	-	-	-	-	-
Sriganga nagar	03	WNW	05	NNW	10	NE	05	N	05	WNW	-	-	07	NNE
Jaisalmer	04	SW	15	S	10	SE	10	ESE	02	SE	-	-	07	N
Kota	02	W	05	NE	10	ENE	10	NE	03	NE	-	-	03	NE
Deesa	04	S	05	SE	12	E	10	ENE	08	ENE	-	-	07	E
Churu	02	N	10	NNW	-	-	05	NE	05	NW	-	-	04	NW

Heavy rains and flooding occurred last month along the **Indo-Pakistan** border (Rajasthan, **India** and Tharparkar, **Pakistan**) that will allow breeding conditions to remain favourable for several months. Solitarious populations are only present in Rajasthan and Tharparkar at the moment.

CROP – STATE – STAGE

Delhi

Toria	Vegetables (Brinjal, Chilly, Cauliflower and cabbage, raddish, carrot, and turnip)	Arhar	Rice	Green gram, black gram
Sowing	Nursery sowing/ Transplanting	Maturity	Grain formation	Maturity
Bajra	Fodder (Mixed maize, Lobia)	Maize	Early sown vegetable crops	
Flowering / grain formation	Vegetative	Cob formation	Vegetative/ flowering/ fruiting/ harvesting	

Haryana

Horticultural crop	Sugarcane	Paddy	Maize	Cotton
Fruiting	Vegetative	Grain formation/development	Cob formation/development	Boll formation
Bajra	Groundnut	Kharif pulses		
Ear head formation/ maturity	Pod formation/development	Flowering/pod formation		

Himachal Pradesh

Rice	Maize	Apple	Summer vegetables (Tomato, brinjal, ladies finger)	Fodder crops
Grain formation/maturity	cob maturity/harvesting	Harvesting	Vegetative/flowering / fruiting / harvesting	Vegetative
Moong / Mash	Fruit plants	Potato	Summer vegetables Cauliflower/ Cabbage/Arcle peas	
Maturity/harvesting	Fruiting/maturity	Tuber formation/ maturity	Preparation of nursery (Lower hills) Transplanting (Mid hills) Sowing (High hills)	

Jammu & Kashmir

Vegetables crops	Rice	Maize	Kharif crops	Horticultural crops
Flowering/ fruiting	Grain formation	Grain development	Flowering/grain formation	Planting
Fodder crops (Maize, Bajra, MP Chari)	Flower crops	Toria	Brown Sarson	
Vegetative/cutting	Seed bed preparation for sowing	Sowing	Sowing	

Punjab

Sugarcane	Paddy	Maize	Cotton	Kharif pulses
Vegetative	Grain formation/development	Cob formation/development	Boll formation	Pod formation/maturity
Groundnut				
Pod formation/development				

Rajasthan

Cotton	Groundnut	Bajra	Pulses	Soyabean
Boll formation	Pod formation	Ear head formation	Flowering/pod formation	Pod formation
Maize				
Cob formation				

Uttar Pradesh

Early sown Pulses	Kharif Pulses (Urad & Moong)	Sugarcane	Kharif Vegetables (Early sown)	Summer vegetables
Early vegetative/vegetative	Flowering	Vegetative	Vegetative/flowering	Harvesting
Mango	Kharif Maize, Jowar, Bajra	Kharif rice	Kharif vegetables	Kharif Oilseeds
Harvesting	Vegetative/flowering	Tillering/panicle initiation	Transplanting	Vegetative/Flowering
New Mango	Toria			
Active growth	Sowing			

Uttaranchal

Rice & cauliflower	Mango/Litchi	Lady's finger / French Bean	Sugarcane	
Vegetative/ heading	Seedling	Fruiting/ harvesting	Tillering/ grand growth	
Apple	Millets (Ragi)	Pea & Potato		
Maturity	Vegetative	Field preparation/sowing		

Assam

Maize	Sugarcane		Vegetables	Balck gram and Green gram
Harvesting	Cane formation /cane maturity		Land preparation	Early vegetative /
Sali rice	Arhar		Early vegetables	
Early vegetative/tillering	Vegetative		sowing	

Arunachal Pradesh

Wet seeded rice	Ginger	Potato	New Ginger crop	Jhum Paddy
Grain formation / maturity	Vegetative	Land preparation	Sprouting/ early vegetative	Grain maturity/harvesting
Wheat and Mustard				
Land preparation				

Bihar

Fruits and Vegetables	Rice	Maize	Pulses and Oil seeds	
Vegetative	Vegetative / tillering	Flowering/cob formation	Seed formation/Maturity	

Jharkhand

Rice	Upland crops (groundnut, arhar, urad)	Finger millet	Maize
Vegetative	Vegetative	Vegetative	Flowering/cob formation
Kharif vegetables	Early planted kharif		

(Tomato, Cabbage, Cauliflower, Brinjal, Chilli)	vegetables		
Transplanting	Early vegetative / vegetative		

Sikkim

Orange	Rice	Large Cardamom	Kharif vegetables	Ginger
Fruiting/harvesting	maximum tillering / early flag leaf initiation	maturity	Fruiting/harvesting	Rhizome formation
Rabi vegetables				
Panicle initiation/flowering				

West Bengal

Aus rice	Sugarcane	Jute	Green Gram	Aman rice
Grain maturity	Vegetative	Harvesting	Pod formation/ early maturity	Tillering/Panicle initiation/ Flowering
Groundnut				
pegging/ pod formation				

Chattisgarh

Chilly, Brinjal, Ladies finger, Beans, Bottle gourd	Niger, Kulthi	Sugarcane	Kharif rice	Soybean
Vegetative / flowering / fruiting / harvesting	sowing	Vegetative	panicle initiation / flowering	Vegetative / flowering
Blackgram / Greengram	Groundnut	Red Gram	Tomato, chilli, brinjal	
Vegetative/flowering /pod formation	Vegetative / flowering/ pegging	Vegetative / flowering / pod formation	Vegetative/flowering /fruiting/harvesting	

Gujarat

Kharif Maize	Premonsoon irrigated Cotton	Kharif groundnut	Early Sown Rice	Sugarcane
Cob formation	Vegetative/ Square formation	Pegging/pod formation	Early tillering/tillering	Elongation/ cane formation
Kharif Cotton	Castor	Kharif bajra	Kharif Rice	
Vegetative/ square / boll formation	Early vegetative/ Vegetative	Grin formation	Active tillering/panicle initiation	

Maharashtra

Kharif Groundnut	Tur	Irrigated Cotton	Sugarcane (Seasonal)	Bajra (Madhya Maharashtra, Marthwada and Vidarbha)
pegging/ pod formation	branching	Vegetative / square formation/flowering	Vegetative/elongation	grain formation / grain maturity/harvesting
Jowar	Kharif sunflower	Soyabean	Kharif rice (Konkan)	Kharif rice (Madhya Maharashtra, Marathwada & Vidarbha)
Vegetative / flag leaf initiation	flowering / head formation	Flowering / pod formation	flowering / grain maturity	flag leaf/panicleinitiation /flowering (in Madhya Maharashtra, Marathwada)
Moong	Kharif cotton			
pod formation / early maturity	Early vegetative/vegetative			

Madhya Pradesh

Sugarcane	Moong	Kharif crops (Jowar, urad, tur)	Kharif Soyabean	Kharif rice
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Vegetative	pod formation	pod formation/ grain formation /maturity	pod formation	flowering
Maize	Cotton			
Cob formation	Flowering			

Orissa

Vegetables	Earlier sown vegetables	Early sown Groundnut	Groundnut	Sugarcane
Sowing / transplanting	Flowering / fruiting / harvesting	Early vegetative / vegetative/ pod development	Sowing	Vegetative / tillering
Kharif rice	Early transplanted rice	Pulses	Early sown Pulses	jute
Transplanting	Early tillering / tillering	Sowing	Early vegetative / vegetative	harvesting

Andhra Pradesh

Kharif rice	Kharif crops(Chillies/ Groundnut/ Chillies/ Tur)	Maize / Cotton		
tillering	Vegetative	Late vegetative		

Karnataka

Groundnut	Sugarcane (Ratoon crop & new crop)	Kharif crops (jowar, maize)	Kharif rice	Early sown rice
Peg / pod formation	Vegetative /grand growth	Grain formation/maturity	Tillering	Transplanting
Kharif cotton				
Flowering/boll formation				

Kerala

Rubber	Virippu Rice	Pepper		
Tapping	Maturity/harvesting	Berry development /maturity		

Tamil Nadu

Pulses	Millets	Summer irrigated cotton	Early & mid sugarcane	Late season sugarcane
Pod formation	Grain formation	Maturity / harvesting	Grand growth	Harvesting
Rice (Kuruvai)	Groundnut			
vegetative	Pod formation			