

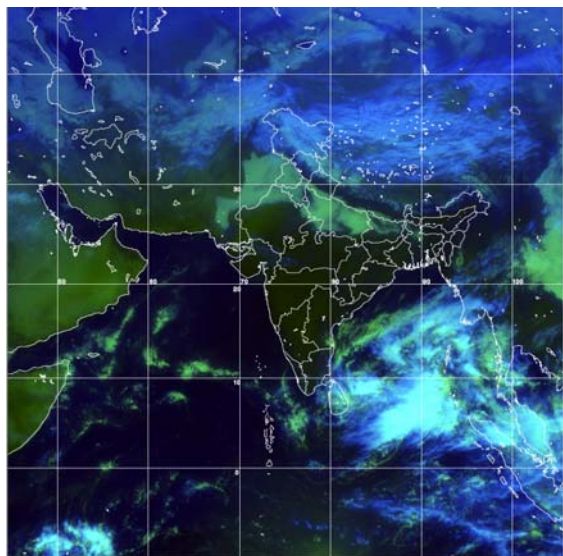


National Agromet Advisory Bulletin

Thursday, 06th January, 2011

(For the period 06th to 10th January, 2011)

Satellite image 0600 UTC Dated
7th January, 2011



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National Agrometeorological Advisory Service Centre
Agricultural Meteorology Division
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Executive Summary

Cold wave / severe cold wave conditions prevail over isolated pockets of Punjab & Haryana, parts of south Rajasthan & west Uttar Pradesh and over Madhya Pradesh, Chhattisgarh, Jharkhand and interior Orissa. The minimum temperature ranges between 2-5⁰ C over Punjab, Haryana, north Rajasthan, west Uttar Pradesh and north Madhya Pradesh and between 6-8⁰ C over south Rajasthan, rest of Uttar Pradesh & Madhya Pradesh, Chhattisgarh interior Orissa, Jharkhand and parts of Bihar. Due to fall in temperature, ground frost would occur over isolated pockets of Punjab, Haryana, north Rajasthan and west Uttar Pradesh during next 24 hours. Farmers in the above region are advised to apply light and frequent irrigation to the standing crops and arrange for smoking around the field to prevent the crops from cold / frost injury. Protect the nurseries of vegetables with polythene sheet to protect from cold / frost injury.

Fog / shallow fog is likely to occur over parts of Uttar Pradesh, Bihar and north Madhya Pradesh during next 48 hours mainly in morning hours. This weather condition is favourable for the incidences of diseases like powdery mildew in the standing crops. Farmers are advised to monitor the crops for the disease and undertake preventive measures.

Fairly widespread rain / snowfall has occurred over Jammu & Kashmir, Himachal Pradesh and Uttarakhand and likely to continue over Jammu & Kashmir and Himachal Pradesh for next 48 hours. This rainfall would be beneficial to the *rabi* crops in these region. However, farmers are advised to arrange for smoking around the field to prevent the crops from cold injury. Early sown *rabi* crops like wheat, mustard, gram etc. are at vegetative / late vegetative stage in northwest and adjoining central and east region of the country. Farmers are advised to undertake intercultural operations and application of fertilizers.

Farmers are advised to undertake nursery preparation for summer rice in West Bengal and sowing of maize and sunflower in Orissa. Protect the young seedlings in nursery with rice straw mulching to protect from cold injury. Farmers in Madhya Pradesh are advised to undertake sowing / transplanting of vegetable crops like garlic, onion, cauliflower and cabbage.

Due to fall in temperature in Bundelkhand zone in Madhya Pradesh, mealy bug attack is reported in fruit trees like mango, guava, amla orchards; wrap grease stripe around the trunk or broadcast Folidol powder @ 250 gm in the soil to control the pest.

Due to cloudy weather conditions in Madhya Maharashtra, there is more infestation of thrips & blight in onion. For control of thrips & blight, spray Chlorothalonil @ 25 g or Mancozeb @ 25 g or Carbendazim @ 10g + Carbosulfan @ 10 ml or Deltamethrin @ 5 ml or Fipronil @ 15 ml + sticker @ 10 ml in 10 liters of water.

Attack of saw fly, cut worm and aphids in *toria* is observed in different places of Nagaon and Marigaon districts in Assam. Farmers are advised to apply Dimethoate 30 EC or Chloropyrifos 20 EC @ 1 ml per litre of water in *toria* field during afternoon hours to control saw fly and aphids.

Distribution of rainfall (% departure from normal) for the districts Karnataka, Kerala, Tamil Nadu and Andhra Pradesh during last five Weeks

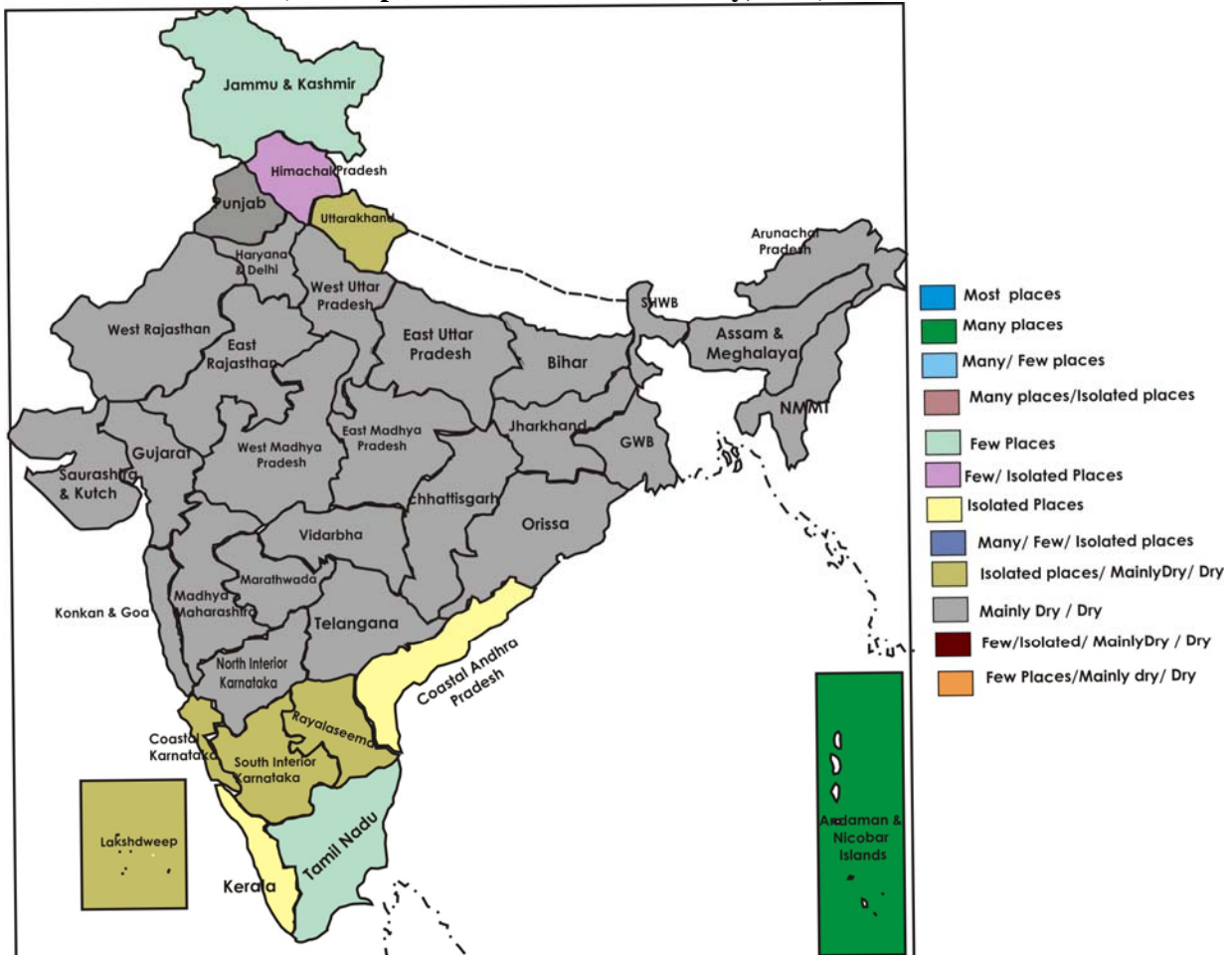
State/Districts	08.12.10	15.12.10	22.12.10	29.12.10	05.01.11
Himachal Pradesh					
Bilaspur	-100	-100	-100	-100	734
Chamba	-100	-100	-100	-100	138
Hamirpur	-100	-100	-100	-100	439
Kangra	-100	-100	-100	-100	224
Kinnaur	-100	-100	-100	-100	178
Kullu	-100	-100	-100	-100	415
Lahaul and Spiti	-100	-100	-100	-100	155
Mandi	-100	-100	-100	-100	439
Shimla	-100	-100	-100	-100	360
Sirmaur	-100	-100	-100	-100	301
Solan	-100	-100	-100	-100	467
Una	-100	-100	-100	-100	499
Punjab					
Amritsar	-100	-100	-100	-100	-32
Bhatinda	-100	-100	-100	-100	25
Faridkot	-100	-100	-100	-100	-100
Fatehgarh Saheb	-100	-100	-100	-100	479
Ferozpur	-100	-100	-100	-100	111
Gurdaspur	-100	-100	-100	-100	397
Hoshiarpur	-100	-100	-100	-100	259
Jalandhar	-100	-100	-100	-100	178
Kapurthala	-100	-100	-100	-100	900
Ludhiana	-100	-100	-100	-100	272
Moga	-100	-100	-100	-100	-100
Muktesar	-100	-100	-100	-100	-49
Nawashahar	-100	-100	-100	-100	562
Patiala	-100	-100	-100	-100	485
Ropar	-100	-100	-100	-100	394
Sangrur	-100	-100	-100	-100	459
Haryana					
Ambala	-100	-100	-100	-100	391
Bhiwani	-100	-100	-100	-56	63
Chandigarh	-100	-100	-100	-100	775
Faridabad	-100	-100	-100	-100	-100
Fatehabad	-100	-100	-100	-100	135
Gurgaon	-100	-100	-100	-100	-74
Hissar	-100	-100	-100	-2	236

State/Districts	08.12.10	15.12.10	22.12.10	29.12.10	05.01.11
Jhajar	-100	-100	-100	-100	-100
Jind	-100	-100	-100	-100	529
Katihah	-100	-100	-100	-100	336
Karnal	-100	-100	-100	-100	160
Kurukshetra	-100	-100	-100	-100	228
Mahendragarh	-100	-100	-100	-100	-100
Panchkkula	-100	-100	-100	-100	-23
Panipat	-100	-100	-100	-100	7
Rewari	-100	-100	-100	-100	10
Rohtak	-100	-100	-100	-69	78
Sirsa	-100	-100	-100	-100	84
Sonepat	-100	-100	-100	-100	87
Yamunanagar	-100	-100	-100	-100	164
New Delhi	-100	-100	-100	-57	1
Jammu & Kashmir					
Anantnag	-100	-100	-100	-100	317
Badgam	-100	-100	-100	-100	829
Doda	-100	-100	-100	-100	198
Jammu	-100	-98	-100	-100	426
Kathua	-100	-100	-100	-100	277
Kupwara	-100	-100	-100	-100	9
Ladakh(Leh)	-100	-100	-100	-100	488
Pulwama	-100	-100	-100	-100	443
Srinagar	-100	-100	-100	-100	405
Udhampur	-100	-100	-100	-100	178
UttaraKhand					
Almora	-100	-100	-100	-100	72
Chamoli	-100	-100	-100	-100	-12
Champawat	-100	-100	-100	-100	260
Dehradun	-100	-100	-100	-100	174
Garhwal Pauri	-100	-100	-100	-100	265
Garhwal Tehri	-100	-100	-100	-100	344
Haridwar	-100	-100	-100	-100	101
Nainital	-100	-100	-100	-100	274
Pithoragarh	-100	-100	-100	-100	298
Rudraprayag	-100	-100	-100	-100	68
Udham Sing Nagar	-100	-100	-100	-100	-100
Uttarkashi	-100	-100	-100	-100	215

LEGEND

- EXCESS 20% OR MORE
- NORMAL +19% TO - 19%
- DEFICIENT - 20% TO - 59%
- SCANTY - 60% TO - 99%
- NO RAIN - 100%
- DATA NOT AVAILABLE

Weather Forecast
(Valid upto 0830 hours of 9th January, 2011)



Major Feature of Weather Forecast (upto 0830 hours IST of 9th January, 2011)

- Fairly widespread rain/thundershowers would occur over Andaman & Nicobar Islands and scattered over coastal Tamilnadu.
- Scattered rainfall/snowfall would occur over Jammu & Kashmir and isolated over Himachal Pradesh during next 24 hours and increase thereafter.
- Day and night temperatures may rise by 2-3°C over northwest, central and east India during next 2 days.
- Fog/shallow fog may occur over parts of Uttar Pradesh, Bihar and north Madhya Pradesh during next 48 hours mainly in morning hours.

Weather Warnings

- Ground frost would occur over isolated pockets of Punjab, Haryana, north Rajasthan and west Uttar Pradesh today night.
- Cold wave conditions would prevail over parts of Punjab, Haryana and north Rajasthan during next 24 hours and over Madhya Pradesh, north Chhattisgarh, Jharkhand, Bihar and interior Orissa during next 48 hours.

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

Scattered rain/thundershowers would occur over extreme south peninsula and isolated over northeastern States.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Weather remained dry during the week in the States of the region.
- **Rainfall Forecast:** Dry or mainly dry weather is likely to prevail during the period over the States of the region.
- **Major Crops:**
 - Gram (vegetative / flowering), mustard and sarson (vegetative / flowering), wheat (crown root initiation / tillering), maize (vegetative), potato (vegetative / tuber initiation), vegetables like cauliflower, cabbage (vegetative / head formation), chillies, tomato, palak, carrot, radish etc. (vegetative / flowering), knolkhol, turnip, beet, garlic, onion etc. (vegetative), barseem, lucerne, oat (sowing), coriander, fenugreek (sowing / germination) in Bihar.
 - Arhar and green pea (flowering / pod formation), wheat (crown root initiation / tillering), potato (vegetative / tuber formation), *toria*, mustard (flowering / pod formation), onion (vegetative), tomato (vegetative / flowering), cabbage and cauliflower (vegetative / head formation), chilli and brinjal (transplanting), summer rice (nursery sowing) in Jharkhand.
 - Cotton (maturity / picking), ragi (nursery raising and sowing), *rabi* rice (nursery raising), *rabi* vegetable crops (vegetative / flowering), *rabi* oilseeds like groundnut, mustard, sunflower (flowering), arhar (flowering / pod formation stage), wheat (crown root initiation / tillering), potato (vegetative / tuber initiation), *rabi* pulses like lentil, field pea and chickpea (vegetative / flowering), sugarcane (harvesting), garlic (sowing) in Orissa.
 - Wheat (crown root initiation), arhar (flowering / pod formation), mustard (flowering / pod development), potato (vegetative / tuber initiation), lentil, pea, Bengal gram (vegetative / flowering), *rabi* vegetables like cabbage and cauliflower (vegetative / head formation) in West Bengal.
 - Large cardamom (vegetative lag phase), orange (end harvesting), wheat (crown root initiation / tillering / active tillering), *rabi* potato (vegetative / tuber formation), ginger (harvesting), *rabi* vegetable (vegetative / flowering / fruiting / harvesting) mustard (vegetative / flowering) in Sikkim.
- **Advisories:**
 - As there was no significant rainfall during last week in the region and no significant rainfall is likely during next three days, farmers are advised to apply irrigation at CRI stage of wheat and light and frequent irrigation to potato.
 - Farmers in Orissa are advised to undertake nursery preparation for summer rice. As the temperatures are low, cover the fresh nursery of rice with paddy straw. The weather is also optimum for nursery raising and sowing of ragi in Ganjam district.
 - Farmers in Jharkhand, Interior Orissa and South Bihar Alluvial Zone are advised apply irrigation and burn stubbles around standing potato, pulses and oilseeds crop to save from cold wave.
 - Farmers in West Bengal are advised to undertake nursery preparation for *boro* rice and field preparation for sowing of groundnut.
 - As no rain results in moisture stress, irrigate sunflower, rapeseed and mustard and other standing crops in Orissa.
 - In view of low rainfall, light irrigation may be applied to wheat at CRI and tillering stage and mustard at flowering stage in Sikkim.
 - Undertake weeding, hoeing in early sown potato in Orissa, utilizing the favourable dry weather during next three days.
 - Under present weather conditions wilt disease is likely in tomato and brinjal in Jharkhand. Undertake spraying of 100 mg streptocycline and 1.5 g copper oxychloride per liter of water. In case of leaf curling, spray Super D or Nural D @ 1 ml per liter of water.
 - Due to change in weather as well as rise and fall in temperature, insects attack and powdery mildew disease may appear in field pea in South Eastern Plateau Zone in Jharkhand; spray Karathen @ 1 ml or sulfex @ 3 ml per liter of water.
 - Incidence of aphids is observed in mustard in Orissa. Spray 400 ml Dimethoiate per acre and 200 ml Ethofenprox or Deltamethrin in 200 litre water per acre for controlling aphids.
 - Due to high humidity and fog incidence, leaf spot and blight disease may be noticed in tomato in West Bengal. Fruits may also be attacked by fruit borer and bacterial cancer. Spray the crop 3 g copper oxychloride and 2 ml spark per litre of water at 7-10 days intervals, if symptoms appears.

- High humidity and fog was observed for the last few days in Coastal Saline Zone of West Bengal, which may cause incidence of early and late blight disease in potato; spray copper oxichloride @ 4 g / litre or cymoxnil 8% + mancozeb 64% @ 2.5 g per litre of water at 7-10 days intervals.
- Weather is congenial for white streak disease in pea, lentil and Bengal gram in New Alluvial Zone of West Bengal; spray sulphex @ 2.5 gm per litre of water.

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

- **Realised Rainfall:** No significant rainfall occurred during last week in most of the districts of the region.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over northeastern states during the period.
- **Major Crops:**
 - *Rabi* vegetables (vegetative / flowering), sugarcane (cane development), potato (vegetative / tuber initiation / tuber formation), rapeseed & mustard (flowering / seed formation), *boro* rice (nursery sowing / seedling / transplanting), wheat (seedling / crown root initiation) in Assam.
 - *Rabi* vegetables like cauliflower, cabbage, tomato etc. (early vegetative / vegetative), pea, mustard, maize, tomato and potato (vegetative) and orange (maturity) in Arunachal Pradesh.
 - *Toria*, lentil (vegetative / flowering) and *rabi* vegetables (early vegetative / vegetative / flowering) in Tripura.
 - *Boro* rice (seedling / transplanting), *rabi* vegetables (vegetative), rapeseed & mustard (flowering / pod filling stage), *rabi* maize (vegetative stage), *rabi* maize at high hills (harvesting), wheat (CRI / tillering), winter potato (vegetative / tuber formation) in Meghalaya.
 - Mustard / rapeseed (vegetative / flowering), field pea (vegetative / flowering), cauliflower and cabbage (vegetative / head formation) and potato (vegetative) in Manipur.
 - Khasi Mandarin (vegetative), banana (various stages), onion (transplanting), pea, carrot and radish (vegetative), tomato, chilli and capsicum (late transplanting / vegetative / fruit setting) and cole crops (head formation) in Mizoram.
 - Rajmash (vegetative / flowering), beans (flowering / pod formation), orange (harvesting), potato (vegetative), pea (vegetative stage), *toria* (flowering stage), mustard (flowering stage) and papaya (fruiting stage) in Nagaland.
- **Advisory:**
 - As there was no significant rainfall in the region, farmers are advised to apply irrigation to the standing crops. Undertake intercultural operations, application of fertilizers and pesticides as favourable weather conditions prevail during these days.
 - Apply irrigation to rapeseed and mustard, *rabi* pulses and at CRI stage of wheat in Assam. Weeding and top dressing of urea in wheat should precede irrigation. Farmers are also advised to apply light and frequent irrigation to potato.
 - Farmers are advised to provide suitable mulching materials surrounding the banana, coconut, areca nut, orange, Assam lemon etc. Immediately after watering the collar zones should be covered with rice straw or water hyacinth.
 - Farmers in Assam are advised to start transplanting of *boro* rice wherever seedlings are ready.
 - Farmers in Arunachal Pradesh are advised to undertake intercultural operations in mustard, tomato, cauliflower, cabbage, carrot, pea and potato.
 - Farmers in Tripura are advised to undertake nursery sowing / transplanting of *boro* rice.
 - Due to reduced moisture, condition is favourable for cracking in banana in Mizoram. The cracking may be minimized by proper mulching and nutrient management especially application of boron. Farmers are also advised to undertake intercultural operation in vegetable crops taking the advantage of dry weather.
 - Attack of saw fly, cut worm and aphids in *toria* is observed in different places of Nagaon and Marigaon districts in Assam. Farmers are advised to apply Dimethoate 30 EC or Chloropyriphos 20 EC @ 1 ml per litre of water in *toria* field during afternoon hours to control saw fly and aphids.
 - The difference between day and night temperatures is more than 12⁰C with foggy and cloudy weather in Tripura. Such condition is very much favourable for spreading of late blight disease in potato. As temperature is likely to increase at the end of the present week, early blight disease may also occur in potato. To manage the attack of blight disease, Indofil M-45 or Ridomil or Mancozeb @ 2 g per liter of water may be applied.
 - If foggy conditions continue in Tripura, there may be increase of population of white fly. These flies are responsible for leaf curl diseases in tomato and brinjal. Affected plant may be uprooted from the field. If

the attack will be more, Rogor @ 2 ml per litre of water or Monocrotophos @ 3 ml per litre of water or Imidacaloprid @ 2 g per litre of water may be applied at an interval of 15 days to manage the attack.

- There is chances of attack of thrips in *boro* rice at nursery stage in Meghalaya; spray Choloropyriphos @ 1-2 ml / litre of water. Leaf folder may also appear in pea in Ri-bhoi or East khasi hill districts of Meghalaya. If it appears, Malathion 50 EC may be sprayed @ 2 ml / litre of water.
- Realized and forecast weather conditions that create long periods of dew at night with low night temperatures are the most favourable for the incidence of early blight in tomato and chilli crops in Mizoram. Farmers are advised to spray Mancozeb @ 1 g per litre of water at 10-15 days intervals when disease appears.
- Increased relative humidity and an appreciable decrease in sunshine hours may cause more infestation of aphid in Mizoram. Use 5% neem extract or spray Endosulphan (35%) @ 12 ml or Dimethoate (30%) @ 10 ml in 10 litres of water to control the pest.
- Prevailing high humidity conditions are conducive for powdery mildew in pea in Mokokchung district of Nagaland. Hence, proper monitoring is advised.
- **Animal Husbandry:**
- In present weather conditions provide proper lighting to keep chicks warm and also provide lukewarm water fortified with Vitamin B complex in Arunachal Pradesh. Warm clean drinking water should also be ensured to the cattle round the clock and water troughs/feeders should be regularly cleaned. Avoid dampness in the shed and put animals in the sunshine during the morning hours.
- Present cold weather condition is favourable for the chances of pneumonia in newly born calves in Mizoram. Therefore, special care should be taken to avoid cold weather. Also keep the animals in dry place and change the bedding material when it gets wet.

NORTHWEST INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

- **Realised Rainfall:** Most of the districts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana received sufficient rainfall. No significant rain in Uttar Pradesh & Rajasthan prevailed during last week in this region.
- **Rainfall Forecast:** Rainfall is likely at a few places in Jammu & Kashmir and isolated places in Himachal Pradesh during next 24 hours and few places thereafter, dry/mainly dry weather during 48 hours and isolated rain thereafter in Uttarakhand. Dry weather is likely over rest of the region..
- **Major Crops:**
 - Wheat (Crown root initiation/tillering), broccoli, cauliflower, cabbage, onion (transplanting / early vegetative), pea and gram crop (vegetative stage), lentil (early vegetative), garlic (planting) in Delhi.
 - Wheat, potato (Crown root initiation/tillering) and vegetables (transplanting/ vegetative), tea (raising nursery), garlic (planting), Early sown crops are at early vegetative / vegetative stage in Himachal Pradesh.
 - Gram, berseem / oats (late vegetative / flowering), wheat, barley (crown root initiation/tillering), toria (pod formation / maturity / harvesting), mustard (late vegetative/ flowering), vegetable crops like tomato, chilli, brinjal, cucurbits, onion (vegetative) in Jammu & Kashmir.
 - Sugarcane (maturity / harvesting), wheat (crown root initiation / tillering), potato (tuber initiation), toria (maturity / harvesting), mustard (early vegetative / flowering / pod formation), barley, lentil, gram, onion, garlic, seasonal vegetables (sowing / vegetative growth), pea (flowering / pod formation in hill zone), chilli (nursery sowing), lahi (fruiting / flowering) in Uttarakhand.
 - Sugarcane (tillering / grand growth), barseem, wheat (Crown root initiation/ tillering), lentil, gram, radish, raya, African sarson (vegetative / late vegetative), ghobi sarson (vegetative), oilseeds (flowering), toria (harvesting)), papaya (transplanting) in Punjab.
 - Sugarcane (harvesting), wheat (tillering), gram, rapeseed and berseem (flowering / seed formation), mustard (flowering / seed formation) in Haryana.
 - Wheat (crown root initiation / vegetative / tillering), barley, oats (vegetative / tillering), bajra (flowering / milking stage), toria (flowering / pod formation), mustard, sarson (flowering), potato (vegetative / tuber formation), field pea, chick pea, lentil, linseed (late vegetative), winter sugarcane (vegetative), sugarcane (maturity / harvesting), winter vegetables like carrot, garlic, onion etc. (early vegetative / vegetative) in Uttar Pradesh.

- Sugarcane (grand growth / maturity), wheat, barley (crown root initiation / tillering), mustard (flowering), gram (pre-flowering / flowering), lentil, oats, taramira, ajwain, fenugreek and isabgol (early vegetative / vegetative), potato (tuberization), cabbage, cauliflower (late vegetative), tomato, berry (flowering/ fruiting) in Rajasthan.
- **Advisory:**
 - Cold wave / severe cold wave conditions prevail over isolated pockets of Punjab & Haryana, parts of south Rajasthan & west Uttar Pradesh. The minimum temperature ranges between 2-5 deg C over Punjab, Haryana, north Rajasthan, and west Uttar Pradesh and between 6-8 deg C over south Rajasthan and rest of Uttar Pradesh. Due to fall in temperature, ground frost would occur over isolated pockets of Punjab, Haryana, north Rajasthan and west Uttar Pradesh during next 24 hours. Farmers in the above region are advised to apply light and frequent irrigation to the standing crops and arrange for smoking around the field to prevent the crops from cold / frost injury. Protect the nurseries of vegetables with polythene sheet to protect from cold / frost injury.
 - Fog / shallow fog is likely to occur over parts of Uttar Pradesh during next 48 hours mainly in morning hours. This weather condition is favourable for the incidences of diseases like powdery mildew in the standing crops. Farmers are advised to monitor the crops for the disease and undertake preventive measures.
 - Farmers in Jammu & Kashmir, Himachal Pradesh are advised not to apply irrigation to wheat, mustard, barley, gram, potato and other *rabi* crops in the region as there was sufficient rainfall during last week.
 - Farmers in Punjab, Haryana, Delhi, Rajasthan and Uttarakhand are advised to apply irrigation to wheat, mustard, cumin, gram and other *rabi* crops as there was no significant rainfall during last week and no significant rainfall is likely during next three days.
 - Farmers in Himachal Pradesh and Jammu are advised to postpone sowing of late wheat and barley due to chances of snow / rainfall for next three days in the unsown areas.
 - Farmers in Mid Hills Sub-Humid (Solan, Shimla, Sirmaur) of Himachal Pradesh are advised to undertake transplanting of onion and undertake sowing/ transplanting of radish, peas in Sub Montane & Low Hills Sub-Tropical Zone (Hamirpur, Kangra and Una Chamba districts).
 - Farmers in Sub Tropical Zone (Jammu, Kathua and Reasi district) are advised to postpone sowing of lentil, fodder oat, potato, radish, carrot, garlic, peas, spinach knol-khol and tomato and transplanting of cauliflower till soil is in *batter* condition.
 - Farmers are advised to start planting of spring potato during this period in Punjab
 - Farmers in Haryana are advised to cover the young fruit plants to protect from cold. Farmers are advised to cover the nursery beds with polythene sheets for better growth of vegetable field.
 - There is possibility of white rust and Alternaria blight in the mustard crop and blight incidence in potato crop in Eastern zone of Haryana and U.P. due to high humidity and foggy weather than farmers are advised to spray the recommended fungicide.

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

- **Realised Rainfall:** Most of the districts in Kerala, Tamilnadu, Karnataka and Andhra Pradesh did not receive rainfall except for Cuddalore, Kanyakumari, Tiruvarur in Tamilnadu and Kollam, Thiruvananthapuram in Kerala.
- **Rainfall Forecast:** Rain is likely at a few places in Tamil Nadu. and isolated places in Kerala and coastal Andhra Pradesh. Mainly dry / dry weather is likely to prevail over the rest of the region.
- **Major Crops:**
 - Pepper and arecanut are at harvesting stage in Kerala. Vegetables (sowing), Punja rice (sowing).
 - *Late samba / thaladi* rice (grain formation / maturity), sugarcane (cane development), banana (fruit bearing / maturity stage), pulses (maturity) in Tamil Nadu.
 - Red gram (maturity to harvesting), early sown *rabi* crops are at late vegetative/ flowering stage, groundnut (maturity to harvesting), rice (vegetative) in Andhra Pradesh.
 - Sugarcane (cane development), cotton (Flowering stage to boll formation), pigeon-pea (maturity), red gram (harvesting), *rabi* jowar (vegetative) safflower (flowering); early sown gram, *rabi* sorghum and sunflower crops are at vegetative stage in Karnataka.
- **Advisories:**

- As there was no significant rainfall in most of the districts in Kerala, Tamilnadu, Karnataka and Andhra Pradesh except Cuddalore, Kanyakumari and Tiruvarur in Tamilnadu, Kollam and Thiruvananthapuram in Kerala, farmers are advised to apply irrigation to the standing crops. Postpone irrigation in the above districts as there was sufficient rainfall during last week.
- To avoid frost injury, sprinkler irrigation for a short period of time in the early morning is recommended in the tea gardens of Nilgiris.
- The farmers of Hill zone in Karnataka are advised to take up the harvesting of jowar, maize, sunflower and paddy wherever harvesting is incomplete.
- In Andhra Pradesh, due to fall in temperature, there are chances for cold injury in the rice nursery. To overcome cold injury and for better nursery growth, adopt the following measures: Cover the nursery beds with polythene sheet during night and remove in the morning. Irrigate the nursery bed every day in the morning. Apply urea @ 2 kg to the nursery sufficient for one acre main field at 10-15 days for after sowing.
- In Cauvery Delta Zone (Karur, Thanjavur, Nagapattinam, Perambur, Thiruvarur, Trichy) leaf folder, stem borer and BPH incidences are noticed in samba paddy. To control this farmers are advised to spray profenophos or monocrotopas at 2.0 ml/lit of water. Bacterial leaf blight and bacterial leaf streak are being noticed due to prevailing cool weather condition. Streptomycin sulphate + tetracycline each at 120 g and copper oxychloride (500 g/ac) or copper hydroxide (500 g/ac) in 200 litre of water can be sprayed to control the disease.
- In the Western Zone (Coimbatore, Tiruppur and Erode) & Southern Zone pod borer in pulses and internode borer is observed in sugarcane. For controlling pod borer in pulses spray Endosulfan @ 25 Kg /ha. For controlling internode borer in sugarcane release trichogramma egg parasitoids.
- Due to continuous rain in the Central Zone of Kerala, anthracnose disease may occur in cashew crop. The first ad hoc recommendation spray can be given now using 2ml quinalphos and 2g Copper oxychloride per one liter of water. Spraying should be done before 10 am and after 4 pm.
- Due to higher humidity, low temperature congenial condition for attaching T- mosquito bug on newly emerged young leaves; hence farmers in Karnataka are advised to take spray of Lambda cahyalothrin @ 0.6ml/ litre of water.(spray at evening hours helps in managing the pest successfully)
- Incidence of leaf folder, stem borer, bacterial leaf blight, bacterial leaf streak is reported in samba rice in Tamil Nadu; farmers are advised to monitor the crop for the above pest and diseases and undertake plant protection measures. Plant protection measures may be undertaken on a non rainy day in Tamil Nadu and Kerala.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Mainly dry weather prevailed in the States of the region during last week.
- **Rainfall forecast:** Dry weather is likely over the States of the region during next three days.
- **Major Crops:**
 - Rice (sowing/ transplanting), jowar (flag leaf initiation / flowering/ grain formation), gram (flowering / pod formation), safflower (vegetative / floral bud initiation / flowering), maize (vegetative), sunflower (vegetative / floral bud formation), irrigated wheat (crown root initiation / early tillering), sugarcane-adsali (active tillering), Sugarcane-pre seasonal (early vegetative), mustard and groundnut (vegetative / flowering) in Maharashtra.
 - mustard (branching / flowering), pigeon pea (flowering / pod development), gram (flowering / pod development), potato (vegetative / tuber initiation), brinjal, tomato (vegetative / flowering / fruiting), rabi fennel (flowering), cumin (vegetative), early sown wheat (booting stage), timely sown wheat (tillering), late sown wheat (crown root initiation), isabgol (sowing / early vegetative), sugarcane (emergence / early vegetative) in Gujarat.
- **Advisory:**
 - As dry weather prevailed over the region during last week and dry weather is likely to prevail during next 3 days, farmers are advised to apply protective irrigation to standing crops.
 - Farmers in the region are advised to apply light and frequent irrigation to orchard and standing crops and also arrange smoke around the fields to protect the fruit crops from cold injury.
 - Rice transplanting may be continued with 3 – 4weeks old seedlings in Konkan region of Maharashtra. They are also advised to sow improved varieties of leafy vegetables viz., amaranthus, radish, fenugreek, coriander, spinach etc.

- Undertake planting of *suru* sugarcane in Maharashtra up to 15th February. Start harvesting of already matured red gram.
- Farmers in South Gujarat Heavy Rainfall Zone are advised to prepare the land for summer groundnut crop.
- Farmers in middle Gujarat zone are advised to carry out the transplanting of vegetables like bottle guard, bitter gourd, smooth gourd and Ridge gourd.
- Farmers in Gujarat state are advised to apply irrigation in fennel, mustard, pigeon pea, gram etc. Also undertake intercultural and weeding operations taking the advantage of dry weather conditions before applying irrigation.
- Due to cloudy conditions there may be incidence of anthracnose on inflorescence of mango in Konkan region of Maharashtra. Farmers are advised to spray Carbendazim 10 g or Thiophenate methyl 10 g or Propineb 20 g per 10 litres of water. Also due to cold weather conditions there may be occurrence of recurrent flowering in mango. To avoid this twice spraying of Gibberellic acid @ 50 to 100 ppm at flowering stage and fruiting (mustard size) stage may be done.
- Due to cloudy weather there may be more infestation of thrips & blight in onion in Madhya Maharashtra region. Farmers are advised to spray Chlorothalonil @ 25 g or Mancozeb @ 25 g or Carbendazim @ 10 g + Carbosulfan @ 10 ml or Deltamethrin @ 5 ml or Fipronil @ 15 ml + sticker @ 10 ml in 10 liters of water to control thrips & blight in onion.
- Weather conditions are favourable for attack of wilt and rust disease in *rabi* jowar in Pune region of Maharashtra. For control spray Chlorothalonil @ 20 g and Carbadenzim @ 10 g per 10 liters of water.
- Due to congenial weather conditions there is epidemic outbreak of stem borer in wheat crop at initial stage in Bhal and coastal region of Gujarat State. Farmers are advised to spray Endosulphan @ 20 ml or Quinalphos @ 20 ml or Fenitrothion @ 15 ml per 10 liters water to control the stem borer.
- Due to cloudy conditions prevailed during last week, there is possibility of incidence of sucking pests in mustard and vegetable crops in North Gujarat region. Farmers are advised to monitor the crops frequently to take timely measures if the infestation appears.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rainfall occurred during last week in this region.
- **Rainfall Forecast:** Mainly dry weather is likely to prevail over the region.
- **Major Crops:**
 - In Madhya Pradesh, wheat (Crown root initiation / tillering), chickpea (flowering/pod formation), pigeon pea (pod formation), sugarcane (planting), cotton (boll development).
 - Pigeon pea (pod development), wheat (Crown root initiation) in Chattisgarh.
- **Advisory:**
 - Cold wave / severe cold wave conditions prevail over isolated pockets of Madhya Pradesh and Chhattisgarh. The minimum temperature ranges between 2-5⁰ C over north Madhya Pradesh and between 6-8⁰ C over rest of Madhya Pradesh and Chhattisgarh. Farmers in the above region are advised to apply light and frequent irrigation to the standing crops and arrange for smoking around the field to prevent the crops from cold / frost injury.
 - Fog / shallow fog is likely to occur over parts of north Madhya Pradesh during next 48 hours mainly in morning hours. This weather condition is favourable for the incidences of diseases like powdery mildew in the standing crops. Farmers are advised to monitor the crops for the disease and undertake preventive measures.
 - Farmers are advised to undertake intercultural operations in the early sown crops to keep the fields weed free.
 - Farmers in Kymore Plateau Zone are advised to undertake sowing of potato, coriander and fenugreek and prepare nursery for medium and late sown cauliflower, cabbage, carrot, radish and onion.
 - Farmers in Jhabua, Nimar and Central Narmada Valley and Gird Zone in Madhya Pradesh are advised to continue sowing of late sown varieties of wheat and transplanting of *rabi* vegetables and also sow cucurbitaceae family vegetables.
 - Farmers in Chattisgarh Plain Zone are advised to continue sowing of late sown varieties of Wheat.
 - Weather is congenial for the incidences of fruit fly in tomato and brinjal in Gird Zone in Madhya Pradesh, spray Endosulphon 35 EC @ 1 lit/ha or Trizophos 800 ml/ha.

- Weather is congenial for the incidences of painted bug in mustard, pod borer in chickpea and purple blotch in onion crops in Bundelkhand Zone in Madhya Pradesh. Spray Carbaryl (Sevin) 2 g/liter of water for painted bug, Endosulfan or Quenolphas @ 2.0 ml. per liter for pod borer and spray Dithane M-45 or Blitox 50 @ 0.25% for purple blotch. Also attack of caterpillar in gram, spray Quinolphos 25 EC or Methomyl (12.5%). Also there is termite and aphid attack in wheat crop, spray Chlorpyrifos for termite with irrigation water and 3.0 kg/Acre phorate 10G for aphids.
- Due to fall in temperature conditions in Bundelkhand zone in Madhya Pradesh, mealy bug attack on fruit trees like mango, guava, amla orchard, wrap Greece stripe around the trunk or broadcast 250 gm of folidol powder in the soil.
- Due to cloudy weather conditions in Chattisgarh Plain Zone, there are chances for the incidences of pod borer in pigeon pea, chick pea, aphids, fruit and shoot borer in brinjal and mustard and diamond back moth in cole crops, spray Endosulphan or Metasystox @1.5 ml per liter for pod borer and continuously monitor the crops infestation of aphids, fruit and shoot borer and if needed spray Endosulfan @ 1.5 ml per liter water.
- Weather is congenial for alterneria blight in wheat in Northern Hill Zone in Chattisgarh, spray Mencozeb 75 WP, 15.5 to 2.0 kg/ha. And also powdery mildew in peas and diamond black moth in cabbage and cauliflower, spray Dithane M – 45, 2.5 gm per litre of water for powdery mildew and Fepronyl 500 ml/ha or Cartap Hydrochloride 1 gm per ha
- Weather is congenial for aphids in early sown vegetables and mustard in Bastar Plateau Zone and Chattisgarh Plain Zone, spray Methyl-demeton or Dimethioate @ 1.5-2.0 ml per liter water solution.

Animal Husbandry & Poultry

- Undertake vaccination of cattle for the control of Anthrax, Galghotoo, foot and mouth diseases and deworming of animals.
- Save calves from cold (night temperature) use heater, curtains to save them.
- In this week there is possibility of decrease in the night temperature during next five days, so farmers are advised to protect their animals from low night temperature.
- The minimum temperature will be around 4⁰C in Bundelkhand Zone in Madhya Pradesh, hence farmers are advised to provide fresh water and dry and warm environment to animals. Otherwise animals may suffer from pneumonia and dysentery. Also there is possibility of foggy weather condition during the next 5 days, hence farmers are advised to provide appropriate light in poultry houses during night otherwise, and insufficient light may affect eggs production.

Annexure I List of Varieties

Jammu & Kashmir

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

Barley : cv: Ratna, Jyoti & Sonu.

Madhya Pradesh

Wheat: (Jhabua Hill Zone)

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

Gujarat State

Bottle gourd: ABG-1, Pusa Navin

Bitter gourd: Priya, Pusa Do Mosmi

Smooth gourd: GARG-1

Ridgegourd: Pusa Nasdar

Annexure II

Contour maps for the week ending 05.01.2011

