

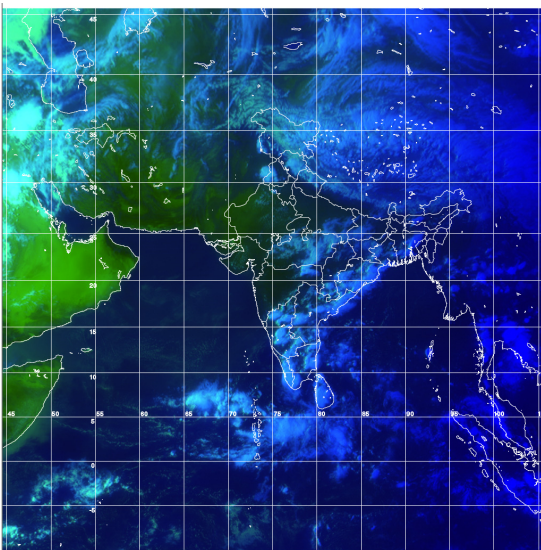


National Agromet Advisory Bulletin

Thursday, 21st April, 2011

(For the period 21st to 25th April, 2011)

Satellite image 1130 UTC Dated
21th April, 2011



Issued by
National Agrometeorological Advisory Service Centre
Agricultural Meteorology Division
India Meteorological Department
Shivajinagar
Pune.

The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

Executive Summary

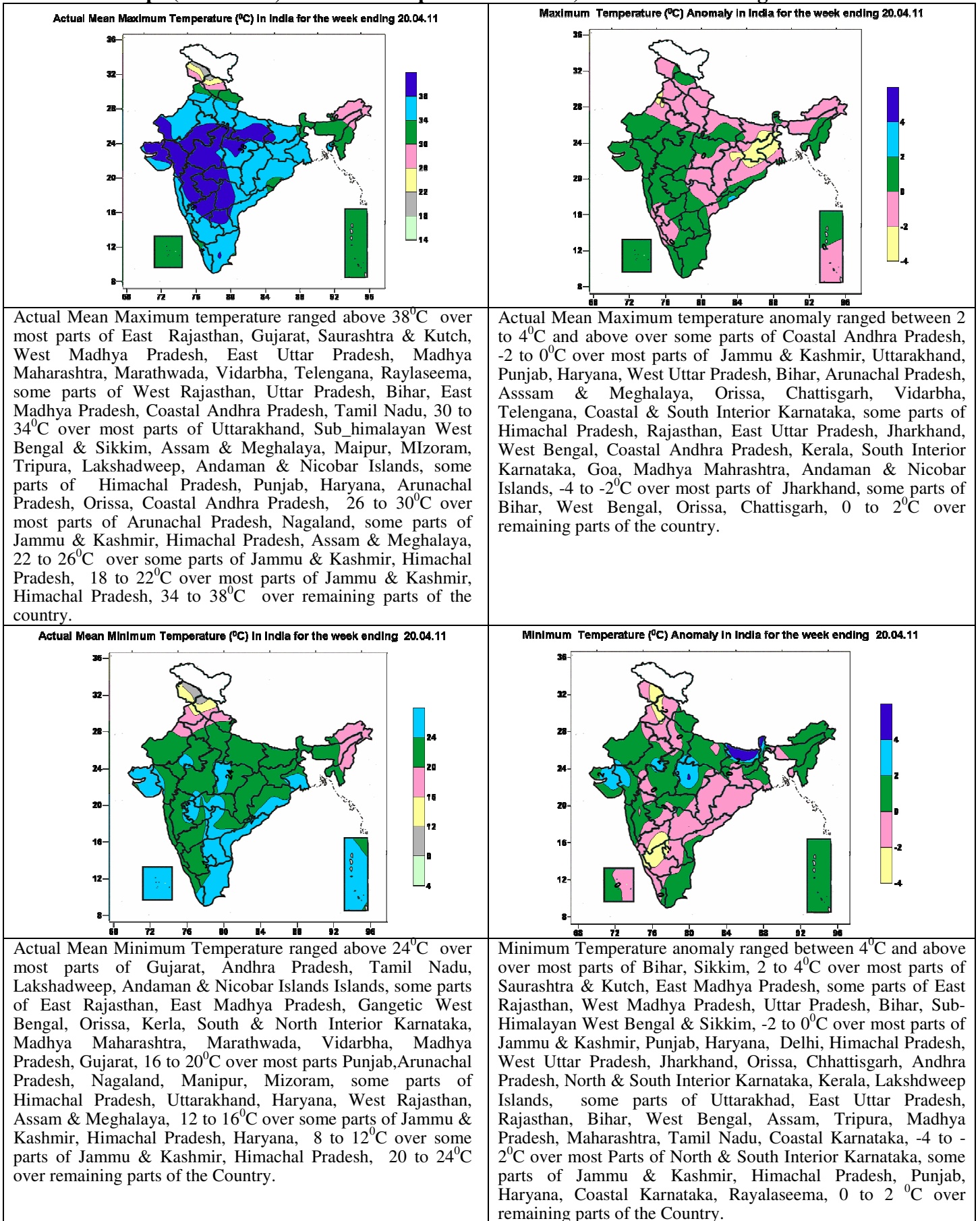
Dry weather conditions prevailed over most parts of the country except most of the districts of Jammu & Kashmir and some districts of Assam, Arunachal Pradesh and Sub Himalayan West Bengal, Interior Karnataka and Kerala during last week. The temperature condition in wheat growing North Western States is near normal and beneficial for wheat still grown in parts of the above mentioned areas resulting in better prospects of wheat crop. Farmers are advised to undertake harvesting of wheat crop and other *rabi* crops and store it at safer places in east Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal & Sikkim, Orissa and Vidarbha as isolated thunder squalls would occur over these States during next 48 hours.

As fairly widespread rainfall would occur over northeastern states and Sub Himalayan West Bengal & Sikkim, Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the standing crops in these States. Due to prevalence of dry conditions in most of the remaining States of the country, farmers are advised to provide irrigation to the standing summer crops.

Farmers are advised to undertake sowing of summer cotton, transplanting of tomato, chillies, summer rice in Karnataka, sowing of direct seeded rice in Kerala, sowing of summer pulses like mung, urd and nursery sowing of tomato, brinjal and chillies in Madhya Pradesh, sowing of maize, summer pulses like mash, mung, fodder jowar, bhindi, cucumber, beans, muskmelon, watermelon, round gourd, bottle gourd, sponge gourd and bitter gourd in Jammu & Kashmir, sowing of peas in Himachal Pradesh, sowing of summer mung, mash and pigeon pea in Punjab and Haryana, sowing of summer vegetables, millets etc. in Arunachal Pradesh, transplanting of cauliflower, cabbage, tomato, brinjal and chilli in Jharkhand.

Due to high temperature conditions, there are incidences of thrips in garlic, mealy bug in tapioca, aphids, thrips, mites, hoppers and white flies in rice fallow cotton in Tamil Nadu, smut disease in rice in Kerala, stem borer and blast in Andhra Pradesh, leaf spot and rust in sugarcane, pod borer in beans, powdery mildew in pulse crops in Karnataka, fruit and shoot borer in brinjal in Orissa. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases.

Contour maps (Maximum, Minimum temp. and anomalies) for the week ending 20.04.2011



Distribution of rainfall (% departure from normal) for the districts of Himachal Pradesh, Punjab, West Uttar Pradesh, Uttarakhand, Chattisgarh, Orissa, West Bengal, Karnataka and Kerala during last Weeks







State/Districts	Actual mm	Dep %
Himachal Pradesh		
Bilaspur	18.0	137
Chamba	33.7	72
Hamirpur	40.7	499
Kangra	53.4	493
Kinnaur	42.5	118
Kullu	100.7	699
Lahaul and Spiti	37.3	29
Mandi	63.6	453
Shimla	27.4	123
Sirmaur	8.9	27
Solan	9.6	-6
Una	28.5	714
Punjab		
Amritsar	13.7	120
Bhatinda	5.9	154
Faridkot	0.0	-100
Fatehgarh Saheb	7.0	56
Ferozpur	1.9	-4
Gurdaspur	25.6	288
Hoshiarpur	14.1	235
Jalandhar	6.5	15
Kapurthala	11.0	817
Ludhiana	10.5	139
Moga	58.2	2138
Muktesar	7.5	436
Nawashahar	13.2	338
Patiala	1.5	-66
Ropar	24.2	403
Sangrur	7.0	59
Chattisgarh		
Bastar	28.3	229
Bilaspur	30.1	1104
Dantewara	0.5	-86
Dhamtari	14.6	630
Durg	43.0	2767
Janjgir	26.2	1148
Jashpurnagar	14.2	56
Kanker	27.4	496
Korba	7.5	178
Koriya	5.8	2800
Kowardna	**	**
Mahasumund	4.7	147
Raigarh	0.0	-100
Raipur	51.2	2227
Rajandgaon	17.5	821
Surguja	13.8	527
West Uttar Pradesh		
Agra	0.7	-61
Aligarh	5.3	339
Auraiya	0.0	-100

Badaun	15.0	2043
Baghpat	5.5	358
Bareilly	10.6	606
Bijnor	1.5	-25
Bulandsahar	10.3	1192
Etah	1.3	-11
Etawah	0.0	-100
Firozabad	1.7	-17
Ghaziabad	1.0	-38
Hamirpur	2.5	311
Jalaun	0.0	-100
Jhansi	0.3	-79
Jotirba Phule Nagar	2.5	150
Lalitpur	0.0	-100
Mahamaya Nagar	2.0	54
Mainpuri	4.5	165
Mathura	2.0	150
Meerut	3.0	150
Moradabad	6.5	280
Muzaffarnagar	1.5	25
Pilibhit	6.1	239
Rampur	0.0	-100
Saharanpur	9.0	650
Shahjahanpur	1.7	16
UttaraKhand		
Almora	19.3	187
Chamoli	10.6	-11
Champawat	12.5	11
Dehradun	13.8	80
Garhwal Pauri	9.7	106
Garhwal Tehri	35.5	220
Haridwar	5.5	77
Nainital	28.2	314
Pithorgarh	11.4	-1
Rudraprayag	12.5	-2
Udham Sing Nagar	0.0	-100
Uttarkashi	54.7	260
Orissa		
Angul	10.6	2
Balasore	10.1	-35
Bargarh	8.5	174
Bhadrak	21.1	48
Bolangir	12.5	106
Boudh	0.0	-100
Cuttack	0.0	-100
Deogarh	10.6	195
Dhenkanal	0.7	-93
Gajapati	27.0	51
Ganjam	1.7	-83
Jagatsingpur	0.2	-98
Jajpur	0.0	-100
Jharsuguda	18.7	266
Kalahandi	3.7	-37
Kandhamal	12.0	52
Kendrapara	32.7	367
Keonjhar	11.7	-1
Khurda	3.5	-37

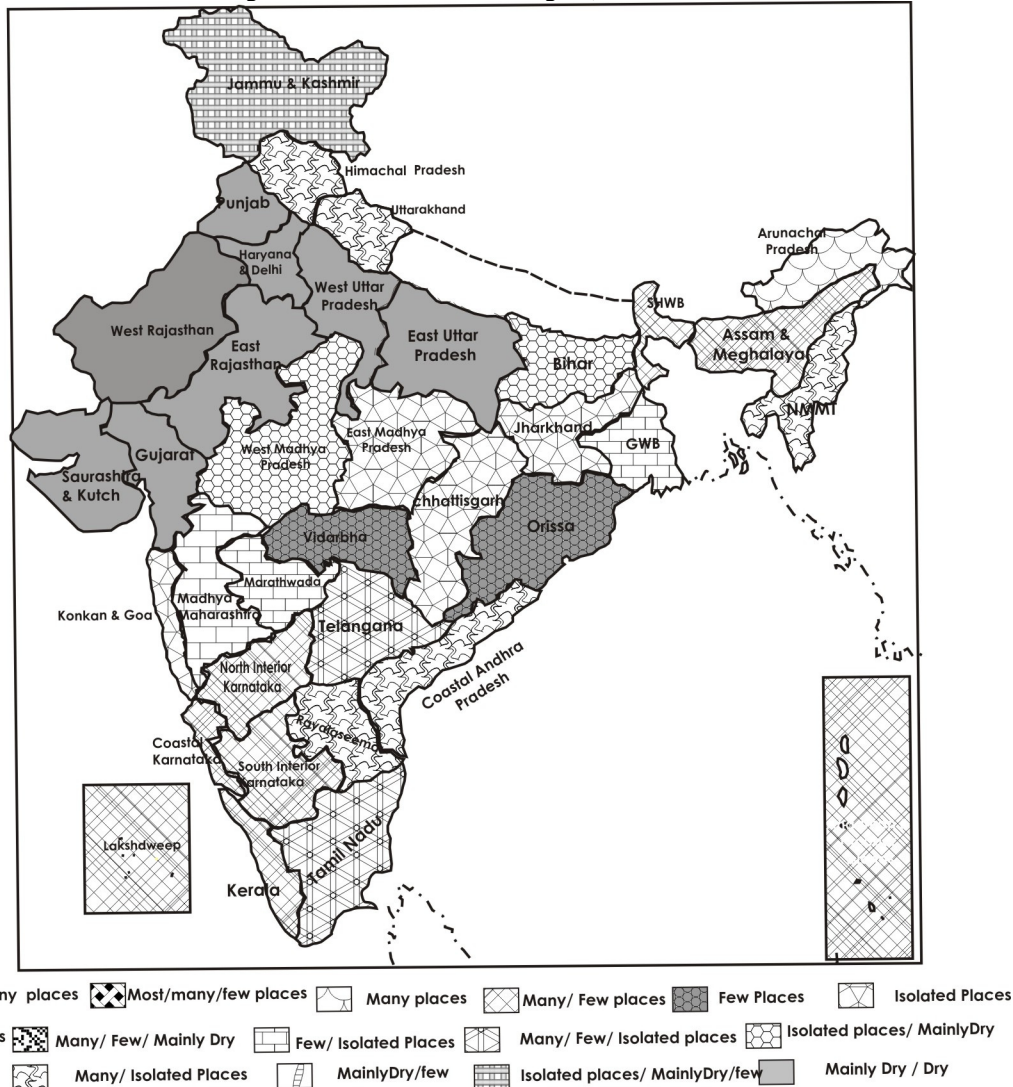
Koraput	14.5	33
Malkangiri	9.0	73
Mayurbhanj	22.8	44
Nawapara	21.5	306
Nawarangpur	7.3	-33
Nayagarh	28.1	332
Puri	1.9	-42
Rayagada	18.1	4
Sambalpur	19.2	434
Sonepur	6.8	55
Sundargarh	43.6	1404
West Bengal		
GWB		
Bankura	24.9	162
Birbhum	21.7	162
Burdwan	10.3	-2
Hooghly	14.5	1
Howrah	4.0	-69
East Midnapore	11.1	54
Murshidabad	111.0	741
Nadia	44.8	300
24 Pargana (N)	8.1	-37
Purulia	13.8	55
24 Pargana (S)	26.3	110
West Midnapore	1.3	-91
SHWB		
Coochbehar	52.9	63
Darjeeling	52.0	71
Jalpaiguri	49.8	92
Malda	18.9	91
Dinajpur (N)	**	**
Dinajpur (S)	40.9	262
North Sikkim	41.2	-11
South Sikkim	72.9	95
Karnataka		
Coastal Karnataka		
Dakshin Kannada	21.4	135
Udupi	23.7	302
Uttar Kannada	41.0	853
North Interior Karnataka		
Bagalkote	18.5	230
Belgaum	39.8	513
Bidar	8.8	114
Bijapur	10.4	120
Dharwad	39.7	258
Gadag	34.8	419
Gulbarga	23.0	410
Haveri	84.1	845
Koppal	24.4	441
Raichur	25.4	606
South Interior Karnataka		
Bangalore Rural	18.2	98
Bangalore Urban	19.2	58
Bellary	29.6	419
Chamarajnagar	31.8	62

Chickmagalur	38.7	193
Chitradurga	34.5	666
Davangere	25.5	254
Hassan	28.2	154
Kodagu	46.2	143
Kolar	9.1	29
Mandya	33.0	209
Mysore	25.1	75
Shimoga	22.1	143
Tumkur	26.2	216
Kerala		
Alappuzha	42.7	58
Kannur	34.3	113
Ernakulam	47.4	81
Idukki	106.2	172
Kasaragod	29.9	134
Kollam	36.5	-3
Kottayam	60.2	113
Kozhikode	47.1	145
Malappuram	31.1	45
Palakkad	22.6	-2
Pathanamthitta	76.8	78
Thiruvananthapuram	39.6	39
Thrissur	14.8	-20
Wyanad	83.2	340

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 1430 hours of 24th April, 2011)



Major Feature of Weather Forecast upto 1430 hours IST of 16th April, 2011

- Isolated rain/snowfall would occur over Uttarakhand during next 48 hours and increase thereafter.
- Scattered rain/snowfall would occur over Jammu & Kashmir and Himachal Pradesh on 15th and fairly widespread thereafter.
- Scattered rain/thundershowers would occur over Bihar, West Bengal & Sikkim, northeastern states, Chhattisgarh, Jharkhand and Orissa and isolated over Uttar Pradesh, east Madhya Pradesh and Vidarbha during next 24 hours and increase over northeastern states thereafter.
- Isolated rain/thundershowers would occur over south peninsular India, Lakshadweep and Andaman & Nicobar Islands.
- Isolated duststorms/thundershowers would occur over plains of northwest India on 15th and 16th.

Weather Warning

- Isolated thundersqualls would occur over Bihar, Chhattisgarh, Jharkhand, Orissa and West Bengal & Sikkim during next 48 hours.

Weather Outlook up to 1430 hours IST of 18th April, 2011

- Scattered rain/thundershowers would occur over northeastern states.
- Scattered rain/thundershowers would occur over south Maharashtra, coastal Karnataka, Kerala south Orissa and north coastal Andhra Pradesh.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Bhagalpur, Gaya, Kishanganj and Purnea districts of Bihar, Gajapati, Kendrapara, Nayagarh and Sundargarh districts of Orissa, Murshidabad, Nadia, 24 Pargana (S) districts of Gangetic West Bengal and all the districts of Sub Himalayan West Bengal and Sikkim received rain during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over Sub Himalayan West Bengal & Sikkim, scattered over Gangetic West Bengal and Orissa and isolated over Jharkhand and Bihar. Isolated thundersqualls would occur over Jharkhand, West Bengal & Sikkim and Orissa during next 48 hours.
- **Advisories:**
 - As Fairly widespread rain / thundershowers would occur over Sub Himalayan West Bengal & Sikkim during the period, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops. As Gajapati, Kendrapara, Nayagarh and Sundargarh districts of Orissa and Murshidabad, Nadia and 24 Pargana (S) districts of Gangetic West Bengal received rain during last week and scattered rain would occur over Gangetic West Bengal and Orissa, postpone irrigation to the crops in these districts. As no significant rain will occur over remaining districts of different States of the region, apply irrigation to the crops.
 - Taking the advantage of dry weather, harvest matured crops of tobacco, pulses etc. in Bihar. Apply irrigation during tasseling and silking stage in maize and also to summer vegetables crop. Also undertake intercultural operations and apply fertilizers in standing onion crop before applying irrigation.
 - In Orissa, the weather is optimum for planting of papaya, marigold etc. and sowing of sunflower. Farmers are advised to undertake field preparation and sowing. Increased temperature may lead to moisture stress in standing crops. Apply irrigation to groundnut and sugarcane. Farmers are advised for sowing jute, summer vegetables like *okra*, bitter gourd, cluster bean, cow pea and ridge gourd.
 - Prepare the field and undertake sowing of summer pulses in Bihar and Jharkhand.
 - Farmers in West Bengal are advised to undertake field preparation and sowing of jute, elephant foot yam, ginger and turmeric.
 - Farmers are advised to prepare the field and undertake sowing of summer vegetable crops like long gourd, round gourd, ridge gourd, bitter gourd, sponge gourd, cucumber, water melon and musk melon, *okra*, brinjal, shimla mirch and transplant seedlings of cauliflower, cabbage, tomato, brinjal, chilli in Jharkhand.
 - As chickpea and field pea is at maturity stage in Jharkhand, harvesting should be done immediately to avoid effect of scorching temperature and faster wind velocity and matured pods should be harvested before they shatter.
 - Prepare the field and undertake sowing of summer potato and *kharif* vegetables in Sikkim.
 - Due to strong wind in coastal belt crops are badly affected. This is the flowering period of many crops. But due to high wind velocity flowers are shaded. Hence, farmers are advised to grow some forest tree like casurina, sirish etc. as wind break in Coastal Saline Zone of West Bengal.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - High difference in day and night temperature may favour blast disease in South Eastern Plateau Zone of Jharkhand; spray of Tricyclazole @ 0.5 g per liter of water.
 - Fruit and shoot borer in brinjal has been observed in vegetables in Cuttack and Puri districts of Orissa; install Pheromone trap, spray 4 g Sevin WP or 2 ml Malathion in 1 litre water.

- Infestation of thrips has been noticed in Jagatsinghpur and Puri districts in Orissa; spray 2 ml Endosulphan in 1 litre water. White ant and white grub attack has also been found. Thorough soil drenching with Chloropyriphos solution @ 2 ml / litre water is recommended.
- There is a chance for Gandhi bug and brown plant hopper attack in rice in Coastal Saline Zone of West Bengal. Control measure should be taken when 15-20 nymphs or adults of BPH per hill will be noticed. Spraying of any one of the insecticides like Imedaclopride 17.8 SL @ 3 ml / 10 litres or Buptofezin 25 EC @ 2 ml / litre or Acephate 75 WP @ 1 g / litre of water at 7 days interval is recommended.
- Due to the high temperature and humidity fruits may be attacked by chilli Anthracnose in chilli in Coastal Saline Zone of West Bengal. Farmers are advised to undertake two sprayings of any one of the fungicides like Carbendazim 50 WP @ 1 g or Saaf @ 2 g / litre of water at 10 days intervals before the disease symptoms are appeared.
- Due to temperature increase, there is possibility of mite attack in pointed gourd in New Alluvial Zone of West Bengal; apply kelthane @ 2 ml / litre of water.
- In this weather condition, post emergence damping off may be found in jute field in Terai Zone of West Bengal; spray Carbendazim 12% + Mancozeb 64% (Saaf) @ 2 g / litre of water.
- Apply plant protection measures in Sub Himalayan West Bengal & Sikkim after current spells of rain and in Gangetic West Bengal and Orissa on a non-rainy day.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - Increase in temperature, cloudy weather and decline in water level may cause low concentration of soluble oxygen. It is advised for taking out all fishes and making ripples by beating with sticks or boating faster hither and thither or faster drawing and pumping water from and again back to the same ponds. This may increase the solubility of atmospheric oxygen in water. Apply Potassium permanganate @ 1 - 2 ppm or lime @ 800 g per acre. Stop supplementing feeds and fertilizers until normal situation in Jharkhand.
 - During summer season, animals should be protected against heat. To keep their rooms cool, jute bags may be hanged as curtain in the windows and it should be wetted time to time. Do not allow animals to expose in sunlight during noon and avail fresh and plenty of water for drinking in Jharkhand.

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

- **Realised Rainfall:** Many districts of Arunachal Pradesh and Assam received rain during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over the states of this region during the period.
- **Advisory:**
 - As many districts of Arunachal Pradesh and Assam received rain during last week and fairly widespread rain / thundershowers would occur over the states of this region during the period, postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the standing crops.
 - In Assam, sowing of jute, summer vegetables, summer green gram and black gram, nursery sowing and transplanting of *ahu* rice and planting of sugarcane may be carried out after current spells of rain.
 - Farmers are advised to sow lady's finger, bottle gourd, ridge gourd etc. in Ri-Bhoi, West Khasi, East Khasi, East Garo and West Garo hill district in Meghalaya and Mild Tropical Hill Zone in Nagaland after current spells of rain.
 - Farmers in Manipur are advised to undertake sowing of ginger, turmeric and cucurbitaceous vegetables.
 - In Nagaland, support should be given to the banana with the help of bamboo so as to protect the plants from bending or falling down due to heavy wind speed.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.

- In Lower Brahmaputra Valley Zone of Assam, farmers are advised to take preventive IPM approach in summer rice to control stem borer attack (Lighting up of fire at evening). In case of severe attack, apply Chloropyrifos @ 1 ml / litre of water.
- There is possibility of infestation of purple blotch disease in onion in Mizoram. To control purple blotch disease, spray the crop with 1.3 kg of Indofil M 45 mixed with 400 ml of linseed oil as sticker in 600 liters of water / ha.
- Soil and air temperatures are favourable for the attack of stem borer in *boro* rice. If eggs of the pests are noticed, apply Darsban or Monocrotophos @ 2 teaspoon full per 5 litres of water.
- In Upper Brahmaputra Valley Zone of Assam, due to increase in RH and probable increase in temperature in the coming days, the condition may be suitable for the attack of blast disease in *ahu* rice. Farmers are advised to spray Bavistin @ 1 g per litre of water when the symptoms appear.
- Apply plant protection measures after current spells of rain.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry:

- In Nagaland, proper monitoring should be done in case of poultry as losses may occur in poultry breed due to breakout of many diseases and hot weather. Animals with disease conditions that have become chronic and require repeated treatments must be culled from the herd.
- In Tripura and Mizoram, due to the weather change, some viral / bacterial diseases may outbreak in Poultry birds and cattle. Vaccination like FMD, Black Quarter and Hemorrhagic septicemia (HS) in cattle and Ranikhet in poultry may be undertaken. Keep sanitary conditions in poultry sheds and also keep the equipment clean. Provide balanced feed and fresh clean water to the cattle.

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

- **Realised Rainfall:** Dry weather prevailed over the region except rainfall in some districts of Jammu & Kashmir during last week.
- **Rainfall Forecast:** Rainfall at a few places over Jammu & Kashmir during next 24 hours and decrease thereafter. Except that mainly dry weather or isolated rainfall is likely in the region.
- **Advisory:**
 - As there was sufficient rainfall in most of the districts of Jammu & Kashmir, postpone irrigation to the standing crops. There was no significant rainfall in most of the remaining States in the region and no significant rainfall is likely during next three days, farmers are advised to apply irrigation to standing crop.
 - Farmers in Delhi are advised to sow green gram, black gram, sugarcane, maize, baby corn and also direct sowing of cucurbitaceous crop, lady's finger, french bean, cluster bean, summer radish. In present weather condition, early harvesting of matured wheat is advised to avoid shattering of grains.
 - Due to prevailing high temperature in Delhi, light irrigation at short interval may be provided to lady finger, onion, cucurbitaceous, chilli, brinjal, bitter gourd and spinach crops in the morning and in the evening hours. Farmers are advised to harvest wheat, bengal gram, mustard to avoid shattering of grains.
 - Farmers are advised to undertake sowing of pea, bhindi, frenchbean and nursery sowing of khira, summer squash, bitter gourd, gladiolus, liliun and China aster, glardia, rudevekia, Kochia, African Marigold, French Marigold, Partulaca, Tithinia, Torinia and cleome, red and white clover, fodder maize, fodder maize + legume, moong, mash, nursery sowing of vegetables like cauliflower, cabbage, tomato, capsicum, cucumber, lettuce and broccoli in Himachal Pradesh.
 - Due to presence of sufficient moisture farmers in Jammu & Kashmir are advised to undertake sowing of maize, beans, bottle gourd, sponge gourd, bittergourd, cucumber, pumpkin, bhindi, okra, sowing of cowpea as intercrop in between the fruit plants, planting of potato, transplanting of

tomato, chillies, brinjal, cabbage, knol-khol, pear, peach, plum and grapevine mango, guava, litchi, citrus. Undertake harvesting of early sown wheat and oilseed crops (mustard).

- Farmers in Rajasthan are advised to undertake sowing cotton, cucurbitaceae vegetables like melon, bottlegourd, ridgegourd, bittergourd, pumpkin and smoothgourd, leafy vegetables like spinach and amaranthus and transplanting of tomato and brinjal and also advised to undertake harvesting of matured mustard, gram, taramira, barley and potato. In Southern Humid Plain Zone (Banswara region) are advised to protect the nursery plants and zaid crops from high temperature.
- Farmers in Uttarakhand are advised to undertake sowing of foxtail millet, potato (7000 – 8000 feet height areas), nursery sowing of Chiatee Dhan and transplanting of tomato, pumpkin (mid-hills), chilly, brinjal (irrigated hilly areas). Farmers in Bhabar and Terai Zone (Nainital and Udamsingh Nagar districts) are advised to complete harvesting of wheat.
- Farmers in Punjab and Haryana are advised to complete sowing of summer moong, mash and pigeon pea.
- Farmers in Uttar Pradesh are advised to undertake harvesting of matured crops viz. wheat, barley, gram, mustard, arhar etc. and undertake sowing of moong, urd, maize / fodder maize, summer sugarcane with intercropping of moong and urd crops.
- Due to prevailing weather condition in Delhi, monitoring of red pumpkin beetle may be done in cucurbitaceous crop. Need based spraying of Carbaryl (Sevin) @ 1 gram/ litre of water is advised. Spraying should be done in the evening hours preferably between 4-6 P.M. when the pest is active.
- In Uttarakhand, due to prevailing high temperature conditions, there are chances of white fly to spread yellow mosaic in timely sown moong and urd crops which are at flowering and pod formation stages, spray Metasystox @ 400 ml per liter of water per acre.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- Farmers are advised to feed their animals with balance feed for getting good milk production. Give fresh water three times a day and keep them in shed during day time and allow buffalos in nearby water tank. Farmers should show their cow & buffalos to nearby Veterinary Doctor for any disease in these animals.

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

- **Realised Rainfall:** Haveri, Chamarajnagar, Chickmagalur, Chitradurga, Kodagu, Mandya districts in Interior Karnataka, Alappuzha, Kannur, Ernakulam, Idukki, Kollam, Kottayam, Pathanamthitta, Thiruvananthapuram, Wyanad districts in Kerala received rainfall. In Tamil Nadu and Andhra Pradesh there was no significant rainfall.
- **Rainfall Forecast:** Rainfall is likely at a few places during next 24 hours in Kerala, Coastal Karnataka and South Interior Karnataka and increase thereafter. Rainfall is likely at a few places in North Interior Karnataka during next 48 hours and increase thereafter. Rainfall is likely at a few places in Telangana and Tamil Nadu after 48 hours and increase thereafter. Isolated rainfall is likely at Coastal Andhra Pradesh and Rayalaseema during next 48 hours and at many places thereafter.
- **Advisories:**
 - As rainfall at many places after 48 hours in the region is likely farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the standing crops in these States.
 - Farmers are advised to undertake sowing of summer cotton, transplanting of tomato, chillies, summer rice in Karnataka, sowing of direct seeded rice in Kerala.
 - There is a possibility of rain in coming four days in the Eastern dry zone of Karnataka, farmers are advised to take care of summer crops like potato, grapes, maize, mango, vegetables and other crops against rains.
 - In Southern dry zone of Karnataka, If sufficient rains received, dry land farmers may take up land preparation across the land slope and keep ready the land for pre-monsoon crop sowing.

- After the harvest of crops, farmers are advised to undertake deep summer ploughing for moisture conservation and eradication of insect eggs and pupae and soil-borne pathogens.
- Due to dry weather conditions prevailing in Southern Telangana Zone, there are chances of incidences of sheath blight in rice, early shoot borer in sugarcane, fruit and shoot borer in vegetable crops and bunchy top and rhizome rot in banana. Incidences of attack of stem borer, WBPH/BPH, mites and blast are reported in rice. Farmers are advised to monitor the crops for the pests and diseases and undertake plant protection measures.
- In northern transition zone of Karnataka, Sugarcane is infected with leaf spot and rust, to control it spray Mancozeb @ 2 g/l. Jassids /leaf hoppers & powdery mildew observed in mango, to control these, spray carbaryl (50 W.P.) @ 4 grams /l or Endosulphan (35 EC) @ 2 ml/ l plus wettable sulphur @ 3 grams / carbendizim (50 WP) @ 2 gram per litre. To reduce flower and fruit drop in mango spraying of 4 ml planofix in 16 liter of water is recommended. Leaf spot is noticed in Chikoo, to control it spray 2 g Mancozeb (Dithane M-45) per liter of water. Leaf Webber and Diamond Black Moth noticed in Cabbage, spray NSKE (4 %) at 10-15 days interval for 3 to 4 times or Quinolphos / Chlorpyrifos (0.05%) @ 2 ml per litre. Beans are infested with pod borer. To control it spray the crop with Carbaryl (50 WP) @ 4 g/l or Melathion (50 EC) @ 2 ml/l or Endosulphan (35 EC) @ 2 ml/l.
- In Southern dry zone of Karnataka, brinjal is infested by fruit borer and bacterial wilt. To manage fruit borer spray nimbecidin @5ml/lit. of water and bacterial wilt may be managed by uprooting of affected plants and dusting of bleaching powder at affected site.
- In Southern dry zone of Karnataka, following pest and diseases were noticed, Farmers are advised to take up following plant protection measures,
 - Powdery Mildew in Pulse crops: For control of this spray, Carbendazim @ 1.0 gm or Water soluble Sulphur @ 3 gm per liter of water.
 - Powdery Mildew in Mango: Spray Carbendazim @1 gm / lit of water or Hexaconazole @1g / lit of water.
 - Hoppers in Mango : Spray Melathion @ 2ml / lit of water or Monocrotophos @ 1.25ml / lit of water.
 - Inflorescence bug in arecanut: Place the 10 gms Phorate granules in small polythene bag and keep inside the inflorescence part of arecanut
 - The dropping of tender nuts and buds in arecanut: For control, take up the spray Carbendazim @ 1 gm or Mancozeb @ 2 gm per liter of water.
 - Mites in coconut: Spray water soluble sulphur @ 5gm/liter of water or spray a mixture of neem oil (20 ml) + garlic solution (20 gm) + soap powder solution (5 gm) per liter of water to the coconut flower and fruit bunch.
- In Problem Area Zone of Kerala, in the fields where false smut disease is severe, it is advised to remove the affected panicles very carefully so that the yellow spores do not fall in field. This will help to minimize the severity of incidence of the disease during the next season.
- In western zone of Tamilnadu, Present weather is conducive for alternaria leaf spot incidence in sunflower. Hence, watch for the incidence and spray mancozeb @1000g/ha.
- Animal Husbandry
- Care should be taken against the maximum and minimum diurnal temperature variation for silk worms, poultry and dairy rearing houses by maintaining optimum room temperature and hygienic condition.
- Vaccinate before onset of monsoon the animals (cow, buffalo, bullock) against Foot and mouth disease (FMD vaccination), BC vaccination against Black Quarter and also vaccinate cow, buffalo and bullock against Haemorrhagic Septicaemia.
- Vaccinate (ET vaccine) sheep and goats against Enterotoxemia before onset of monsoon.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Mainly dry weather prevailed in the States of the region during the period.
- **Rainfall forecast:** Scattered rainfall is likely over Madhya Maharashtra, Marathwada and Vidarbha during next 48 hours and decrease thereafter. Mainly dry weather will prevail or isolated rainfall will occur over Konkan and Goa and also in Gujarat State.
- **Advisory:**

- As there was no significant rain over most of the districts of Maharashtra and Gujarat during last week and no significant rain is likely during next 3 days, farmers are advised to apply irrigation to standing crops.
- Taking the advantage of dry weather farmers are advised to complete the harvesting of the already matured crops. They are also advised to clean grape and mango orchards.
- As early rice varieties are at maturity stage, farmers of Sindhudurga district are advised to start harvesting of already matured crops. Before harvesting drain out water at least 8–10 days earlier from main field.
- As there is less possibility of rain, apply third dose of Nitrogen @ 25 kg / ha (54 kg Urea) after 12 to 16 weeks from planting to preseasonal sugarcane in Madhya Maharashtra and Marathwada followed by irrigation.
- To increase the production and quality improvement of mango fruits, spray 1 % Urea and 1 % Potassium Nitrate at pea stage, marble stage and arecanut size stage.
- To prevent fruit dropping in mango in central Vidarbha zone, spray 20 PPM NAA. Spray 50 PPM NAA at pea stage on orange.
- For better pollination in sunflower, install honey bee keeping box in the field or hand, covered with woolen cloth, may be freely moved on floral disc.
- As no rainfall is likely the sugarcane crop in South Gujarat Heavy Rainfall Zone should be fertilized with final dose of nitrogen application (87.5 k.g. nitrogen / ha). Final earthing up operation should be done.
- Farmers in Gujarat state are advised to cover papaya fruits using gunny bags and provide support to heavy fruiting plants as there may be increase in temperature during next week.
- As dry weather will prevail, farmers in middle Gujarat region are advised to give top dressing dose of fertilizer with 15 kg N (33 kg Urea) recommended for summer pearl millet in presence of optimum soil moisture at 45 days after sowing.
- Due to prevailing weather there may be incidence of anthracnose on mango fruits in North Konkan, spray Carbendazim @ 10 g per 10 litres of water.
- There may be incidence of shoot borer in sugarcane in Madhya Maharashtra and Marathwada, spray Endosulfan 35 EC @ 15 ml in 10 liters of water.
- Due to cloudy and rainy weather, there may be infestation of fruit borer, thrips, leaf caterpillars and white fly in western Maharashtra scarcity zone. For control of sap sucking pests, spray Imidachloprid @ 4 ml or Dimethoate @ 10 ml or Methyl Dimeton @ 10 ml in 10 liters of water. For control of fruit borer, spray 4% Neemark or Endosulfan @ 15 ml or Deltamethrin @ 5 ml in 10 liters water at 10-15 days interval.
- On the incidence of leaf roller in summer groundnut in central Maharashtra plateau zone, spray Dimethoate 30% WSC @ 10 ml in 10 liters of water. Weather conditions are favourable for incidence of mango hopper in North Saurashtra Zone; spray Imidachloprid 17.8 SL @ 2.5 ml / 10 litres of water to control mango hopper and spray wettable sulphur 80% @ 30 g or Dinocap @ 10 ml or Tridemorph @ 5 ml / 10 litres of water to control powdery mildew. Also there may be dropping of unripe fruits in mango orchard. Spray NAA @ 2 g or Gibberelic Acid @ 1 g + 2 kg urea / 100 liters of water.
- Weather is congenial for infestation of Heliothis in okra crop in Middle Gujarat region. Spray neem oil @ 0.5 % to control Heliothis.
- Stages of major crops are mentioned in Annexure I.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rainfall occurred in the states.
- **Rainfall Forecast:** Either dry weather or isolated rain is likely over Madhya Pradesh. Scattered rainfall is likely during next three days in Chhattisgarh.
- **Advisory:**

- As weather conditions are suitable for proper germination of summer maize, green gram, sesame and summer vegetables like brinjal, tomato, chillies and sugarcane, farmers are advised to undertake sowing in Bastar Plateau zone.
- Due to prevailing dry weather conditions and increase in evaporation rate in Chattisgarh Plain zone of Chattisgarh, farmers are advised apply irrigation in summer vegetables, rice, groundnut as well as sunflower.
- Farmers in Northern Hill Zone of Chattisgarh are advised to prepare land for planting of sugarcane and sow moong, urad, fodder crops like maize, jowar, bajra crops etc.
- Farmers in Kymore plateau and Satpura hill zone of Madhya Pradesh are advised to harvest wheat immediately and store the produce in covered place.
- Farmers in Satpura Plateau Zone and Nimar Valley Zone of Madhya Pradesh are advised to undertake planting / sowing of summer sugarcane, fodder maize, fodder jowar, fodder bajra and other summer vegetables.
- In Vindhya Plateau Zone and Jhabua hill zone of Madhya Pradesh, farmers are advised to sow moong and urad and nursery sowing of tomato, brinjal and chilli. Undertake propping of sugarcane and also apply mulching.
- As weather is congenial for sucking pests in vegetables in Nimar Valley Zone of Madhya Pradesh, spray Metasystox or Dimethoate @ 1 ml per litre of water.
- Due to dry weather, farmers in Gird Zone in Madhya Pradesh advised to keep watch for thrips attack in onion, if found spray Carbaryl @ 2gram/ liter of water. Weather is congenial for leaf curl disease in tomato and chilli in Gird and Bundelkhand Zone of Madhya Pradesh, farmers are advised to spray Methyl dimeton 25 E.C @ 2.0 ml or Imidachloprid @ 0.5 ml per litre of water.
- As weather is congenial for stem borer in sugarcane in Vindhya Plateau Zone of Madhya Pradesh, farmers are advised to spray Phorate @ 10 kg per hectare.
- **Animal Husbandry & Poultry**
- As there is possibility of clear sky conditions during next 5 days, cattle should be kept in dry place, provide balanced and nutrient rich feed having protein, carbohydrate, fat vitamins and antibiotics in Gird Zone of Madhya Pradesh.
- At present, due to increase in day temperature in Bundelkhand Zone of Madhya Pradesh, farmers are advised to allow the buffalos to swim in the water pond and also wash their body with water twice in a day to keep their body temperature cool.

Annexure I

Major Crops

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

- Maize (tasseling / silking / cob formation), chillies, tomato (fruiting / harvesting), palak, carrot, radish etc. (harvesting), barseem, lucerne, oat (vegetative), sugarcane (planting / early vegetative), *boro* rice (panicle initiation / flowering / grain formation), green gram, maize and black gram (sowing / early vegetative / vegetative) and summer vegetables like bhindi, bitter gourd, sponge gourd, pumpkin, cucumber etc. (sowing / early vegetative / vegetative) in Bihar.
- Arhar and green pea (pod maturity / harvesting), onion (bulb enlargement / maturity), tomato (fruiting / harvesting), chilli and brinjal (transplanting / early vegetative), summer rice (panicle initiation / flowering / grain formation), summer vegetables (sowing / transplanting / vegetative/ flowering), green gram (sowing / early vegetative), sugarcane (planting / early vegetative), mango and litchi (flowering / fruiting), papaya (transplanting) in Jharkhand.
- Arhar (pod maturity / harvesting), sugarcane (harvesting), *boro* rice (panicle initiation / flowering / grain formation), maize (sowing / vegetative), black gram, green gram, garlic, sunflower (sowing / early vegetative / vegetative), sesame (vegetative / flowering / pod formation), groundnut (vegetative / flowering / pegging), mango, papaya, summer marigold, tuberose (planting), summer cow pea (sowing / early vegetative), summer vegetables (sowing / early vegetative / vegetative) and sugarcane (sprouting / vegetative / tillering), summer pulses, colocasia (land preparation / sowing / planting), jute and ginger (sowing) in Orissa.

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

- Sugarcane (planting / cane development), *boro* rice (flowering / grain formation / early maturity), *bau* rice (sowing / early vegetative), normal *ahu* rice (nursery raising / transplanting), early *ahu* rice (tillering / panicle initiation), summer green gram and black gram (sowing / early vegetative / vegetative), jute (sowing / seedling / early vegetative / vegetative), summer vegetables (sowing / vegetative / flowering / fruiting), summer sesame (vegetative / flowering / pod formation) and maize (tasseling / silking) in Assam.
- Rice (nursery preparation), French bean (sowing), *okra* (sowing), maize (sowing / vegetative) and ginger / turmeric (sowing), summer vegetables, millet (sowing) in Arunachal Pradesh.
- *Rabi* maize (flowering / grain formation / maturity), field pea (pod formation / maturity / harvesting), onion (bulb formation), cauliflower and cabbage (harvesting), potato (harvesting) and ginger and turmeric (land preparation / sowing) in Manipur.
- *Khasi* mandarin (new flush / blooming stage), banana (vegetative / fruiting / maturity), maize (harvesting), *kharif* maize (sowing), onion (bulb formation / cutting), beans (sowing), tomato, chilli and capsicum (harvesting), cole crops (head formation / harvesting) and summer vegetables (early vegetative / vegetative) in Mizoram.
- *Aus* or pre *kharif* rice (sowing), summer vegetables (early vegetative / vegetative / flowering) and *boro* rice (panicle initiation / flowering / grain formation) in Tripura.
- *Boro* rice (panicle initiation / flowering / grain formation), *ahu* rice (nursery sowing / seedling / transplanting / early tillering), *rabi* maize (tasseling / silking / cob formation), winter potato (tuber maturity), winter potato at high altitude (harvesting) and summer vegetables (sowing / vegetative / flowering) in Meghalaya.
- Maize, summer crops (sowing / early vegetative), *okra* (sowing), potato (tuber maturity) and banana (fruiting) in Nagaland.

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

- Wheat (maturity/harvesting), mustard (pod maturity / harvesting), pea and gram (pod maturity/harvesting), broccoli, cauliflower, cabbage and onion (early vegetative / vegetative), tomato, chilli (transplanting), brinjal & cucurbits crops (sowing/germination), lentil (pod formation), maize, hybrid cluster bean, baby corn (sowing), green gram and black gram (sowing), Sugarcane(sowing) in Delhi.

- Wheat (grain maturity), potato (tuber formation/harvesting), vegetables (flowering / fruiting / harvesting), garlic (planting), pea, potato (sowing), cucurbits (transplanting), Khira, summer squash, bitter gourd, tur, brinjal, Shimla mirch, pepper and tomato (nursery sowing) in Himachal Pradesh.
- Gram (maturity), berseem (vegetative), oats (flowering), wheat, barley (Early sown – maturity, Normal sown – Hard dough, Late sown – Dough stage), lentil (maturity/harvesting), field pea (pod formation), toria (harvesting), mustard (pod maturity/harvesting), vegetable crops like tomato, chilli, brinjal, cucurbits (vegetative / flowering), onion (vegetative), cauliflower, cabbage, carrot (fruiting/harvesting), onion, tomato, brinjal and chilly (transplanting), summer pulses, cowpea, okra, maize (sowing), rice (nursery sowing) in Jammu & Kashmir.
- Wheat (harvesting), potato (7000-800-ft a.s.l.) (sowing), toria (maturity / harvesting), mustard (maturity), chickpea, moong, urd (flowering / pod formation), barley (tillering), garlic, seasonal vegetables (vegetative / flowering/ harvesting), onion (vegetative), pea (harvesting), chilli, tomato (sowing / transplanting) and lahi (flowering / fruiting), sugarcane (planting), rice (nursery sowing), mango (flowering / fruiting), foxtail millet (sowing), in Uttarakhand.
- Spring sugarcane (germination), berseem (vegetative), wheat (grain maturity/harvesting), barley (heading), lentil, gram (maturity/harvesting), African sarson (pod formation/maturity), radish (vegetative), ghobi sarson (vegetative), oilseeds (raya, taramira) (pod formation/ maturity), papaya, onion (transplanting), vegetables, sugarcane (sowing/ germination), summer pulses(sowing) in Punjab.
- Sugarcane (spring season) (planting/emergence/early vegetative), wheat (flag leaf/grain development), berseem (vegetative), gram (pod maturity/harvesting), rapeseed and mustard (harvesting), summer pulses, moong, mash, pigeon pea (sowing) in Haryana.
- Wheat (grain formation/ maturity), barley, oats (tillering/flowering), toria (pod maturity), arhar (flowering / pod formation / grain formation), mustard, sarson (pod maturity / harvesting), field pea, chick pea, lentil, linseed (flowering/maturity / harvesting), winter sugarcane (vegetative), summer sugarcane (planting), winter vegetables like carrot, garlic, onion (vegetative), tomato, brinjal (flowering / fruiting), cabbage, cauliflower (fruiting / maturity / harvesting) and moong, urd, black gram, maize / fodder maize, vegetables (sowing) in Uttar Pradesh.
- Winter sugarcane (initial growth), wheat (maturity / harvesting), oats, barley (maturity/harvesting), taramira, mustard (maturity / harvesting), gram (pod maturity / harvesting), lentil (flowering/maturity), ajwain, fenugreek and isabgol (vegetative), potato (tuberization / maturity), cabbage, cauliflower (late vegetative / head formation) and tomato (flowering/ fruiting), fodder jowar & bajra (sowing), cotton (sowing) in Rajasthan.

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

Rice (harvesting), rice fallow cotton (vegetative / flowering), rice fallow pulses (harvesting), maize (harvesting), sorghum (harvesting), groundnut (harvesting), cotton (vegetative/ boll formation/ boll maturity), vegetables (vegetative/fruiting), sugarcane (vegetative/ grand growth phase) in Tamil Nadu.

- Sugarcane (ratooning/vegetative), groundnut (pod maturity), cotton (boll development/ picking), safflower (flowering), rice (tillering), mango (fruiting/maturity), in Karnataka.
- Bengal gram (maturity), rice (grain formation/ maturity), red gram (maturity), sunflower (seed development), groundnut (pod development / maturity) in Andhra Pradesh.
- Rice (maturity / harvesting), arecanut (maturity), ginger (planting), coconut (seed nut collection), pepper (harvesting) in Kerala.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

➤ **Major Crops:**

- Wheat (harvesting), sugarcane-*Adsali* (active tillering), Sugarcane-pre seasonal (vegetative), sugarcane-*Suru* (sprouting / early vegetative), summer rice (panicle initiation / flowering / grain formation in Konkan and tillering / panicle initiation in East Vidarbha), groundnut (pegging / pod

development in Konkan and flowering / pegging in other divisions), sunflower (vegetative / floral bud initiation), maize(vegetative / tasseling & silking), bajra (flowering / grain formation) in Maharashtra.

- Summer bajra (flag leaf initiation / ear head emergence), brinjal and tomato (fruiting / harvesting), green gram (flowering / pod formation), late sown wheat (harvesting), sugarcane (sprouting / early vegetative) and summer groundnut (pegging / pod formation) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Wheat (grain maturity/ harvesting), mustard (harvesting), chickpea (pod formation/maturity), pigeon pea (maturity/harvesting), sugarcane (planting / vegetative), cotton (boll formation), maize (maturity), onion (transplanting), gram / linseed (fruiting / harvesting), okra (sowing) in Madhya Pradesh.
- Pigeon pea (pod development/maturity), wheat (grain maturity), rice (seedling/tillering), sunflower (sowing), sugarcane (sowing), linseed (flowering), maize, green gram and sesame(sowing) in Chhattisgarh.

Annexure II List of Varieties

Bihar

Bhindi: Parvani Kranti, Arka Abhay, Arka Anamika, KS 312 and hybrid varieties such as Bhawani, Krishna, Lam Hybrid, Hybrid 6, Hybrid 8, Indranil.

Green gram: Pusa Baishakhi, T-9.

Summer moong: Pusa Vishal, Samrat, Sona, PS 16, SML 668.

Urd: Type 9.

Orissa

Summer maize: Dhabal and Navjot and Hybrid varieties like Ganga, Deccan 105, Kargil 900-M, PRO 345, Kargil 633.

Summer Sunflower: High yielding variety like Modern and hybrid varieties like PAC 36, KBSH, MSFH-8 and MSFH 17.

Green gram: PDM 11, PDM-54, Pusa Baisakhi, SML-668, PDM-54, HUM 2, Durga and Samrat.

Black gram: Sarala, T-9, B-3-8-8, Pant-U-19, Pant-U-30.

Papaya: Honey Dew, Kurg Honey Dew, Co-1, Co-2, Pusa Delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

Summer cow pea: Bush type – Pusa Phalguni, Pusa Komal; runner type – American Long and Banarasi Long; other improved varieties like Russian Giant, EC-4316, NP-3, C-152, UPC-286, UPC-5286 and IGFI-450.

Jute: JRO-524 (Naveen).

Okra: Utkal Gourav, Arka Anamika, Varsha Uphar, Parvani kranti an all available hybrid varieties.

Bitter gourd: Pusa Domousumi, Coimbatore long green, and Arka Harit.

Ridge gourd: Pusa Najdar, Jaypur long, and any local variety.

Cluster bean: Pusa Naubahar.

Cow pea: Arka, Garima, Utkal Manika, Selection-2-6-3 and Pusa Kamal.

West Bengal

Sunflower: Morden, Surya (90-95 days duration), Pack 36 (hybrid variety, 104 days duration), KBSH (90-95 days duration).

Green gram: Sonali (B-1), Panna (B-105), Pusa Baishakhi etc.

Jute: Chaitali, Basudev, Naveen, Sonali, Sobuj Sona.

Delhi

Green gram – Pusa Visal, Pusa Vaisakhi, Pusa 9531, Pant moong 1, Pant moong 5, PDM-11, SML-32

Black gram – Pant Urd 19, Pant Urd 30, Pant Urd 35, PDU1.

Maize – African Tall.

Hybrid cluster bean: Pusa Komal, Pusa Sukamol

Baby corn: HM-4.

Sugarcane: Karan-1, Karan-2, Co-64, and Co-1496.

Himachal Pradesh

Cauliflower: Sweta, Madhuri

Cabbage: Golden Acre

Tomato: 7711, Him sona, Him 1

Capsicum: California wonder

Cucumber: Kiyan

Summer squash: hybrid green

Lettuce: Iceberg

Brinjal : Arka Nidhi, PPC
 Ageti bhindi : P-8, Prabhini kranti, Arka anamika
 Frenchbean : Contender

Jammu & Kashmir

Mash: Mash Pant, U-19, T-9
 Moong: PDM-54, PS-16, PS-17, ML-131

Punjab

Summer moong: SML-668.
 Summer mash: Sathi mash, i.e. Mash 1008 or Mash-414 or Mash-218.

Haryana

Baisakhi Mung: K851 and Type 44 and Muskan
 Pigeon pea: UPAS 120, T-21.

Uttar Pradesh

Moong: Yellow Mosaic resistant variety PDM-139A, Pant Moong-2A, Narendra Moong-1A, Malaviya Jagruti, H.U.M-2, Moong JANpriya, MALaviya Jyoti, Malaviya Janchetana.
 For intercropping : Moong : Pant Moong-1 / 2
 Urd : Pant Urd-12 / 35
 Summer Sugarcane: K.S. 97264, K.S.-8432, K.S.-767, K.S.-92423, K.S.-95268, K.S.-98268, K.S.-96275, K.S.-95270

Uttarakhand :

Maize : Ganga-2, Ganga-7, African Tall etc.
 Lobia : Russian Joint, EC-4216, UPC-5286 etc.
 Okra : VL Bhindi-1

Rajasthan

Cotton : improved varieties : RG-8, RG-18, hybrid varieties : Raj D.H.-9

Assam

Direct seeded *ahu* rice: Banglami, Puthichapali, Nilajee, Hasakumra, Dimru, Maibi, Jaya and IR-50.
***Bau* rice:** Maguri, Panikekua, Amona, Negheri.
Normal *ahu* rice: Dimru, Maibi, Jaya, IR-50, Gobind, IR-36, Lachit, Chilarai.
Green gram: T44, AAU 34, AAU 39, Pratap, SG1.
Black gram: T 9, Pant U 19, JU 78 etc.
Cucumber: Chinese Green, Pusa Sanyog, Poinsette.
Bitter Gourd: Long Green, Extra Long, Pussa Do Mausmi.
Ridge Gourd: Pusa Nasdar, AAUJ-2, AAUC-3.
Okra: Pusa Sawani, Arka Anamika, Parbhani Kranti.
Jute: Tarun, JRC 321 (Sonali), UPC 94 (Reshma), JRC 321, JRC 7447, UPC 94, JRO 524, JRO 7835, JRO 632, JRC 212, JRC 7447 etc.
Sugar cane: Co1008, Co 997, Co 740, Co 961.

Meghalaya

Lady's Finger: Paravin Kranti, Akra Anamika.

Mizoram

Lady's Finger: Pusa Sawani, Pusa Makhmali, Punjab Padmini, Arka Anamika, Arka Abha.

Tripura

Ridge gourd: Pusa Nasdar, Satputia.

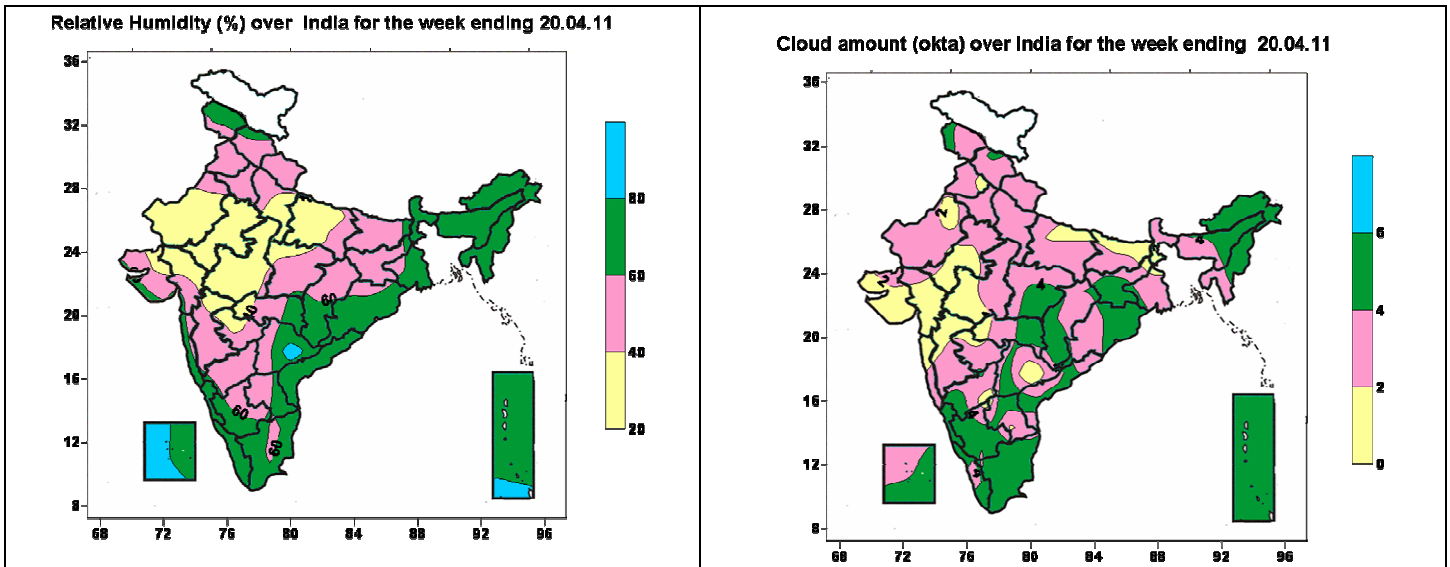
Cucumber: Japanese long, Straight 8.

Madhya Pradesh

Sugarcane: Jawahar-86-141, Jawaharlal-86572, Co- Jawaharlal-86600, Co-86032

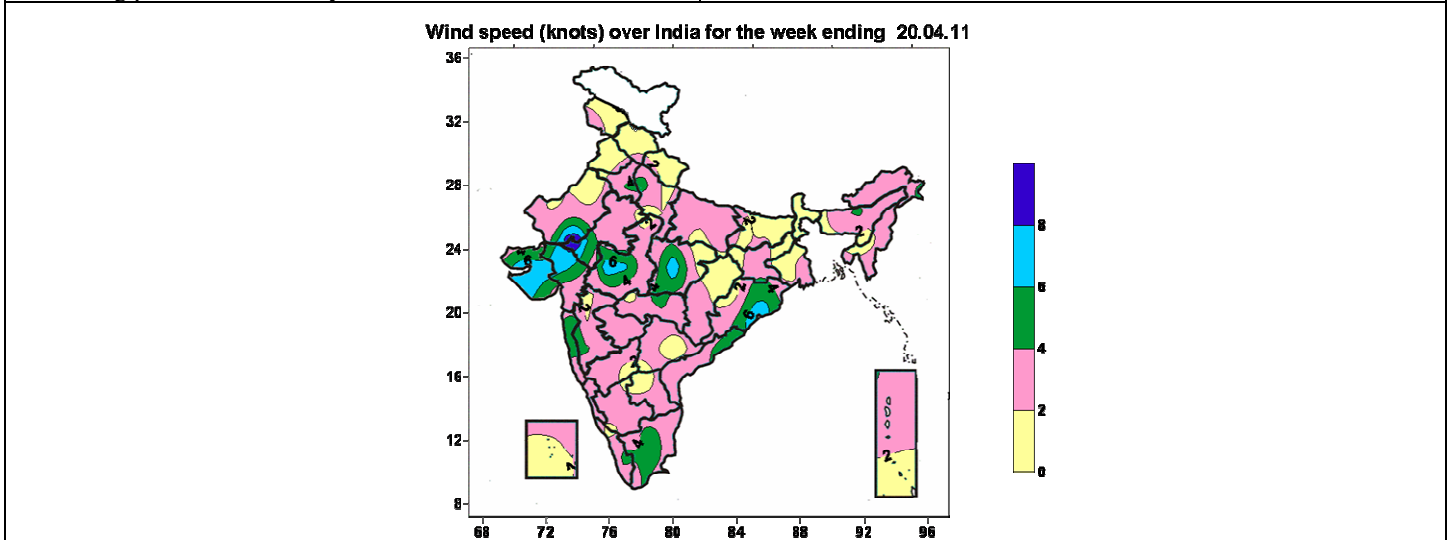
Annexure III

Contour maps (Relative humidity, Cloud amount and Wind Speed) for the week ending 20.04.2011



Relative humidity between 80% and above over most parts of Lakshadweep, some parts Telengana, Andaman & Nicobar Islands, 40 to 60% most parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, West Uttar Pradesh, Bihar, Jharkhand, Saurashtra & Kutch, East Madhya Pradesh, North Interior Karnataka., Madhya Maharashtra, some parts of Jammu & Kashmir, West Rajasthan, East Uttar Pradesh, Orissa, Chattisgarh, Telengana, Rayalaseema, Tamil Nadu, South Interior Karnataka, Konkan, Marathwada, Vidarbha, Gujarat, West Madhya Pradesh, 20 to 40% over most parts of Rajasthan, East Uttar Pradesh, West Madhya Pradesh, Gujarat, some parts of West Uttar Pradesh, East Madhya Pradesh, Saurashtra, Madhya Maharashtra, Marathwada, Vidarbha, 60 to 80% over remaining parts of the country.

Cloud amount 4 to 6 okta over most parts of Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Jharkhand, Orissa, Chhattisgarh, Tamil Nadu, Kerala, Coastal & South Interior Karnataka, Lakshdweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Mizoram, East Madhya Pradesh, Vidarbha, Andhra Pradesh, North Interior Interior Karnataka, 0 to 2 okta over most parts of East Rajasthan, Gujarat, Saurashtra & Kutch, some parts of Punjab, East Uttar Pradesh, Bihar, Jharkhand, West Bengal, West Madhya Pradesh, Maharashtra, Telengana, Rayalaseema, North & South Interior Karnataka, 2 to 4 okta over remaining parts of the country.



Wind speed ranged between 8 knots and above over some parts of Rajasthan, 6 to 8 knots over most parts of Saurashtra & Kutch, some parts of Gujarat, Rajasthan, Madhya Pradesh, Coastal Orissa, 4 to 6 knots over some parts of Haryana, West Uttar Pradesh, Rajasthan, Assam, Jharkhand, Orissa, Coastal Andhra Pradesh, Madhya Pradesh, Gujarat, Saurashtra & Kutch, Konkan, Madhya Maharashtra, Vidarbha, Coastal Andhra Pradesh, Tamil Nadu, Kerala, 0 to 2 knots over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Bihar, West Bengal & Sikkim, Lakshdweep Islands, some parts of Rajasthan, Uttar Pradesh, Jharkhand, Assam, Mizoram & Tripura, Orissa, Chattisgarh, Telengana, Rayalaseema, Madhya Pradesh, Vidarbha, Madhya Maharashtra, Kerala, North & South Interior Karnataka, Andaman & Nicobar Islands, 2 to 4 knots over remaining parts of

the country.