



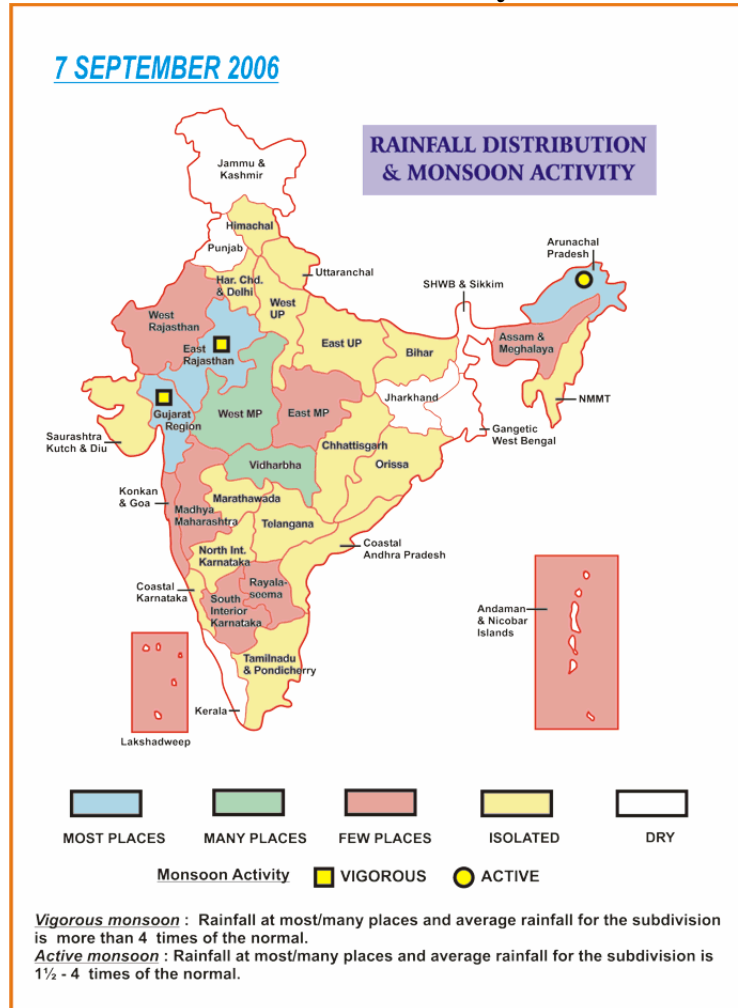
Summary of Agromet Advisory Services for different States of the country
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(For the period 7th September to 11th September, 2006)

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

Monsoon Activity



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

Punjab & Haryana

Rainfall occurred at isolated places on 6th September in Punjab. Rainfall occurred at isolated places on 6th and 7th September in Haryana. Weather remained dry during rest days of the period.

Isolated rain / thundershowers are likely over the State.

Advisories

- Arrange for drainage facilities in sugarcane, maize, groundnut, *khari* pulses and cotton to minimize the crop damage due to water stagnation due to heavy rainfall during last few weeks.
- Prevailing weather conditions are favorable for the further spread of bacterial leaf blight in rice.

There is high risk of **leaf folder** in **Malwa belt** due to high humid conditions. Monitor the incidences of the pest, if the pest population crosses economic threshold level, take adequate plant protection measures, if damage exceeds economic threshold level. Avoid nitrogen application to prevent further attack of the pests and diseases.

- In view of prevailed high humid and cloudy conditions in preceding days **cotton** crop is susceptible to the incidence of **pink 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.
- As high humid and cloudy conditions are prevailing, they may favour infestation and further spread of sucking pests / diseases in standing *kharif* crops in **Haryana**. Monitor the pests and diseases on crops and adequate chemicals / mechanical measures may be taken to control them.
- Maintain 3-5 cm water level in rice field.
- 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.
- Undertake sowing of **berseem** by utilizing the residual moisture. Also conserve excess soil moisture to take up sowing of *rabi* crops.

Rajasthan

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

Rain / thundershowers are likely at many places over south Rajasthan; at a few places over northeast Rajasthan and isolated over northwest Rajasthan.

Warning: Isolated heavy to very heavy falls are likely over south Rajasthan during next 2-3 days.

Advisories

- As rain / thundershowers are likely many places over south Rajasthan, postpone irrigation to **cotton, pulses, jowar, maize, soybean** and **groundnut** crops. Rain / thundershowers are likely at a few places over north east Rajasthan and at isolated places in northwest Rajasthan. Under the circumstances, apply irrigation depending on soil profile stored moisture in north east Rajasthan and apply irrigation to the crops to bring the soil moisture to field capacity in north west Rajasthan.
- Incidence of **tikka** disease in **groundnut** is reported in some places. Spray Mancozeb 2g / litre of water to control the disease after current spells of rain in south Rajasthan and on a non-rainy day in north Rajasthan, if damage exceeds economic threshold level.
- Incidence of **spotted bollworm** is reported in **cotton**. For the control of **boll worms** spray the crops with 2.0 litre of Endosulfan or 1 litre of Monocrotophos per ha at 10 days interval, beginning two weeks after the start of flowering and stopping two weeks before the first picking. Under the prevailing weather conditions, spray on a non-rainy day in north Rajasthan and after current spells of rain in south Rajasthan, if damage exceeds E.T.L.
- Spray Methylparathion / Quinalphos / Endosulphan @ 2.5 litre / ha on a non-rainy day in north Rajasthan and after current spells of rain in south Rajasthan to control **Fatka** disease in **Bajra**, if damage exceeds E.T.L.

Uttar Pradesh

Weather was mainly dry in the State on 4th September. Rain occurred at many places in **Lucknow, Allahabad, Jhansi** and **Kanpur** divisions and at a few places in **Faizabad** division on 5th September. Rain occurred at isolated places in **Jhansi, Lucknow, Kanpur** divisions on 6th September and weather was mainly dry in remaining divisions of the state on 5th and 6th September.

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

Advisories

- There was no significant rainfall in the State during last week except **Farrukhabad, Hardoi, Kanpur**

City, Kanpur Dehat, Badaun, Etawah, Jhansi, Mathura, Pilibhit, and Shahjahanpur districts and rain / thundershowers are likely at isolated places over the State for the next three days. Under the circumstance, apply irrigation to summer sugarcane, vegetables and mango crops to bring the soil moisture to field capacity. Apply irrigation depending on soil profile stored moisture in the above mentioned districts.

- Continue weeding and hoeing, along with topdressing of nitrogen in rice, maize, jowar, bajra, kharif pulses, vegetables and oilseeds.
- Continue the land preparation and sowing of toria.
- Monitor the crop and collect and destroy egg masses of *pyrilla* from the lower surface of the leaves of sugarcane. Spray Malathion or Endosulphan @ 1.25 litre / ha to control *pyrilla* if the population exceeds E.T.L.
- To control *khaira* disease in rice, spray the solution of 5 kg Zinc sulphate and 20 kg urea dissolving in 800-1000 litre water per ha and to control *phudka* disease spray the solution of monocrotophos 35EC @ 1 litre / ha dissolving in 800-1000 litres of water.
- To overcome Anthracanose disease in mango, spray the solution of copper oxychloride @ 3gm / litre of water and to control gummosis disease mix Copper sulphate 250gm, Zinc sulphate 250gm, Borax 125 gm and slaked lime 100 gm in soil as manure and light watering may be done.

Himachal Pradesh

Precipitation occurred at a few places during this week in the State.

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

Advisories

- As rain / thundershowers are likely at isolated places over the State for next three days, apply irrigation to maize, moong, potato and early sown vegetable crops.
- Maintain 5 – 7 cm water in rice field.
- Start 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.
- If spots are noticed on the leaves of Simla-mirch and attack crosses economic threshold level, Ridomil-MZ (0.25%) may be sprayed at an interval of 8 –10 days.
- Weather is conducive for attack of tomato borer. Monitor insect population and if crosses economic threshold level, endosulphan @ 0.07% may be sprayed and picking should be done after 3-4 days of spray.
- Weather is conducive for rice blast and rice hispa attack. If blast attack 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. If rice hispa attack crosses economic threshold level, metacid 50 EC @ 1 ml per litre of water may be applied. Use sticker Stickwel @ 0.2 g / litre water.

Uttaranchal

Light to heavy rain was recorded at many places on 31st August, light to moderate rain was recorded at many places on 3rd September, light rain at a few places on 2nd September and light rain at isolated places on 1st & 6th September and weather remained mainly dry on rest of the days.

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

Advisories

- There was no significant rainfall in the state except in Almora, Chamoli, Garhwal Pauri, Nainital and Udam Singh nagar during last week. Rain / thunder showers are likely at isolated places over the state for next three days. Under the circumstances, apply irrigation to mango, apple, sugarcane and vegetable crops to bring the soil moisture to its field capacity. Apply irrigation depending on the soil profile stored moisture in the above mentioned districts.

- Maintain 5 – 7 cm water in rice field.

Jammu & Kashmir

Light to moderate rain / thundershowers occurred at many places with heavy falls at isolated places on 4th September. Weather remained mainly dry over J&K State on 5th and 6th September.

Isolated rain / thundershowers likely over the State.

Advisories

- Weather conditions are favourable for breeding and migration of **desert locust**. Keep vigil and undertake anti-locust operations immediately to prevent crop damage.
- Light to moderate rain occurred at many places in J&K state during last week. Rain / thundershowers are likely to occur at isolated places in J & K state for the next three days. Under the circumstances, apply irrigation to **vegetables, pulses, rice and maize** to bring the soil moisture to its field capacity in Kashmir Division.
- Drain out excess water from the fields in Jammu Division particularly in **maize, pulses, bajra and maize** where there was flooding and stagnation of water during last week.
- Rogue out **downey mildew** affected **bajra** plants and **smut** affected **maize** plants and destroy completely to avoid further spread.
- Monitor **pulse** crops for **hairy caterpillar** and **jassids** due to prevailing weather conditions. If it crosses economic threshold level, spray Malathion @ 0.05% to control the pest.
- Continue sowing of **carrot, beet root and turnip** for seed crop by utilizing the monsoon showers.
- Planting of horticultural crops like **mango, citrus, litchi, loquat, guava, papaya** etc. may be continued by utilizing the monsoon showers.

Delhi

Weather remained mainly dry.

Isolated rain / thundershowers likely over the region.

Advisories

- As there was no significant 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, green gram, black gram, fodder crops, arhar, maize and bajra**.
- Drain out water from the field of **rice** and apply second split dose of N @ 25 – 30 kg / ha wherever crops are at tillering stage as top dressing. Maintain 3 – 5 cm water level in rice field after 2 – 3 days of fertilizer application.
- 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 **cauliflower** and **cabbage**. Select varieties from Pusa Synthetic, Pusa Subhra and Pusa Himjyoti.
- Prepare land and perform early 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

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

Warning: Isolated heavy falls likely over 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.
- Continue intercultural operations and fertilizer application in **arecanut, coconut, pepper, rubber and banana** after current spells of rain.
- Attack of **rhinoceros beetle** and **red palm weevil** insects and **bud rot** and **mahali** disease is reported in **coconut**. Hook out the **beetles** from the affected palms and fill the leaf axils with sevidol 8G @ 25 gm and fine sand 200 gm. Use Pheromone trap for controlling **red palm weevil**. If **bud rot** attack crosses economic threshold level, spray 1% boardeaux mixture to control the diseases. Spray blitox @ 4 gm/ litre/palm to control **mahali** disease if attack crosses economic threshold level. Spraying of chemicals may be carried out after current spells of rain.
- Attack of **spindle bug** insect and **bud rot** and **fruit rot** diseases is reported in **areca nut**. Monitor the crop continuously for **spindle bug** and if crosses economic threshold level, spray the crowns with carbaryl 50% WP @ 20gm / 100 litres of water to control the bug. If **bud rot** and **fruit rot diseases** attack crosses economic threshold level, spray 1% boardeaux mixture to control the diseases. Spraying of chemicals may be continued after current spells of rain.
- **Leaf gall** and **thrips** attack is reported in **pepper**. Monitor the crop continuously and if crosses economic threshold level, spray monocrotophos or dimethoate @ 0.05 % to control the pests. Spraying of chemicals may be continued after current spells of rain.

Tamilnadu

Rainfall occurred at many places over North Tamilnadu on 4th September and at isolated places over South Tamilnadu on 4th September and over the State on 5th and 6th September.

Rain / thundershowers likely at many places over the State.

Warning: Isolated heavy falls also likely over the State.

Advisories

- Rain / thundershowers are likely to occur at many places over the State for the next three days. Under the circumstance, postpone irrigation to **cotton, early / mid sugarcane and millets**.
- Arrange for drainage facilities as heavy rainfall is likely to occur at isolated places for the next 2-3 days.
- **Thrips** attack is reported in **rice**. Monitor the crop continuously as the weather conditions are favourable for further spread. Spray Dimecron @ 0.5 ml / litre of water after current spells of rain to control **mite**.
- Attack of **mites** is reported in **millets**. Monitor the crop continuously as the weather conditions are favourable for further spread. Spray wettable sulphur after current spells of rain to control the pest.
- Weather conditions are favourable for the attack of **red hairy caterpillar** in **groundnut**. Monitor the crop for the pest and collect and destroy egg masses to prevent further spread of the pest.
- Incidence of **internode borer** has been reported in **sugarcane**. Monitor the crop continuously as the weather conditions are favourable for further spread. Release *Trichogramma chilonis* @ 5 cc / ha parasite after current spells of rain to control the pest. Repeat after 15 days.

Karnataka

Monsoon was weak over the State on all the days. Rainfall occurred at most places over Coastal Karnataka and at isolated places over Interior Karnataka on all the days.

Rain / thundershowers are likely at a few places over coastal Karnataka and isolated places over Interior Karnataka.

Advisories

- There was no significant rainfall in the State during last week except in **Chamarajnagar, Mysore, and Tumkur** in **south interior Karnataka** and rain / thundershowers are likely at a few places over **South Interior Karnataka** and isolated over **North Interior Karnataka** and **coastal Karnataka**. Under the circumstance, apply required irrigation in **sugarcane, maize, jowar** crops and **groundnut** in south interior Karnataka. Apply irrigation depending on soil profile stored moisture in the above mentioned districts. Apply irrigation to the crops to bring the soil moisture to its field capacity in north interior Karnataka and coastal Karnataka. Apply life saving irrigation immediately to **maize** crops under moisture stress.
- Farmers are advised to continue transplanting of **kharif rice** in late sown areas by utilizing the monsoon showers.

Andhra Pradesh

Southwest monsoon has been active over Telangana on 5th & 6th September. Rain occurred at a few places over Coastal Andhra Pradesh from 3rd to 5th September. Isolated rain occurred elsewhere over the State during the week.

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

Advisories

- There was no significant rainfall in all the districts except in **Prakasam** in **Coastal AP**, **Nalgonda** in **Telangana** and **Chittoor** in **Rayalaseema** during last week and rain / thunder showers likely to occur only at isolated places over the State for next three days. Under the circumstances, apply required irrigation to **maize, groundnut, cotton, chilly** and **tur** to bring the soil moisture to its field capacity. Apply irrigation depending on soil profile stored moisture in the above mentioned district as there was excess rainfall during last week.
- Continue intercultural operations, application of fertilizers and pesticides in the standing crops.
- **Stem borer** incidence is noticed in **maize**. Monitor the crop continuously for further spread; if damage exceeds economic threshold level, spray Endosulfan @ 2ml / litre of water to control the pest.
- **Bud and stem necrosis** disease is reported in **groundnut**. Monitor the crop continuously for further spread; if damage exceeds economic threshold level, spray Dimethoate @ 400 ml / ha or Methyl Dimeton @ 360 ml / ha to control the vector thereby reducing the spread of disease.

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

Assam

Light to moderate rain occurred at a few places on 4th and 6th and at isolated places on 5th with isolated heavy falls on 4th and 5th over the State.

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

Advisories

- As rain / thundershowers are likely at many places over the State for next three days, postpone irrigation to **sugarcane, vegetables** and **arhar**.
- 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 after current spells of rain 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 after current spells of rain.
- Due to less rainfall around 30% of *Sali rice* area could not be covered. Where *Sali rice* could not be transplanted, *black gram* and *green gram* may be sown in those areas.
- Select *Black gram* varieties from T -9, Pant U-19 and Saonimah (SB-121) and *Green gram* varieties from T-44, Pratap and AAU-39. Prepare land on a non-rainy day applying fertilizers @ 3 kg Urea, 30 kg SSP per bigha to obtain more yields.

West Bengal

The SW Monsoon was weak over Sub Himalayan West Bengal on 4th, 5th & 6th, it was weak also over Gangetic West Bengal on 6th. During the said period on 4th rainfall occurred at many places over Sub Himalayan West Bengal and on 5th & 6th at one / two places over Sub Himalayan West Bengal. But during the said period on 4th & 5th at most places and on 6th at one / two places rainfall occurred over Gangetic West Bengal.

Rain / thundershowers are likely at a few places over Sub-Himalayan West Bengal and isolated over the rest region.

Advisories

- As there was excess rain in *Howrah* district during last week and rain / thundershowers are likely at isolated places over this district for next three days, apply irrigation to *sugarcane*, *green gram* and *groundnut* depending on soil moisture status.
- As there was no significant rain in the remaining districts of the State during last week and rain / thundershowers are likely at a few places over Sub-Himalayan West Bengal and isolated over the rest region, apply irrigation to the crops to bring soil to its field capacity.
- 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.
- 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. Apply chemicals on a non-rainy day in Sub Himalayan West Bengal.

Bihar

Light to moderate rain occurred at a few places over the State on 1st September. During rest of the days light rainfall occurred at isolated places.

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

Advisories

- Bihar received no significant rainfall during last week in the State and rain / thundershowers are likely at isolated places over the State for next three days. Under the circumstances, apply irrigation to *vegetables*, *maize*, *pulses* and *oilseed* crops to bring the soil moisture to its field capacity.
- Weeding and intercultural operations may be carried out in *rice* and apply 25-30 kg N / ha as top dressing. In moisture deficit areas spray 3-4 % urea solution as foliar spray. Also apply micronutrients.
- To control *sheath blight* and *Brown Plant Hopper* in *rice*, 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 in drought affected areas, if pest and disease infestation crosses economic threshold level.

Jharkhand

Rain / thundershower occurred at many places.

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

Advisories

- As there was no significant rainfall in the State during last week except **East Singhum** and **Santhal Parganas** districts and rain / thundershowers are likely at isolated places over the State for next three days, apply irrigation to **vegetables**, **maize**, and **other** crops to bring the soil moisture to its field capacity.
- Undertake weeding and top dressing in **rice**. Maintain 3-5 cm of standing water in the field.
- Incidence of **stem borer** and **hispa** is noticed in **rice** in some places. Spray Metasystox @ 1 ml / litre of water to control the pests. Sandovit or Tipole solution should be added as sticker.

Sikkim

Sky remained generally cloudy during the period. Moderate rain occurred at many places on 4th September. Light rain occurred at a few places over Gangtok on 5th September and very light rain occurred at a few places over Tadong on the same day. No rain occurred on 6th September over East Sikkim. Rain was deficient during the period.

Rain or thunder shower are likely at a few places over the State.

Advisories

- There was no significant rainfall in the State during last week and rain / thundershowers are likely to occur at a few places over the State for next three days. Under the circumstances, apply required irrigation to **orange**, **maize** and **large cardamom** crops to bring the soil moisture to its field capacity.
- Continue intercultural operations, application of fertilizers and pesticides in **orange**, **vegetables** and **ginger** on a non rainy day.
- 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.
- 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 on a non rainy day to control **fruit fly** and prevent fruit drop.

Arunachal Pradesh

Rain / thundershowers occurred at many places on 2nd and 6th September, at a few places on 31st August, 1st and 5th September and at one or two places on 3rd and 4th September. Sky remained partly cloudy to mainly cloudy over the State during the week.

Rain / thundershower likely to occur at many places over the State.

Advisories

- As rain/thundershowers are likely to occur at many places in the State for the next three days, postpone irrigation to new crop of **ginger**, **jhum rice** and **wet seeded rice**.
- Maintain required depth of standing water in **wet seeded rice** field.
- Field preparation for sowing of **potato** may be continued after current spells of rain

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

Gujarat

Rainfall occurred at a few places over South Gujarat region, Daman, Dadra Nagar Haveli, at isolated

places over Saurashtra on 4th. Rain occurred at isolated places over South Gujarat region on 5th. Rainfall occurred at many places over South Gujarat region, Daman, Dadra Nagar Haveli, at isolated places over Saurashtra on 6th.

Rain / thunder showers are likely at many places over north Gujarat region, Saurashtra & Kutch and at a few places over south Gujarat region.

Warning: Isolated heavy to very heavy falls are likely over north Gujrat region and Kutch area.

Advisories

- As there was no significant rain in all the districts of the State during last week and rain / thundershowers are likely at a few places over South Gujrat for next three days, apply irrigation to sugarcane, *Kharif groundnut*, *Kharif bajra*, *Kharif maize*, pre-monsoon irrigated cotton, *Kharif cotton* and castor.
- As rain / thunder showers are likely at many places over north Gujarat region, Saurashtra & Kutch with isolated heavy to very heavy falls for next three days, postpone irrigation to the crops.
- Also make arrangement for draining out excess water from the field over these regions.
- Drain out excess water and 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 on a non-rainy day in South Gujrat for the control of the insect.
- If population of sucking pests like *Aphid*, *Jassids*, *Thrips* & *Heliothis* of cotton crosses economic threshold level, release chrysoperla eggs or first instar larvae @ 10000 / ha twice at the interval of 15 days after current spells of rain.
- For monitoring & management the boll worms & *heliiothis* 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 after current spells of rain and 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. Apply chemicals on a non-rainy day in South Gujrat and after current spells of rain in north Gujarat region, Saurashtra & Kutch.
- Postpone intercultural operation and application of fertilizer and plant protection measures to the crops in north Gujarat region, Saurashtra & Kutch these regions under prevailing weather condition.

Special contingency plan after heavy rainfall-flood situation recommendation to farmers for crop saving

For saving standing crops:-

1. Remove excess water as early as possible from field.
2. Apply Nitrogen as a supplementary dose. If possible, apply Nitrogen in the form of ammonium sulphate in paddy instead of urea.
3. Apply 50 gms. Ferrous sulphate & 25 ml solution of lime in 10 litres of water & spray on groundnut to cure ferrous deficiency.
4. Zinc deficiency in rice & other crops can be recovered by applying 50 gm Zinc sulphate & 25 gm solution of lime in 10 liter of water & spray over standing crops.
5. Apply ammonium sulphate instead of urea where sulphur deficiency is observed.

Heavy rainfall / flood affected area of south Gujarat region where total crops are failed. Farmers are advised to follow contingency plan as under:-

South Gujarat (Surat, Navsari & Valsad districts):-

- i) Drain out excess water from field as early as possible.

ii) Prepare seed bed for plantation of *rabi* vegetable. Following varieties may be selected:

Chillies: S-49, Guj. Chillies 101,111

Brainjal: Guj-Brinjal-1, Gujarat oblong Brinjal-1,

Tomato: Guj. tomato-1, Anand tomato-2.

iii) Sowing of castor varieties, Guj Hybrid castor-2, 4, 5, 6 can be done.

iv) Sowing of crops like Jowar-M-35-1, Maize - Guj Maize-2, 4, 6, Narmada, Moti etc can be done.

v) Sunflower EC 68413, Guj-sunflower - 1, Modern varieties can be sown at any time during years.

Middle Gujarat:-(Khedra, Anand, Baroda, Bharuch & Narmada Districts)

Paddy: Most areas are affected. Farmers are advised for gap filling or transplanting of paddy wherever seedling is available. If seedlings are not available, broadcast pre-germinated paddy seeds @ 50 to 60 kg / ha after puddling.

Maize: Sowing of Guj-Maize -2, 4, 6, Narmada, Moti varieties should be done.

Ahmedabad, Bhavnagar, Bhal area & Surendranagar districts & Gir area of Junagadh districts:-

Undertake gap filling in *deshi* cotton.

Sowing of unirrigated high yielding varieties of cotton – Guj. cotton-13, 17, 21, 23 etc can be done.

Undertake gap filling in unirrigated cotton by castor. High yielding castor GAUCH-1, GCH-2, 5 can be sown in unirrigated condition.

North Gujarat & Saurashtra region where crops are decayed by accumulation of excess water:

Gap should be filled by castor in cotton crops.

Semi *rabi* sesamum purva-1 can be grown in september.

Sowing of hybrid castor varieties like Guj-castor-1, 2, 4, 5, 6 can be done.

Chattisgarh

Rain occurred at many places on 6th September and at a few places on 4th September and monsoon was vigorous on 5th September in Bilaspur, Raipur and Bastar divisions.

Isolated rain / thundershowers are likely over the State.

Advisories

- As Bastar, Kanker, Korba, Dantewara, Jashpurnagar, Koriya, Raigarh and Surguja districts of the State received no significant rain during last week and rain / thundershowers are likely at isolated places over the State for next three days, apply irrigation to Sugarcane, green gram, black gram, red gram, soybean, groundnut and vegetables.
- As remaining districts received excess rain during last week, postpone irrigation to the crops in these districts.
- 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. 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.
- There is possibility of attack of stem borer 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.
- There is possibility of blast disease in rice in Bastar division. Monitor the crops and if crosses economic threshold level, Hinosan @ 1 ml / litre of water may be applied.
- 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.

Maharashtra

Rainfall occurred at most places over North Konkan, at many places over North Madhya Maharashtra, at few places in South Madhya Maharashtra and at isolated places in South Konkan & Marathwada.

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

Advisories

- As Solapur, Gondia, Nagpur and Wardha districts received excess rainfall during last week and rain / thundershowers are likely only at isolated places over these districts for next three days, apply irrigation to Sugarcane, Jowar, Kharif groundnut, bajra, soybean, sunflower, kharif cotton, tur, moong and Cotton (irrigated) depending on rainfall status.
- As remaining districts received no significant rain during last week and rain / thundershowers are likely at isolated places over Madhya Maharashtra, Marathwada & Vidarbha, apply irrigation to the crops.
- A second dose of 40 kg Nitrogen / ha may be applied after 1 month from transplanting of rice. 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.
- Mild incidence of White Woolly Aphids in Aurangabad 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 Raigad and Sindhudurga and Aphids and Army worm in Sangli district & Blight and blast in Nagpur division in Kharif rice, Stem borer in Satara dist. & Amraoti div.in jowar, Leaf eating cater pillar and Leaf roller in Kolhapur in Groundnut, Leaf eating cater pillar in Kolhapur, Latur and Amraoti div. and Wardha dist in soybean, Leaf cater pillar in Latur division in sunflower, Aphids and Jassids in Marathwada and Vidarbha, Apex worm in Latur division 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 Powdery mildew in moong in Latur division 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.
- Monitor Pyrilla infestation in sugarcane & if it exceeds economic threshold level, release 5000 larvae or 5 lakh eggs / ha of *Ipiricania melyanoluka* or spray monocrotophos 36 % @ 850 ml in 500 liter water / ha.
- Monitor the stem borer population in rice in Konkan and if crosses economic threshold level, use phorate 10G @ 10 kg or Quinalphos 5G @ 15 kg / ha on a non rainy day.
- Monitor the army worm population in rice in Konkan 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.
- Monitor the Leaf roller population in rice in Konkan and integrated pest management may be done. Spray 5% Neem extract or release 50000 eggs / ha of *Tricogama Japonicam* 3 to 4 times after 10 days interval or on major incidence spray 36 % Monocrotophos @ 700 ml in 500 liter water on a non rainy day.
- 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.
- Monitor the stem borer 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.
- Monitor the leaf roller population in groundnut and if crosses economic threshold level, spray 36% monocrotophos @ 700 ml or 25% quinolphos @ 1000 ml / ha in 500 liter water.
- Monitor the leaf eating cater pillar population in soybean and if crosses economic threshold level, spray quinolphos 25 EC or monocrotophos 36 EC @ 700 ml / ha in 500 liters of water.

- Monitor the **leaf cater pillar** population in **sunflower** and if crosses economic threshold level, spray quinalphaos 25 EC or monocrotophos 36 EC @ 700 ml / ha in 500 litres of water.
- Monitor **aphids** and **jassids** population in **cotton** and if crosses economic threshold level, spray methyl dimeton 25EC or dimethoate 30EC @ 500 ml / ha in 500 liter water.
- Monitor **Root rot** in **irrigated cotton** and if crosses economic threshold level, spray Carbendanzim 50 WP @ 250 gm / ha in 500 liter water.
- Monitor **Apex borer** infestation in **irrigated cotton** and if it exceeds economic threshold level, use 4 % granular carbaril + 4 % granular linden 25 kg / ha or spray endosulphan 700 ml / ha in 500 liter.
- Monitor **leaf roller** population in **tur** and if crosses economic threshold level, spray 1000 ml endosulphon / ha in 500 liter water.
- Postpone intercultural operation and application of fertiliser and plant protection measures in **North Marathwada** and **Vidarbha** under prevailing weather condition.
- Monitor **Powdery mildew** in **moong** and if crosses economic threshold level, dusting of 300 mesh Sulphur powder @ 20 kg / ha may be done.

Madhya Pradesh

Monsoon has been vigorous in South west M.P. on 6th September, active in South East M.P on 5th and 6th September, North West M.P on 6th September. Rainfall occurred at many places in. North East M.P on 5th and 6th September and South West M.P. on 5th September, at a few places in North East and South West M.P. on 4th September and isolated places over rest of the State on remaining period.

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

Advisories

- There was no significant rainfall in **Chhatarpur, Damoh, Dindori, Katni, Panna, Rewa, Satna, Shahdol, Tikamgarh, Datia, Dhar, and Sheopur Kalani** districts in the State during last week and rain / thundershowers likely to occur at isolated places over the State. Under the circumstances apply irrigation to **sugarcane, moong, kharif soybean, jowar, urad, tur, cotton** and **maize** crops to bring the soil moisture to its field capacity. Apply irrigation in the remaining districts depending on soil profile stored moisture as excess/normal rainfall received during last week.
- Maintain 3-5 cm water level in **Kharif rice** field.
- Also continue intercultural operation and application of fertilizer and plant protection measures to the crops under prevailing weather condition.

Orissa

South west monsoon was vigorous over the State on 5th September & has been active over the State on 4th September. Rain fall occurred at most places with very heavy falls at isolated places over the State on 4th and 5th September. Rainfall occurred at a few places over the State on 6th September.

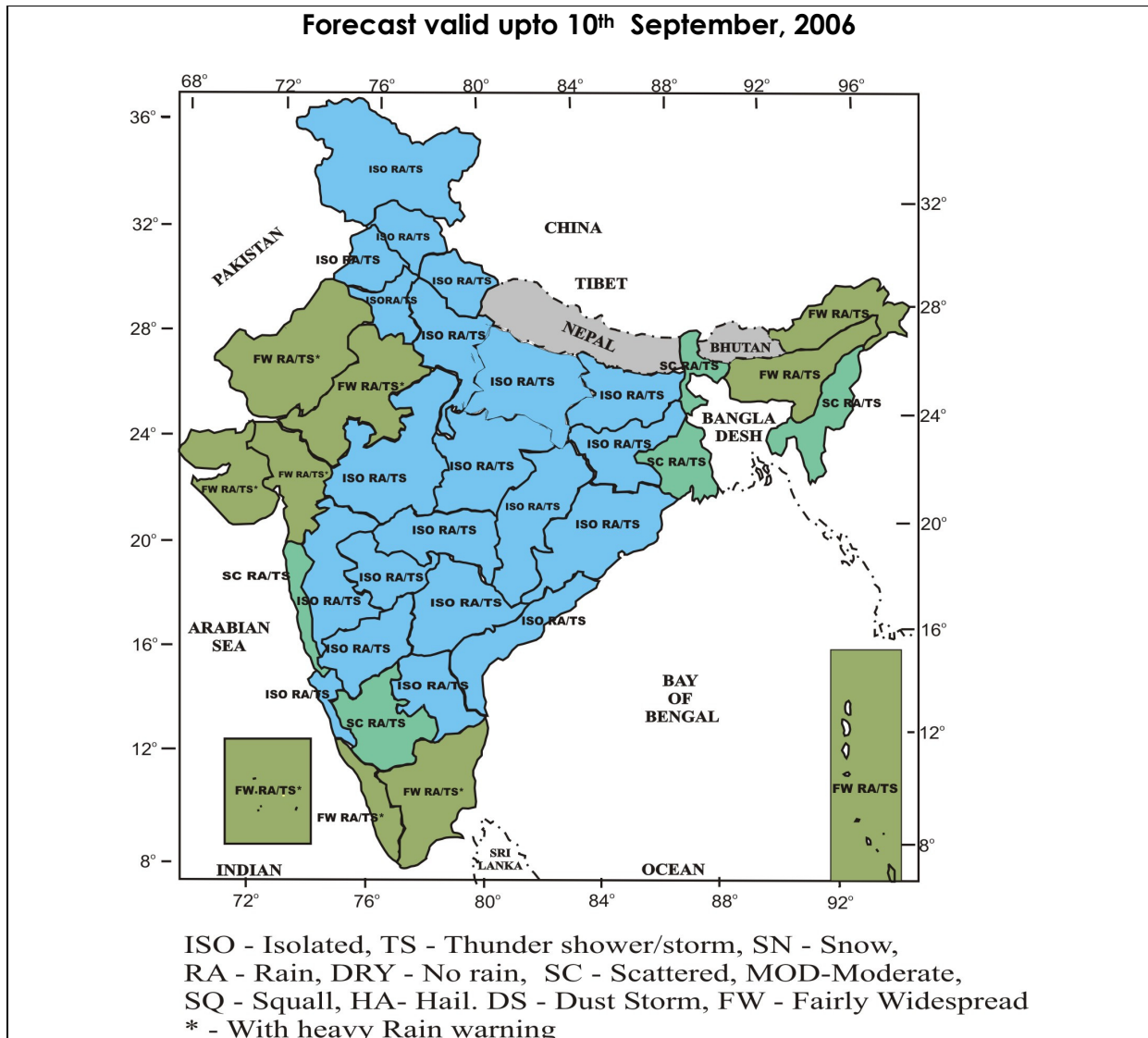
Rain / thundershowers are likely at isolated places over the State.

Advisories

- Rain fall occurred at most places with very heavy falls at isolated places over the state during last week. Under the circumstances, postpone irrigation to **vegetables, sugarcane, ground nut** and **jute** crops.
- At five months stage of sugarcane crop perform propping by combining plants of two rows so that the crops do not lodge by wind.
- Maintain 3 – 5 cm water in the rice field.
- To manage **swarming Caterpillar** in **rice**, Dust them with Chloropyriphos 1.5% or Methyl Parathion dust. Spray Validamycin @ 2 ml / litre of water to manage **Sheath blight** in **rice**.
- To control **leaf blight** and **wilt** in **vegetables** spray Mancozeb 3 gm per litre of water along with 1gm Plantomycin per litre of water pointing to root zone. To manage the **fruit borers** spray Cartap

hydrochloride @ 1gm per litre of water.

- To manage *tikka* disease in groundnut, spray 2 gm of saaf or companion per litre of water.
- To control the semi looper in jute, spray Endosulfan or Phasalone @ 2ml per litre of water.



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

METEOROLOGICAL ANALYSIS

- Last week's depression over Chhattisgarh moved west-northwestwards and lay centered at 0830 hours IST of 31st August over East Madhya Pradesh about 50 km south-southeast of Sagar. Moving north-westwards, it lay centred at 0830 hours IST of 1st September over East Rajasthan close to Sawai Madhopur. It weakened into a well marked low pressure area in the evening of 1st and lay as a low pressure area over Haryana and neighbourhood in the morning of 2nd. It became less marked on 3rd.
- A fresh low pressure area formed over north Bay of Bengal off north Orissa-West Bengal coast on 3rd September which concentrated into a depression in the same evening. Moving west-northwestwards, the depression crossed north Orissa coast near Chandbali around 0630 hours IST of 4th and lay centred at 0830 hours IST over north Orissa close to the west of Chandbali. Moving further west-northwestwards, it weakened into a well marked low pressure area and lay over Chhattisgarh and adjoining East Madhya Pradesh on 5th morning. It lay over West Madhya Pradesh and neighbourhood on 6th morning and over West Madhya Pradesh and adjoining East Rajasthan on the same evening.
- The western disturbance as an upper air system moved over northwest India during first half of the week.
- An Upper air cyclonic circulation lay over southwest Bay of Bengal off Tamil Nadu coast extending between 2.1 and 3.6 Km a.s.l. on 2nd and between 1.5 and 5.8 Km a.s.l. on 3rd.

RAINFALL

Under the influence of the above systems:

- Widespread/fairly widespread rainfall with scattered/isolated heavy to very heavy falls occurred over Central India (Chhattisgarh, Madhya Pradesh and Vidarbha) on 31st August, over Madhya Pradesh on 1st and over West Madhya Pradesh on 2nd September. The monsoon was vigorous/active over West Madhya Pradesh during 31st August-2nd September, over East Madhya Pradesh during 31st August-1st September and over Vidarbha on 31st August. The enhanced rainfall activity was again realised over central India with widespread/fairly widespread rainfall along with isolated heavy falls during last two days of the week. The monsoon was again active over Chhattisgarh and West Madhya Pradesh on 5th & 6th respectively.
- The rainfall over east India was subdued during first half of the week. It increased with widespread rainfall and isolated heavy to very heavy falls over Gangetic West Bengal during 3-4th September and over Orissa during 4-5th September. The monsoon was active/vigorous over Gangetic West Bengal on 3rd and over Orissa on 4-5th.
- Widespread/fairly widespread rainfall with isolated heavy to very heavy falls occurred over most of the sub-divisions of northwest India during 31st August-3rd September. The enhanced rainfall activity continued over Jammu & Kashmir on 4th also.
- Southwest monsoon was active/vigorous over Tamil Nadu & Pondicherry during 3-4th September with fairly widespread/widespread rainfall and isolated heavy to very heavy falls.
- The rainfall activity was subdued over other parts of the country with isolated/scattered rainfall during many days of the week.

RAINFALL DURING THE WEEK ENDING ON 6TH SEPTEMBER, 2006

Rainfall was excess/normal in 18 and deficient/scanty in 18 out of 36 meteorological sub-divisions (Actual: 52.6 mm, Normal: 47.8 mm and Departure: 10%).

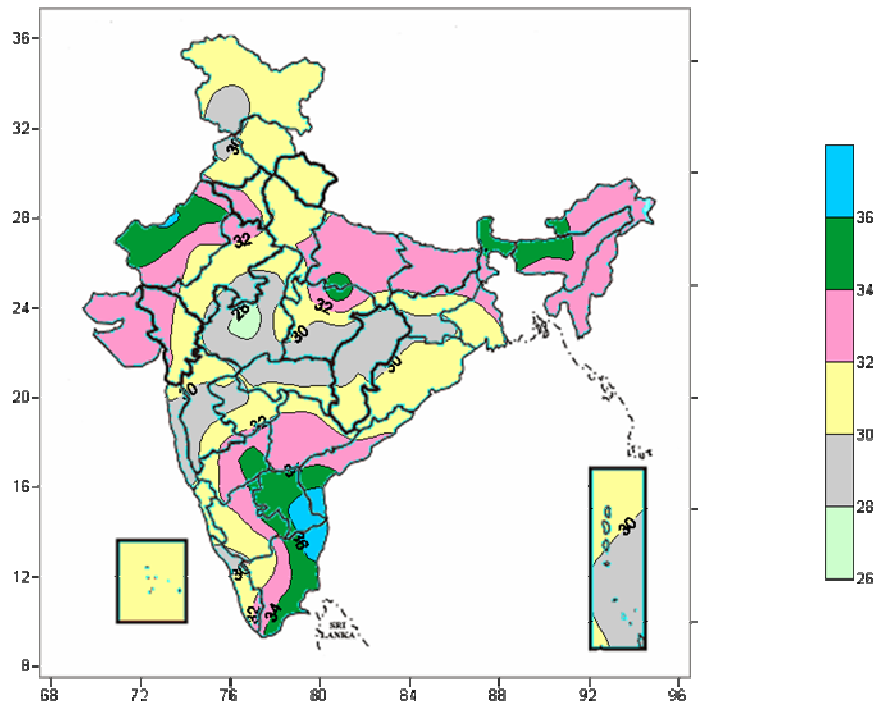
CUMULATIVE SEASONAL RAINFALL (1ST JUNE TO 6TH SEPTEMBER, 2006)

Rainfall was excess/normal in 25 and deficient in 11 out of 36 meteorological sub-divisions. (Actual: 756.0 mm, Normal: 758.6 mm and Departure: 0%).

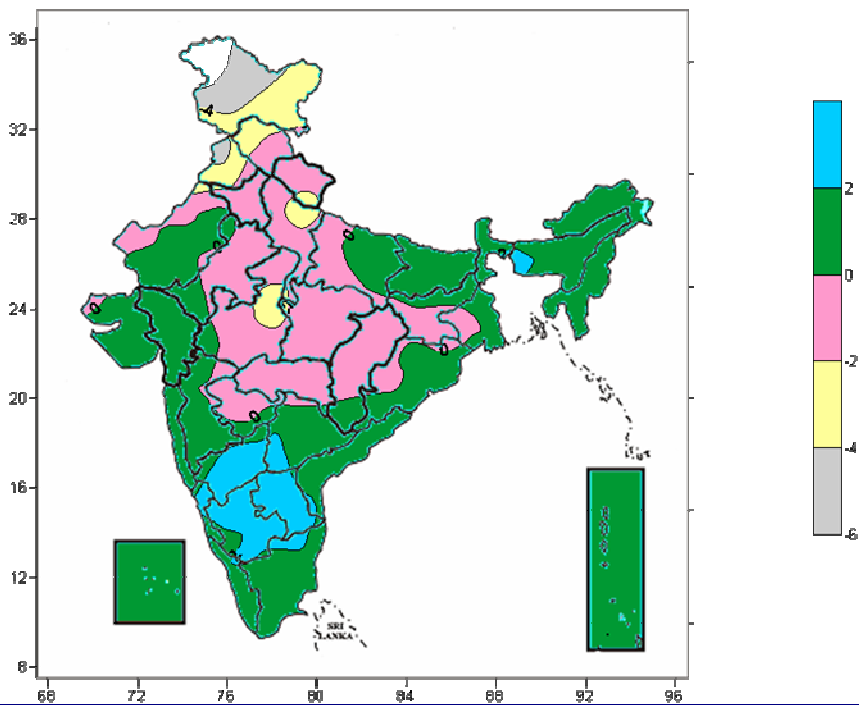
OUTLOOK FOR THE WEEK ENDING ON 13TH SEPTEMBER, 2006.

- Increase in rainfall activity over northeastern States, Sub-Himalayan West Bengal & Sikkim, Bihar and extreme south peninsula.
- Decrease in rainfall activity over western India.

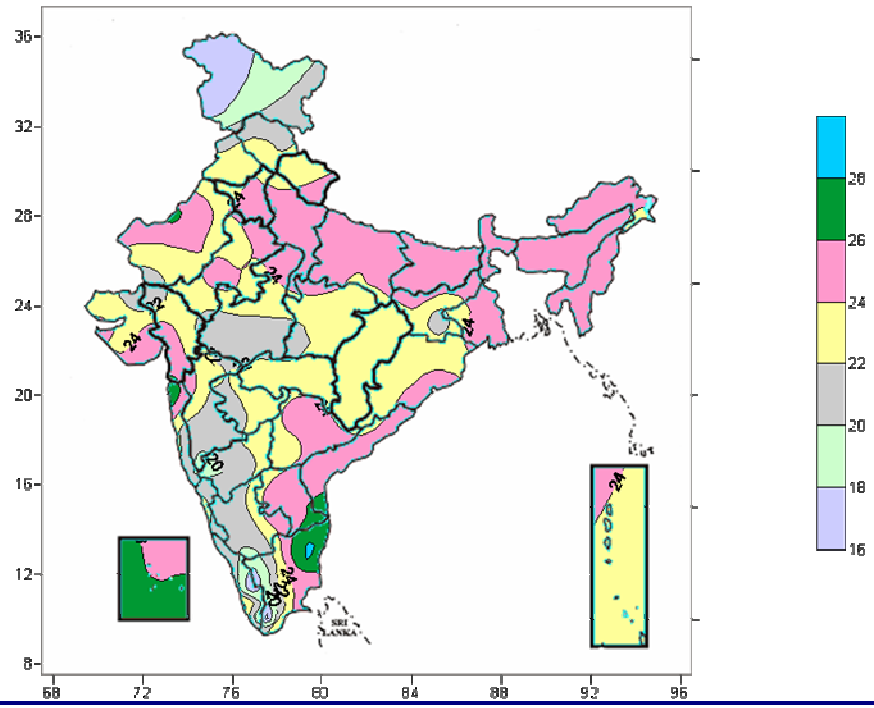
Actual mean maximum Temperature (°C) in India for the week ending 06.09.06



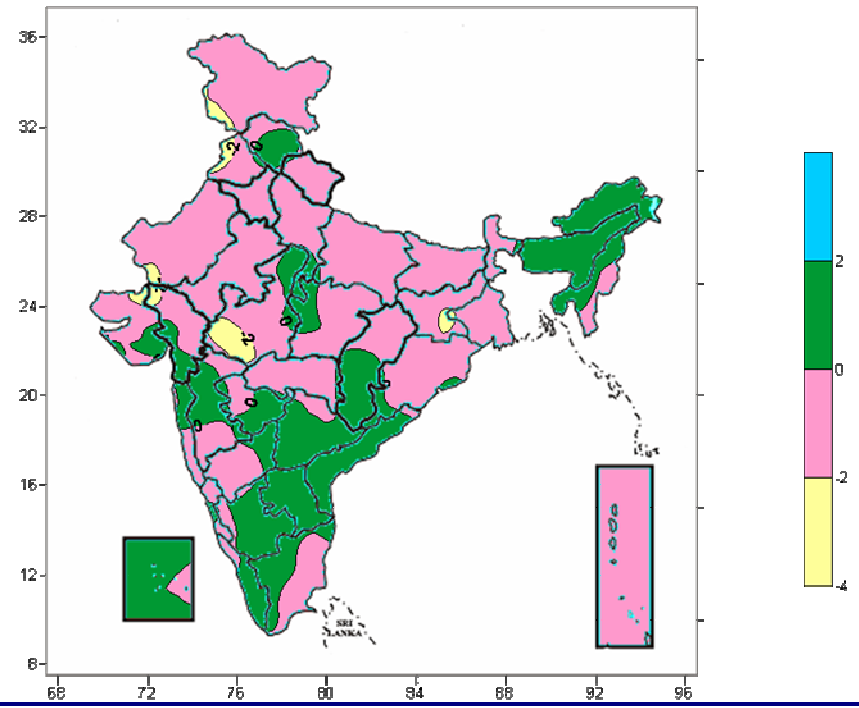
Maximum Temperature (°C) Anomaly in India for the week ending 06.09.06



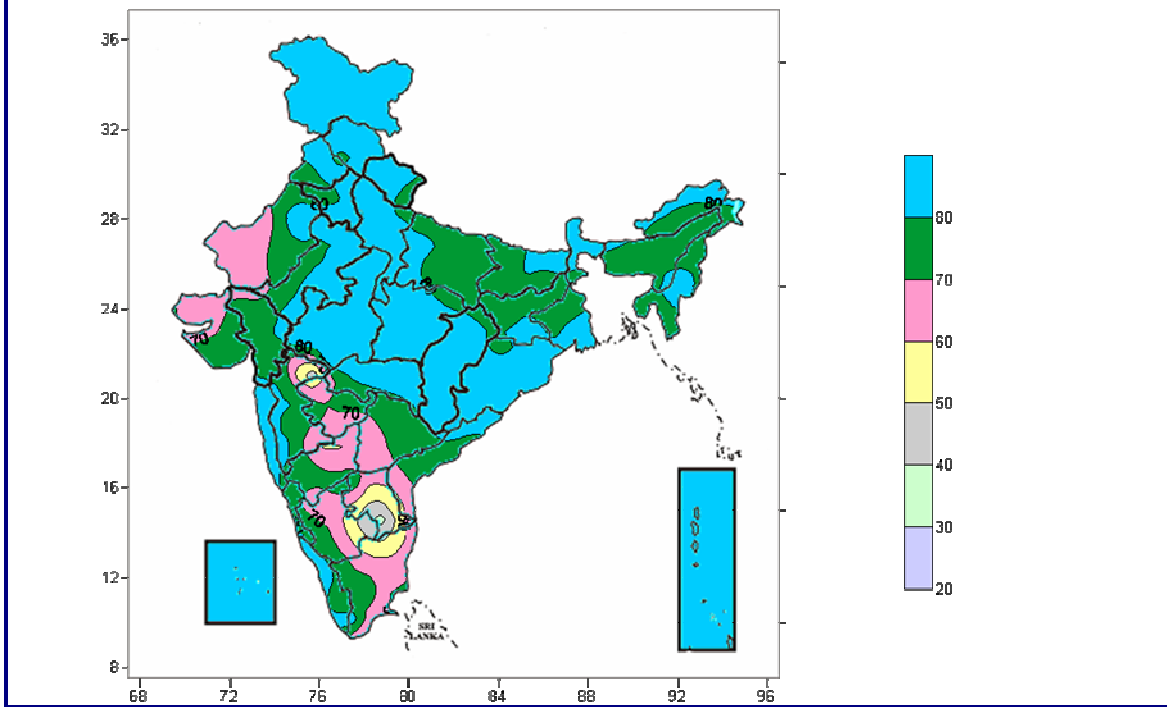
Actual mean Minimum Temperature (0C) In India for the week ending 06.09.06



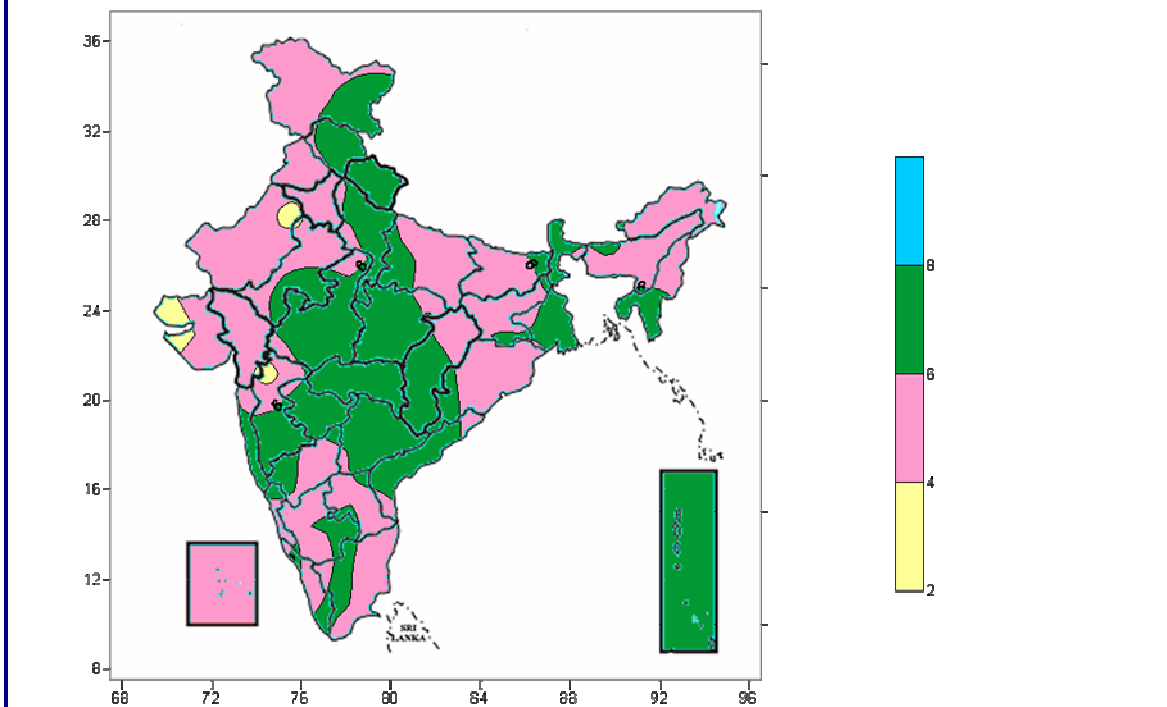
Minimum Temperature (0C) Anomaly In India for the week ending 06.09.06



Relative humidity (%) over India for the week ending 06.09.06



Cloud amount (okta) over India for the week ending 06.09.06



Amritsar	-	-	5	SE	-	-	-	-	-	2	ENE	-	-	
Barmer	-	-	-	-	-	-	5	WSW	3	SSE	8	E	12	N
Sriganga nagar	-	-	-	-	-	-	-	-	15	NW	13	N	8	ENE
Jaisalmer	-	-	-	-	10	NNW	5	SE	7	ESE	3	NE	13	NNE
Kota	-	-	-	-	30	WNW	5	N	15	N	17	NNE	-	-
Deesa	-	-	-	-	-	-	15	WSW	4	NNW	9	ENE	10	NNE
Churu	-	-	20	NE	-	-	10	NW	13	NW	8	NW	14	E

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. Although solitarious populations are only present in Rajasthan and Tharparkar at the moment, there is a slight risk that small outbreaks may develop by mid-October there.

CROP – STATE – STAGE

Delhi				
Kharif Vegetable crops	Vegetables (Brinjal, Chilly, Cauliflower and cabbage, raddish, carrot, and turnip)	Arhar	Rice	Green gram, black gram
Vegetative/Flowering / fruiting / harvesting	Nursery preparation/Transplanting	pod formation/early maturity	Tillering/panicle initiation/flowering	Pod formation/early maturity
Bajra	Fodder (Mixed maize , Lobia)	Maize		
Flowering / grain formation	Vegetative	Tasseling / silking / cob formation		
Haryana				
Horticultural crop	Sugarcane	Paddy	Maize	Cotton
Vegetative/fruiting	Vegetative	Flowering	Tasseling	Flowering/ boll formation
Bajra	Groundnut	Kharif pulses		
Vegetative / flowering	Flowering/ pod formation	Vegetative		
Himachal Pradesh				
Rice	Maize	Apple	Summer vegetables (Tomato, brinjal, ladies finger)	Fodder crops
Panicle initiation / flowering / grain formation	Tasseling /silking / cob formation	Harvesting	Vegetative/flowering / fruiting / harvesting	Vegetative
Moong / Mash	Fruit plants	Potato	Summer vegetables Cauliflower/ Cabbage	
Pod development	Fruiting/maturity	Tuber formation/ maturity	Preparation of nursery (Lower hills) Transplanting (Mid hills)	
Jammu & Kashmir				
Vegetables crops	Rice	Maize	Kharif crops	Horticultural crops
Late vegetative	Heading (Jammu) Flowering (Kashmir)	Flowering	Vegetative	Planting
Fodder crops (Maize, Bajra, MP Chari)				
Vegetative				
Punjab				
Sugarcane	Paddy	Maize	Cotton	Kharif pulses
Vegetative	Flowering	Tasseling	Flowering/boll formation	Vegetative

Groundnut	Autumn cane	Hybrid Maize		
Flowering/ pod formation	Planting	Sowing		
Rajasthan				
Cotton	Groundnut	Bajra / Maize	Pulses	Soyabean
Flowering	Vegetative / flowering	Vegetative / flowering	Early vegetative	Vegetative/flowering
Uttar Pradesh				
Early sown Pulses	Kharif Pulses (Urad & Moong)	Sugarcane	Kharif Vegetables (Early sown)	Summer vegetables
Early vegetative/vegetative	Vegetative	Vegetative	Vegetative	Harvesting
Mango	Kharif Maize, Jowar, Bajra	Kharif rice	Kharif vegetables	Kharif Oilseeds
Harvesting	Early vegetative / vegetative	Early vegetative / vegetative	Transplanting	Vegetative
New Mango				
Active growth				
Uttaranchal				
Rice & cauliflower	Mango/Lichi	Lady's finger / French Bean	Sugarcane	Chilli & Tomato
Vegetative	Seedling	Fruiting	Tillering	Fruiting / maturity
Apple	Millets (Ragi)			
Maturity	Vegetative			
Assam				
Maize	Sugarcane	Jute	Vegetables	Balck gram and Green gram
Harvesting	Vegetative /cane maturity	Harvesting	Fruiting/Maturity / harvesting	Land preparation / sowing
Sali rice	Arhar			
Vegetative/tillering	Vegetative			
Arunachal Pradesh				
Wet seeded rice	Ginger	Potato	New Ginger crop	Jhum Paddy
Grain formation	Harvesting	Land preparation	Sprouting/ early vegetative	Grain formation / maturity stage
Bihar				
Fruits and Vegetables	Rice	Maize	Pulses and Oil seeds	
Vegetative	Early vegetative	Flowering/cob formation	Flowering	
Jharkhand				
Rice	Upland crops (groundnut, arhar, urad)	Finger millet	Maize	
Early vegetative	Early vegetative/vegetative	Early vegetative / vegetative	Early vegetative / vegetative	
Kharif vegetables (Tomato, Cabbage, Cauliflower, Brinjal, Chilli)	Early planted kharif vegetables			
Transplanting	Early vegetative / vegetative			
Sikkim				
Orange	Rice	Large Cardamom	Kharif vegetables	Ginger
Fruiting/harvesting	Active tillering	Seed development	Fruiting/ harvesting	Late vegetative
Maize				
End harvesting				
West Bengal				
Aus rice	Sugarcane	Jute	Green Gram	Aman rice
Early grain maturity	Vegetative	Harvesting	Pod formation/ early maturity	Tillering
Groundnut				
Flowering / pegging				

Chattisgarh				
Chilly, Brinjal, Ladies finger, Beans, Bottle gourd	Kharif Vegetables	Sugarcane	Kharif rice	Soybean
(Early sown vegetables) Vegetative / flowering / fruiting / harvesting)	Sowing / transplanting	Vegetative	Tillering	Vegetative / flowering
Blackgram / Greengram	Groundnut	Red Gram		
Vegetative/flowering /pod formation	Vegetative / flowering/ pegging	Vegetative / flowering		

Gujarat				
Kharif Maize	Premonsoon irrigated Cotton	Kharif groundnut	Early Sown Rice	Sugarcane
Vegetative / flowering	Vegetative/ Square formation	Flowering / pegging	Early tillering/tillering	Vegetative / elongation
Kharif Cotton	Castor	Kharif bajra	Kharif Rice	
Vegetative	Germination / vegetative	Vegetative / flowering	Tillering	

Maharashtra				
Kharif Groundnut	Tur	Irrigated Cotton	Sugarcane (Seasonal)	Bajra (Madhya Maharashtra, Marthwada and Vidarbha)
Vegetative/flowering/pegging	Early vegetative/branching	Vegetative / square formation	vegetative	flag leaf initiation / flowering
Jowar	Kharif sunflower	Soyabean	Kharif rice (Konkan)	Kharif rice (Madhya Maharashtra, Marathwada & Vidarbha)
Vegetative / flag leaf initiation	vegetative/floral bud initiation / flowering	Flowering / pod formation	Tillering / panicle initiation	Early tiling (in Vidarbha)/ active Tillering (in Madhya Maharashtra, Marathwada & Vidarbha)
Moong	Kharif cotton			
Flowering / pod formation	Early vegetative/vegetative			

Madhya Pradesh				
Sugarcane	Moong	Kharif crops (Jowar, urad, tur)	Kharif Soyabean	Kharif rice
Vegetative	Vegetative / flowering / pod formation	Flowering	Flowering/pod formation	Panicle initiation/flowering
Maize	Cotton			
Silking/tasseling/cob formation	Vegetative/flowering			

Orissa				
Vegetables	Earlier sown vegetables	Early sown Groundnut	Groundnut	Sugarcane
Sowing / transplanting /vegetative	Flowering / fruiting / harvesting	Early vegetative / vegetative	Sowing	Vegetative / tillering
Kharif rice	Early transplanted rice	Pulses	Early sown Pulses	jute
Sowing / nursery sowing / transplanting	Early tillering / tillering	Sowing	Early vegetative / vegetative	Vegetative / reproductive

Andhra Pradesh

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

Karnataka

Groundnut	Sugarcane	Kharif crops (jowar, maize, cotton)	Kharif rice	Early sown rice
Vegetative/flowering/peg formation	Vegetative -ratoon crop	Vegetative/flowering/grain formation	Transplanting / tillering	Transplanting

Kerala

Rubber	Virippu Rice	Pepper		
Tapping	Early maturity / maturity	Berry development		

Tamil Nadu

Rice (Navarai)	Millets	Summer irrigated cotton	Early & mid sugarcane	Late season sugarcane
End Harvesting	Late vegetative Sowing in some areas	Maturity / harvesting	Vegetative / Grand growth	Harvesting
Rice (Kuruvai)	Early transplanted Rice (Kuruvai)	Pulses	Groundnut	
Transplanting	Early vegetative / vegetative	Late vegetative	Late vegetative / Sowing continued in some areas	