



Significant weather and realized rainfall during last week:

- Significant rainfall received in most districts of Arunachal Pradesh and Sikkim; Dhemaji, Dibrugarh, Lakhimpur, Sibsagar, Tinsukia districts of Assam; Dimapur district of Nagaland; Baramula, Ganderwal, Kulgam, Kupwara districts of Jammu & Kashmir; Anuppur, Mandla districts of East Madhya Pradesh; Koriya district of Chhattisgarh; Nayagarh district of Orissa; Bangalore Rural, Chamarajnar, Ramnagara districts of South Interior Karnataka; Hyderabad, Medak, Nizamabad, Rangareddy districts of Telangana in Andhra Pradesh. Mainly dry weather prevailed over rest parts of the country.

Major Feature of Weather Forecast up to 0830 hours IST of 8th April, 2013

- Rain/thundershowers would occur at a few places over northeastern states.
- Rain/thundershowers would occur at one or two places over south Karnataka, south Tamilnadu, Kerala, Lakshadweep and Andaman & Nicobar Islands.
- Strong northwesterly/westerly winds would prevail over Gangetic plains during next 2 days.
- Maximum temperatures would rise by 2-3°C over plains of northwest and adjoining east and central India.
- Mainly dry weather would prevail over rest parts of the country.

Weather Warning during next 3 days

- Thundersquall may occur at one or two places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours.

Regionwise Salient Advisories

North India

Major crops

- Wheat (dough / grain maturity/harvesting), mustard (capsule formation / maturity / harvesting)



- As there was no significant rainfall in the region except in Baramulla, Ganderwal, Kulgam and Kupwara districts of Jammu & Kashmir and mainly dry / dry weather is likely to prevail over the region, farmers are advised to apply irrigation to the standing crops in the region. Postpone irrigation to the standing crops in the above mentioned districts of Jammu & Kashmir as there was sufficient rainfall during last two weeks.

Central India

Major crops

- Wheat (grain filling / maturity / harvesting), autumn sugarcane (vegetative / elongation)



- As no significant rainfall occurred in the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.

East India

Major crops

- Wheat (milk / dough / grain maturity) and potato (tuber maturity / harvesting).
- As significant rainfall occurred in most of the districts of Sikkim during last week, farmers are advised to postpone irrigation to the standing crops. As mainly dry weather prevailed over the remaining districts of the States of the region during last week and no significant rainfall is likely during the period, farmers are advised to apply irrigation to the standing crops.

Northeast India

Major crops

- Boro* rice (flowering / grain formation / grain maturity), early *ahu* rice (seedling / transplanting), wheat (dough stage / grain maturity / harvesting), rapeseed, mustard (capsule maturity / harvesting), summer vegetables (sowing / transplanting / flowering / fruiting).
- As significant rainfall occurred in most of the districts in Arunachal Pradesh, Dhemaji, Dibrugarh, Lakhimpur, Sibsagar and Tinsukhia districts in Assam and Dimapur district in Nagaland, postpone irrigation to the standing crops in these districts. As there was no significant rain in remaining districts of the region and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing crops.

West India

Major crops

- New *suru* sugarcane (early tillering), summer groundnut (flowering / pegging / pod formation), summer bajra (ear head emergence / flowering), wheat (grain maturity / harvesting).
- As dry weather prevailed over Gujarat State during last few weeks and mainly dry weather is expected during the period, farmers are advised to apply irrigation to cluster bean, summer groundnut, sugarcane, summer bajra, green gram, vegetables, fruit crops etc. in Gujarat, to meet the evaporative demand of the crops.

South India

Major crops

- Sunflower (flowering / seed formation), rice fallow pulses (vegetative), *puncha* rice (maturity / harvesting), sugarcane (ratooning / planting), summer sorghum, maize and cotton (vegetative).
- As there was no significant rainfall over the region except in Bangalore Rural, Chamarajnar and Ramnagara districts of South Interior Karnataka, Hyderabad, Medak, Nizamabad and Rangareddy districts of Telangana in Andhra Pradesh during last week and no significant rainfall is likely to occur, farmers are advised to apply irrigation to the standing crops. Postpone irrigation to the crops in the above mentioned districts as there was significant rainfall during last week.

(Detailed regionwise summary is given in page no.2)

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National Agrometeorological Advisory Service Centre, Agricultural Meteorology Division,
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The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

Executive Summary

North India

- As there was no significant rainfall in the region except in Baramulla, Ganderwal, Kulgam and Kupwara districts of Jammu & Kashmir and mainly dry / dry weather is likely to prevail over the region, farmers are advised to apply irrigation to the standing crops in the region. Postpone irrigation to the standing crops in the above mentioned districts of Jammu & Kashmir as there was sufficient rainfall during last two weeks.
- Due to expected dry weather conditions, farmers are advised to give irrigation in moong and urd crops during this week in Udhamasinghnagar of Uttarakhand.
- In the Low Hills, Sub-humid Subtropical Zone of Himachal Pradesh, weather is congenial for late blight in potato and downy mildew in onion. Farmers are advised to apply Dithane M-45 @ 25g in 10 litres of water and repeat the spray at 10-15 days interval for late blight in potato and Redomil M-Z @ 25 g per 10 litres of water for downy mildew in onion.
- In Semi Arid Eastern Plain Zone of Rajasthan, weather is congenial for the attack of Mosaic on summer okra. This disease is spread by white fly insect. To check the spread of this disease, farmers are advised to spray Melathion 50EC @ 1.0 ml per litre water before & after flowering. Repeat spray after 10 days if needed.

Central India

- As no significant rainfall occurred in the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
- In Northern hill zone of Chhattisgarh there are chances of stem borer in sugarcane, hence farmer are advised to apply Carbofuran 3 G in soil with irrigation.

East India

- As significant rainfall occurred in most of the districts of Sikkim during last week, farmers are advised to postpone irrigation to the standing crops. As mainly dry weather prevailed over the remaining districts of the States of the region during last week and no significant rainfall is likely during the period, farmers are advised to apply irrigation to the standing crops.
- In view of prevailing dry weather condition in South Bihar Alluvial Zone, farmers are advised to undertake harvesting of matured *rabi* crops like peas, mustard, lentil, linseed and chickpea. In view of prevailing dry weather, farmers are advised to apply irrigation to spring maize, summer vegetables and fodder crops like fodder lobia, sorghum and hybrid Napier grass.
- Prevailing dry weather is favourable for infestation of early shoot borer of sugarcane in Western Undulating Zone of Odisha. For controlling the pest spray Chloropyriphous @ 2 ml / litre of water.
- Prevailing day and night temperature favours the infestation of blast in rice in East and South Eastern Coastal Plain Zone of Odisha. Farmers are advised to spray 0.6 g Tricyclazole or 1 ml Ediphosphos per litre of water. Withhold top dressing of urea for five days after the spraying. High temperature may favour egg laying of stem borer in rice in the main field. To attract the moths, place 4 pheromone traps / acre, collect the adults and destroy them by burying them under soil or by burning. Spray 2 ml Prophenophos per litre water.

Northeast India

- As significant rainfall occurred in most of the districts in Arunachal Pradesh, Dhemaji, Dibrugarh, Lakhimpur, Sibsagar and Tinsukhia districts in Assam and Dimapur district in Nagaland, postpone irrigation to the standing crops in these districts. As there was no significant rain in remaining districts of the region and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing crops.
- Farmers in Sub-Tropical Hill Zone of Arunachal Pradesh are advised to avoid water stagnation in crop fields and also avoid runoff in the rice fields of the slope.
- As reduced moisture is favourable for cracking in banana, farmers in Mild Tropical Hill Zone of Mizoram are advised for proper mulching and nutrient management especially application of boron to minimize cracking. Staking / propping up should be done in fruit bearing banana plant to avoid lodging due to high wind speed. In tomato, reduced soil moisture hinders availability of calcium; farmers are advised to apply irrigation for optimum fruit setting.

- Due to present weather conditions in Sub-Tropical Hill Zone of Arunachal Pradesh, there is chance of attack of collar rot, damping off and wilting in black gram and green gram; farmers are advised to spray Carbandizim @ 2 g per litre of water or Endofil-M-45 @ 3 g / litre of water to control the attack.

West India

- As dry weather prevailed over Gujarat State during last few weeks and mainly dry weather is expected during the period, farmers are advised to apply irrigation to cluster bean, summer groundnut, sugarcane, summer bajra, green gram, vegetables, fruit crops etc, to meet the evaporative demand of the crops.
- As mainly dry weather prevailed over Madhya Maharashtra and Marathwada during last few weeks and dry weather is expected during the period, farmers are advised to apply irrigation to summer bajra, sugarcane and vegetables in the morning or evening hours to avoid excessive evaporation. As no significant rain occurred in the districts in Vidarbha, farmers are advised to apply irrigation to summer groundnut, green gram, sesamum and vegetables.
- Considering the increasing day temperature and acute water shortage in the State, farmers in Madhya Maharashtra are advised to apply sprinkle irrigation instead of flood irrigation to groundnut at an interval of 8-10 days and at 10-12 days interval in Konkan.
- Considering the rise in day temperature (evaporation upto 12 mm / day), farmers in Pune region are advised for mulching with crop residues and other plant waste products in the orchards and sugarcane trash in sugarcane field to minimize the rate of evaporation.
- Due to cloudy weather there may be infestation of fungal disease in mango which may cause premature fruit dropping in Marathwada region; spray Carbendazim 0.25% to control the disease.

South India

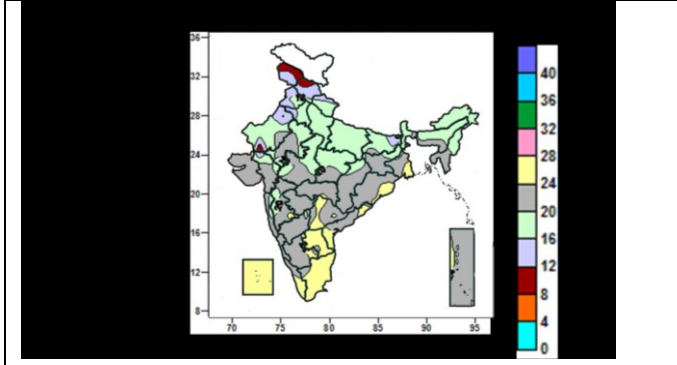
- As there was no significant rainfall over the region except in Bangalore Rural, Chamarajnagar and Ramanagara districts of South Interior Karnataka, Hyderabad, Medak, Nizamabad and Rangareddy districts of Telangana in Andhra Pradesh during last week and no significant rainfall is likely to occur, farmers are advised to apply irrigation to the standing crops. Postpone irrigation to the crops in the above mentioned districts as there was significant rainfall during last week.
- In view of prevailing dry weather, farmers in the North East Transition Zone of Karnataka are advised to undertake mulching in sugarcane with dry leaves and grasses and hoeing in inter row spacing to break soil capillaries in order to avoid soil moisture stress.
- Present weather condition (dry, warm with low wind speed) favours the outbreak of brown plant hopper (BPH), blast disease and rice swarming caterpillar in paddy in the Problem Area Zone of Kerala. Hence, farmers are advised to adopt field surveillance and take appropriate management practices.
- Weather is congenial for incidence of early shoot borer in sugarcane and stem borer and leaf folder in rice in North Telangana Zone of Andhra Pradesh. Farmers are advised to spray Chloripyriphos @ 2.5 ml per litre of water.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 03.04.2013

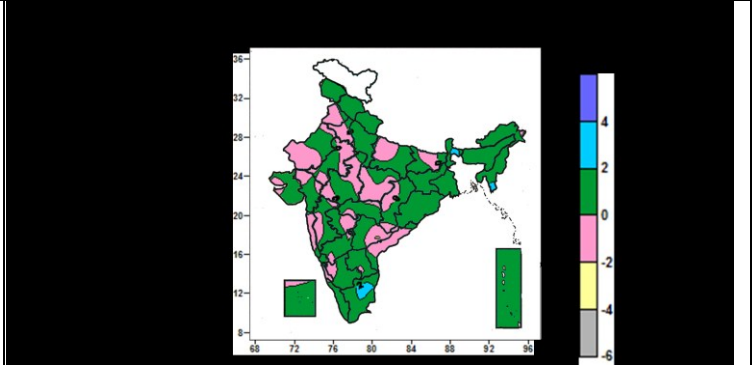


Actual Mean Maximum temperature ranged between 36 to 40⁰C over many parts of Orissa, Chattisgarh, Vidarbha, Madhya Maharashtra, Marathwada, Andhra Pradesh, North & South Interior Karnataka, Tamil Nadu, some parts of Jharkhand, Gangetic West Bengal, Madhya Pradesh, Kerala, 28 to 32⁰C over many parts of Uttarakhand, Punjab, Arunachal Pradesh, some parts of Himachal Pradesh, West Uttar Pradesh, Assam, Nagaland, 24 to 28⁰C over some parts of Jammu & Kashmir, Himachal Pradesh, 20 to 24⁰C over some parts of Jammu & Kashmir, Himachal Pradesh, 32 to 36⁰C over remaining parts of the country.

Mean Maximum temperature anomaly ranged between 2 to 4⁰C over some parts of Sub-Himalayan West Bengal, Sikkim, Manipur, Tamil Nadu, Andaman & Nicobar Islands, -2 to 0⁰C over many parts of Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Gujarat, Saurashtra & Kutch, Konkan & Goa, some parts of Jammu & Kashmir, Bihar, Jharkhand, Gangetic West Bengal, Chattisgarh, Madhya Maharashtra, Coastal Karnataka, North Interior Karnataka, Kerala, -4 to -2⁰C over some parts of West Rajasthan, Gujarat, 0 to 2⁰C over rest of the country.



Actual Mean Minimum Temperature ranged between 16 to 20⁰C over many parts of West Rajasthan, Haryana, Delhi, Uttar Pradesh, Bihar, Sub-Himalyan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Madhya Pradesh, some parts of East Rajasthan, Punjab, Jharkhand, Gujarat, Chattisgarh, Konkan, Madhya Maharashtra, Telangana, 12 to 16⁰C over many parts of Himachal Pradesh, Punjab, some parts of Jammu & Kashmir, Uttarakhand, Haryana, West Rajasthan, Bihar, Gujarat, 8 to 12⁰C over some parts of Jammu & Kashmir, Himachal Pradesh, West Rajasthan, 20 to 28⁰C over remaining parts of the country.



Minimum Temperature anomaly ranged between 2 to 4⁰C over some parts of Sub_Himalayan West Bengal, Mizoram, Tamil Nadu, -2 to 0⁰C over many parts of Punjab, Haryana, Delhi, Rajasthan, Madhya Pradesh, Konkan & Goa, Coastal Andhra Pradesh, some parts of Uttar Pradesh, Bihar, Chhattisgarh, Gujarat, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Karnataka, Telangana, Rayalaseema, Lakshadweep Islands, 0 to 2⁰C over rest of the country.

Significant weather and realized rainfall during last week

- Significant rainfall received in most districts of Arunachal Pradesh and Sikkim; Dhemaji, Dibrugarh, Lakhimpur, Sibsagar, Tinsukia districts of Assam; Dimapur district of Nagaland; Baramula, Ganderwal, Kulgam, Kupwara districts of Jammu & Kashmir; Anuppur, Mandla districts of East Madhya Pradesh; Koriya district of Chhattisgarh; Nayagarh district of Orissa; Bangalore Rural, Chamarajnar, Ramnagara districts of South Interior Karnataka; Hyderabad, Medak, Nizamabad, Rangareddy districts of Telengana in Andhra Pradesh. Mainly dry weather prevailed over rest parts of the country.

Distribution of rainfall of the country during week ending on 03.04.2013

State/Districts	Actual (mm)	% Dep.
Arunachal Pradesh		
Anjaw	**	**
Changlang	29.1	-73
Dibang Valley	58.0	-50
East Kameng	7.5	-73
East Siang	32.5	-9
Kurung Kumey	**	**
Lohit	104.0	70
Lower Dibang Valley	65.0	-44
Lower Subansari	**	**
Papumpara	27.3	21
Tawang	126.0	553
Tirap	37.9	-37
Upper Siang	103.2	36
Upper Subansari	16.6	-24
West Kameng	3.4	-82
West Siang	34.5	-7
Assam		
Baksa	6.2	-77
Barpeta	1.2	-96
Bongaigaon	0.0	-100
Cachar	8.7	-86
Chirang	0.0	-100
Darrang	1.0	-95
Dhemaji	41.0	43
Dhubri	0.0	-100
Dibrugarh	58.6	44
Goalpara	6.4	-74
Golghat	6.0	-79
Hailakandi	7.3	-86
Jorhat	9.4	-75
Kamrup (Rural)	0.0	-100
Kamrup (Metro)	3.8	-82
Karbi Anglong	2.6	-88
Karimganj	5.1	-94

Kokrajhar	0.0	-100
Lakhimpur	20.5	-29
Morigaon	4.0	-83
N.C.Hills	0.0	-100
Nowgong	2.3	-90
Nalbari	0.0	-100
Sonitpur	2.0	-91
Sibsagar	22.4	14
Tinsukia	70.3	59
Udalgiri	3.6	-81
Nagaland		
Dimapur	29.0	60
Kephire	3.0	-88
Kohima	6.4	-66
Longleng	**	**
Mokokchung	19.0	28
Mon	**	**
Paren	**	**
Phek	3.3	-83
Tuensang	**	**
Wokha	0.0	-100
Zunheboto	9.0	-64
Jammu & Kashmir		
Anantnag	12.5	-49
Badgam	17.1	31
Bandipore	**	**
Baramula	27.5	-5
Doda	6.2	-73
Ganderwal	32.6	125
Jammu	0.2	-97
Kargil	0.0	-100
Kathua	0.0	-100
Kistwar	**	**
Kulgam	28.1	14
Kupwara	20.4	-52
Ladakh(Leh)	0.0	-97
Poonch	**	**
Pulwama	10.2	-24
Rajouri	13.4	56

Ramban	15.5	-34
Reasi	3.0	-79
Samba	1.0	-85
Shopian	19.0	42
Srinagar	18.5	28
Udhampur	4.7	-67
East Madhya Pradesh		
Anuppur	20.3	291
Balaghat	4.7	-13
Chhatarpur	1.3	83
Chindwara	0.0	-100
Damoh	3.1	7
Dindori	5.0	100
Jabalpur	13.4	642
Katni	7.0	338
Mandla	20.4	316
Narsingpur	3.4	143
Panna	0.0	-100
Rewa	1.4	-30
Sagar	1.5	-16
Satna	1.8	-14
Seoni	2.6	-54
Shahdol	2.0	18
Sidhi	2.4	-17
Singrauli	0.0	-100
Tikamgarh	0.5	-75
Umariya	10.0	213
Chattisgarh		
Bastar	8.3	33
Bijapur	0.0	-100
Bilaspur	6.7	31
Dantewara	0.0	-100
Dhamtari	0.0	-100
Durg	0.0	-100
Janjgir	9.0	125
Jashpurnagar	6.5	48
Kanker	0.0	-100
Korba	10.0	113
Koriya	20.3	824

Kawardha	9.0	260
Mahasumund	0.0	-100
Narayanpur	0.0	-100
Raigarh	3.0	-9
Raipur	0.7	-75
Rajandgaon	0.0	-100
Surguja	14.1	235
Orissa		
Angul	12.6	174
Balasore	0.6	-95
Bargarh	2.6	-50
Bhadrak	7.5	-21
Bolangir	1.1	-81
Boudh	0.0	-100
Cuttack	0.9	-88
Deogarh	4.7	-17
Dhenkanal	5.6	-25
Gajapati	2.6	-85
Ganjam	1.5	-83
Jagatsingpur	0.0	-100
Jajpur	1.5	-75
Jharsuguda	0.0	-99
Kalahandi	0.3	-94
Kandhamal	0.1	-98
Kendrapara	0.0	-100
Keonjhar	7.9	-20
Khurda	1.5	-78
Koraput	3.9	-32

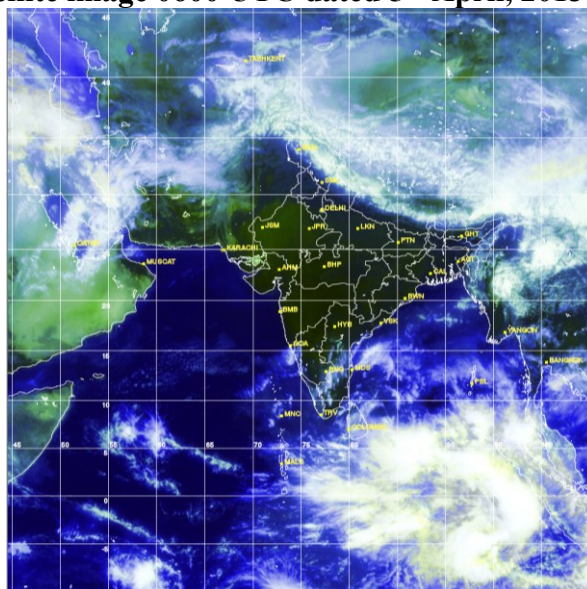
Malkangiri	0.0	-100
Mayurbhanj	9.4	-33
Nawapara	0.0	-100
Nawarangpur	0.5	-88
Nayagarh	20.4	175
Puri	0.1	-98
Rayagada	1.3	-90
Sambalpur	11.2	96
Sonepur	5.4	12
Sundargarh	6.0	30
West Bengal		
SHWB		
Cooch Behar	0.0	-100
Darjeeling	0.0	-100
East Sikkim	33.7	58
Jalpaiguri	0.0	-100
Malda	0.0	-100
North Dinajpur	0.0	-100
North Sikkim	45.9	13
South Dinajpur	0.0	-100
South Sikkim	7.5	-65
West Sikkim	21.0	-48
Karnataka		
South Interior Karnataka		
Bangalore Rural	22.6	465
Bangalore Urban	14.9	326

Bellary	0.4	-80
Chamarajnaragar	22.3	374
Chichballapur	16.5	345
Chickmagalur	0.3	-94
Chitradurga	0.0	-100
Davangere	0.0	-100
Hassan	1.2	-77
Kodagu	2.0	-80
Kolar	9.3	181
Mandya	8.8	185
Mysore	13.7	205
Ramnagara	45.0	818
Shimoga	0.0	-100
Tumkur	2.9	-15
Andhra Pradesh		
Telangana		
Adilabad	6.8	121
Hyderabad	39.7	822
Karimnagar	8.5	228
Khammam	0.0	-100
Mehabubnagar	0.0	-100
Medak	21.4	1157
Nalgonda	0.0	-100
Nizamabad	20.5	583
Rangareddy	22.4	646
Warangal	0.0	-100

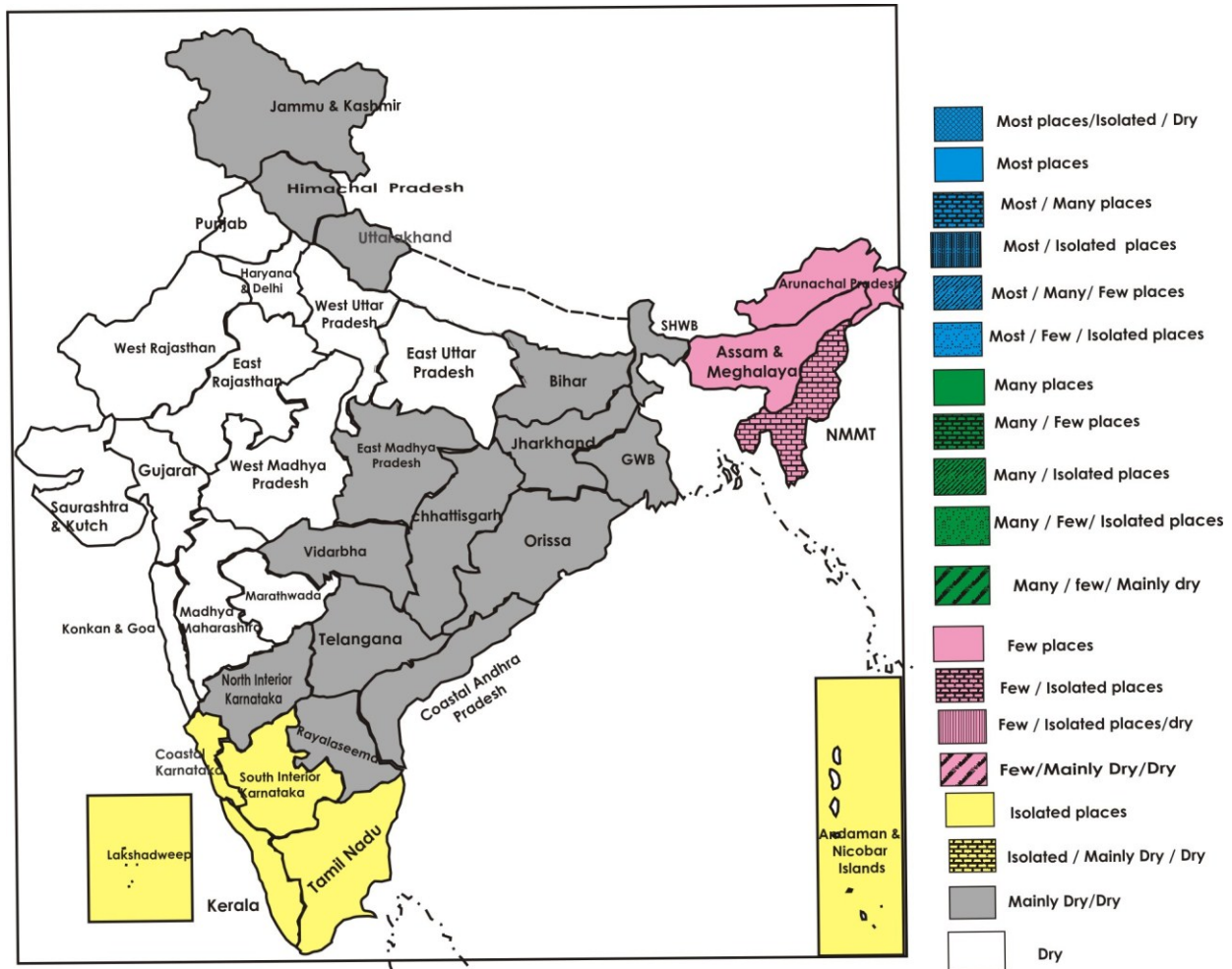
Legends

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

Satellite image 0600 UTC dated 5th April, 2013



Weather Forecast (Valid upto 0830 hours of 8th April, 2013)



Major Feature of Weather Forecast up to 0830 hours IST of 8th April, 2013

- Rain/thundershowers would occur at a few places over northeastern states.
- Rain/thundershowers would occur at one or two places over south Karnataka, south Tamilnadu, Kerala, Lakshadweep and Andaman & Nicobar Islands.
- Strong northwesterly/westerly winds would prevail over Gangetic plains during next 2 days.
- Maximum temperatures would rise by 2-3°C over plains of northwest and adjoining east and central India.
- Mainly dry weather would prevail over rest parts of the country.

Weather Warning during next 3 days

- Thundersquall may occur at one or two places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours.

Weather Outlook for subsequent 4 days from 8th to 12th April, 2013

- Rain/thundershowers would occur at one or two places over extreme south peninsular India and northeastern states.
- A fresh western disturbance would affect western Himalayan region from 9th onwards.
- Weather would be mainly dry over rest parts of the country.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in Baramulla, Ganderwal, Kulgam and Kupwara districts of Jammu & Kashmir. Weather remained mainly dry over rest parts of the region.
- **Weather Forecast:** Mainly dry weather would prevail over the region. Maximum temperatures would rise by 2-3°C over plains of the region.
- **Advisory:**
 - As there was no significant rainfall in the region except in Baramulla, Ganderwal, Kulgam and Kupwara districts of Jammu & Kashmir and mainly dry / dry weather is likely to prevail over the region, farmers are advised to apply irrigation to the standing crops in the region. Postpone irrigation to the standing crops in the above mentioned districts of Jammu & Kashmir as there was sufficient rainfall during last two weeks.
 - Due to expected dry weather conditions, farmers are advised to give irrigation in moong and urd crops during this week in Udhamasinghnagar of Uttarakhand.
 - In the Low Hills, Sub-humid Subtropical Zone of Himachal Pradesh, weather is congenial for late blight in potato and downy mildew in onion. Farmers are advised to apply Dithane M-45 @ 25g in 10 litres of water and repeat the spray at 10-15 days interval for late blight in potato and Redomil M-Z @ 25 g per 10 litres of water for downy mildew in onion.
 - In Semi Arid Eastern Plain Zone of Rajasthan, weather is congenial for the attack of Mosaic on summer okra. This disease is spread by white fly insect. To check the spread of this disease, farmers are advised to spray Melathion 50 EC @ 1 ml per litre water before & after flowering. Repeat spray after 10 days if needed.
 - In Flood Prone Eastern Plain Zone of Rajasthan, there is infestation of powdery mildew disease in mango due to rise in temperature, this leads to flower and fruit drop in mango. Farmers are advised to spray Karathane @ 1 ml / litre water to manage the disease.
 - Other advisories are mentioned in Annexure I.
 - Stages of major crops are mentioned in Annexure II.
 - Suitable varieties of crops are mentioned in Annexure III.
- **Animal Husbandry**
 - In Valley Temperate Zone of Jammu & Kashmir, make arrangements for proper insulation of sheds, particularly during night hours, to protect the cattle from cold condition. Livestock should not be allowed to graze in the fields during early morning hours.
 - Due to expected increase in day temperature in Uttarakhand, keep all animals inside the shed during noon time. Give the animals fresh water for drinking.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in Anuppur and Mandla districts of East Madhya Pradesh and Koriya district in Chhattisgarh. Mainly dry weather prevailed in rest parts of the region.
- **Weather forecast:** Mainly dry weather will prevail over the region. Maximum temperatures would rise by 2-3°C over the region.
- **Advisories:**
 - As no significant rainfall occurred in the region during last week and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops.
 - In view of present dry weather conditions farmers in Chhattisgarh Plain Zone are advised to harvest the matured *rabi* crops followed by threshing and storage of the produce as early as possible.
 - In Northern Hill Zone of Chhattisgarh there are chances of stem borer infestation in sugarcane; hence, farmers are advised to apply Carbofuran 3 G in soil with irrigation.
 - Other advisories are mentioned in Annexure – I.
 - Stages of major crops are mentioned in Annexure II.
 - Suitable varieties of crops are mentioned in Annexure III.
- **ANIMAL HUSBANDRY & POULTRY**
 - Farmers in Jhabua Hill Zone of Madhya Pradesh are advised to vaccinate birds with F-1 to control Ranikhet disease.

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

- **Realised Rainfall:** Significant rainfall occurred in Sikkim except in South Sikkim district and Nayagarh district of Orissa. Mainly dry weather prevailed over rest parts of the region during last week.
- **Weather Forecast:** Mainly dry weather would prevail over the region. Maximum temperatures would rise by 2-3°C over the region.
- **Advisories:**

- As significant rainfall occurred in most of the districts of Sikkim during last week, farmers are advised to postpone irrigation to the standing crops. As mainly dry weather prevailed over the remaining districts of the States of the region during last week and no significant rainfall is likely during the period, farmers are advised to apply irrigation to the standing crops.
 - As mainly dry weather is prevailing, farmers in North West Alluvial Plain Zone of Bihar are advised to give irrigation to wheat, sugarcane and summer vegetable crops.
 - In view of prevailing dry weather condition in South Bihar Alluvial Zone, farmers are advised to undertake harvesting of matured *rabi* crops like peas, mustard, lentil, linseed and chickpea. In view of dry weather, apply irrigation to spring maize, summer vegetables and fodder crops like fodder lobia, sorghum, hybrid napier grass.
 - Farmers of East and South Eastern Coastal Plain Zone of Odisha are advised to sow jute due to favourable weather condition.
 - Farmers in Western Undulating Zone of Odisha are advised to apply irrigation to rice, sugarcane and vegetable crops and other *rabi* crops to avoid moisture stress due to prevailing dry weather.
 - Present high temperature may deplete the moisture levels very soon from rice field in North Central Plateau Zone of Odisha. Farmers are advised that the irrigation interval between two irrigations may be reduced in order to supply adequate moisture to the crop.
 - Prevailing dry weather is favourable for infestation of early shoot borer of sugarcane in Western Undulating Zone of Odisha. For controlling the pest spray Chloropyriphos @ 2 ml / litre of water.
 - Prevailing day and night temperature favours the infestation of blast in rice in East and South Eastern Coastal Plain Zone of Odisha. Farmers are advised to spray 0.6 g Tricyclazole or 1 ml Ediphosphos per litre of water. Withhold top dressing of urea for five days after the spraying. High temperature may favour egg laying of stem borer in rice in the main field. To attract the moths, place 4 pheromone traps/acre, collect the adults and destroy them by burying them under soil or by burning. Spray 2 ml Prophenophos per litre water.
 - In Ganjam district of East and South Eastern Coastal Plain Zone of Odisha, high temperature may aggravate the white ant and white grub in groundnut. Go for thorough soil drenching with Chloropyriphos solution @ 2 ml / litre water.
 - As mainly dry weather is likely, farmers of North Central Plateau Zone of Odisha are advised to irrigate summer green gram at the critical stages of pre flowering and flowering stage.
 - Under the prevailing weather situation in Laterite and Red Soil Zone and New Alluvial Zone of West Bengal, there is a possibility of spread of blast disease in *boro* rice; to prevent it, apply Hinosan or Kitazin at recommended dose. Due to prevailing high humidity maize crop is likely to be infested by aphids. Apply Acephate @ 2.5 g per litre of water.
 - As there is possibility of no rain and increase of maximum temperature, there is possibility of white fly in ladies finger and red mite in chilli in Terai Zone of West Bengal. To manage red mite in chilli spray Dicofol @ 2 ml / litre of water or sulphur dust 2 g / litre of water and to protect from whitefly, spray Imidacloprid 3 ml/15 litre of water.
 - Other crop advisories are mentioned in Annexure I.
 - Stages of major crops are mentioned in Annexure II.
 - List of Varieties are mentioned in Annexure III.
- **Animal Husbandry**
 - Farmers in North West Alluvial Plain Zone of Bihar are advised to give special attention to milch animals with regard to feed and water to cope with high temperature and keep them in shaded place.
 - **Poultry:**
 - In Jharkhand, due to rise in temperature, preventive measure should be taken by giving mixture of Vitamin C and spraying of cool water during noon time to poultry birds. Roof of asbestos sheet should be painted with white paint, supply sufficient amount of wet poultry feed may be done.

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

- **Realised Rainfall:** Significant rainfall occurred in most of districts in Arunachal Pradesh, Dhemaji, Dibrugarh, Lakhimpur, Sibsagar and Tinsukhia districts in Assam and Dimapur district in Nagaland. No significant rainfall occurred over the remaining districts of the States of the region during last week.
- **Weather Forecast:** Rain / thundershowers would occur at a few places over the States of the region during the period.
- **Weather warning:** Thundersquall may occur at one or two places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours.
- **Advisories:**
 - As significant rainfall occurred in most of the districts in Arunachal Pradesh, Dhemaji, Dibrugarh, Lakhimpur, Sibsagar and Tinsukhia districts in Assam and Dimapur district in Nagaland, postpone irrigation to the standing crops in these districts. As there was no significant rain in remaining districts of the region and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing crops.
 - Farmers in Sub-Tropical Hill Zone of Arunachal Pradesh are advised to avoid water stagnation in crop fields and also avoid runoff in the rice fields of the slope.

- As reduced moisture is favourable for cracking in banana, farmers in Mild Tropical Hill Zone of Mizoram are advised for proper mulching and nutrient management especially application of boron to minimize cracking. Staking / propping up should be done in fruit bearing banana plant to avoid lodging due to high wind speed. In tomato, reduced soil moisture hinders availability of calcium; farmers are advised to apply irrigation for optimum fruit setting.
- Due to present weather conditions in Sub-Tropical Hill Zone of Arunachal Pradesh, there is chance of attack of collar rot, damping off and wilting in black gram and green gram; farmers are advised to spray Carbandizim @ 2 g per litre of water or Endofil-M-45 @ 3 g / litre of water to control the attack.
- Due to prevailing weather conditions in Mild Tropical Plain Zone of Tripura, there is chance of fruit and shoot borer on summer brinjal and tomato; farmers are advised to apply Cypermethrin @ 1.5 ml or Flubendamid @ 0.5ml per liter of water to manage the attack. There is also chance of attack of yellow stem borer on *boro* rice. Attack may be controlled by application of Chlorpyrifos 10 G @ 10 kg per ha.
- Weather is favourable for incidence of late blight and fruit borer in tomato in Mild Tropical Hill Zone of Mizoram; farmers are advised to spray Mencozeb @ 1 g per litre of water for blight and 5% neem seed kernel extract or NPV @ 250-500 LE with 100 ml teepol / ha for fruit borer.
- Other advisories are mentioned in Annexure - I
- Stages of major crops are mentioned in Annexure II.
- Suitable varieties of crops are mentioned in Annexure III.
- **Animal Husbandry**
 - In Mild Tropical Plain Zone of Tripura, weather is conducive for swine fever in pig; farmers are advised to undertake vaccination during this period to avoid swine fever in pig.
- **Pisciculture**
 - Due to prevailing weather conditions in Mild Tropical Plain Zone of Tripura, farmers are advised to feed the fishes with available fish feed or to feed the fishes with a mixture of Rice bran and MOC in 1:1 ratio @ 3% of body weight of the total biomass in their ponds.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Mainly dry weather prevailed in the States of the region during last week.
- **Weather Forecast:** Dry or mainly dry weather would prevail over the States of the region during the period.
- **Advisories:**
 - As dry weather prevailed over Gujarat State during last few weeks and mainly dry weather is expected during the period, farmers are advised to apply irrigation to cluster bean, summer groundnut, sugarcane, summer bajra, green gram, vegetables, fruit crops etc. in Gujarat, to meet the evaporative demand of the crops.
 - As mainly dry weather prevailed over Madhya Maharashtra and Marathwada during last few weeks and dry weather is expected during the period, farmers are advised to apply irrigation to summer bajra, sugarcane and vegetables in the morning or evening hours to avoid excessive evaporation. As no significant rain occurred in the districts in Vidarbha, farmers are advised to apply irrigation to summer groundnut, green gram, sesamum and vegetables.
 - Considering the increasing day temperature and acute water shortage in the State, farmers in Madhya Maharashtra are advised to apply sprinkle irrigation instead of flood irrigation to groundnut at an interval of 8-10 days and at 10-12 days interval in Konkan. Provide 15 – 20 litres of water for newly planted mango grafts at 10-12 days interval. Farmers in Marathwada region are advised to apply irrigation to sugarcane by alternate furrow method or irrigate crop by drip irrigation.
 - Considering the rise in day temperature (evaporation upto 12 mm / day), farmers in Pune region are advised for mulching with crop residues and other plant waste products in the orchards and sugarcane trash in sugarcane field to minimize the rate of evaporation. To reduce the rate of transpiration of the plants, farmers are also advised to spray 8 % Kaolin or chalk powder. Farmers of Konkan region are advised to use 25 micron thickness black polythene mulch between 2 trenches or beds of the fruit crop nursery to control weeds and improve soil water conservation.
 - As dry weather is prevailing, provide irrigation to cluster bean, green gram, groundnut and other vegetables in North Gujarat Zone, South Gujarat Heavy Rainfall Zone and North Saurashtra Zone and to summer bajra, sugarcane and mango in South Saurashtra Zone and to groundnut and vegetables in Middle Gujarat Zone to meet evaporative demand of the crops.
 - Taking advantage of dry weather, complete harvesting of matured cumin crop in Bhal and Coastal Zone and wheat in North West Zone, Bhal and Coastal Zone and North Gujarat Zone of Gujarat.
 - Due to cloudy weather there may be infestation of fungal disease in mango which may cause premature fruit dropping in Marathwada region; spray Carbendazim 0.25% to control the disease.
 - Due to cloudy weather, there may be incidence of thrips and jassids in summer groundnut in Vidarbha region. If incidence goes above ETL (15-20 jassids / plant or 5% thrips / apex), spray 5 % Neemark or Dimethoate 30% @ 10 ml or Methyl Dimeton @ 8 ml in 10 litres of water.

- High temperature is congenial for incidence of thrips and mites which may cause leaf curl in summer chilli in Western Maharashtra Scarcity Zone; spray Dimethoate or Methyl Dimeton @ 20 ml plus Sulphur WS @ 20 g in 10 litres of water at 10 days interval.
 - High temperature, high humidity and cloudy weather is favourable for outbreak of sucking pests like jassids, thrips and aphids in vegetables and green gram in North West Zone of Gujarat and in vegetables in Middle Gujarat Zone; spray Monocrotophos 36 EC @ 10 ml or Phosphamidon 85 EC @ 3 ml or Dimethoate 30 EC @ 10 ml or Methidathion 25 EC @ 10 ml mixing in 10 litres of water to control it.
 - Other advisories are mentioned in Annexure I.
 - Stages of the crops are mentioned in Annexure II.
 - Varieties of the crops are mentioned in Annexure III.
- **Animal Husbandry**
 - Considering high temperature in Konkan and Madhya Maharashtra, it is advised to make arrangement of curtains for poultry house and maintain cool temperature in the poultry shed by sprinkling water on the curtains.
 - As temperature is high (36-39°C) in North Gujarat Zone, keep animals under shade during noon hours and avoid feeding between 11 to 15 hrs. Make arrangement of curtains for poultry house.
 - To protect cattle from summer heat, in North Saurashtra Zone and South Gujarat Heavy Rainfall Zone, shower the animals with cold water two to three times a day and increase the green fodder quantity for feeding. Arrange for fresh and cold drinking water for animals.

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

- **Realised Rainfall:** Significant rainfall occurred over Bangalore Rural, Chamarajnagar and Ramanagara districts of South Interior Karnataka and Hyderabad, Medak, Nizamabad and Rangareddy districts of Telangana in Andhra Pradesh during last week. Mainly dry / dry weather prevailed over rest parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over South Karnataka, South Tamil Nadu and Kerala. Mainly dry weather would prevail over rest parts of the region.
- **Advisories:**
 - As there was no significant rainfall over the region except in Bangalore Rural, Chamarajnagar and Ramanagara districts of South Interior Karnataka, Hyderabad, Medak, Nizamabad and Rangareddy districts of Telangana in Andhra Pradesh during last week and no significant rainfall is likely to occur, farmers are advised to apply irrigation to the standing crops. Postpone irrigation to the crops in the above mentioned districts as there was significant rainfall during last week.
 - In Kerala, farmers are advised to apply mulching with crop residues to conserve soil moisture in coconut gardens.
 - Present weather condition (dry, warm with low wind speed) favours the outbreak of brown plant hopper (BPH), blast disease and rice swarming caterpillar in paddy in the Problem Area Zone of Kerala. Hence, farmers are advised to adopt field surveillance and take appropriate management practices.
 - Farmers in the Western Zone of Tamil Nadu are advised to provide irrigation in fields already planted with early season (Dec - Jan) and mid-season (Feb- Mar) sugarcane, considering the sett germination percentage and growth.
 - As dry weather is prevailing, farmers in the North East Transition Zone of Karnataka are advised to undertake mulching in sugarcane with dry leaves and grasses and hoeing in inter row spacing to break soil capillaries in order to avoid soil moisture stress.
 - Weather is congenial for incidence of early shoot borer in sugarcane and stem borer and leaf folder in rice in North Telangana Zone of Andhra Pradesh. Farmers are advised to spray Chloripyriphos @ 2.5 ml per litre of water.
 - Increasing day temperatures are favourable for incidence of shoot and capsule borer in castor in Scarce Rainfall Zone of Andhra Pradesh. Farmers are advised to spray Acephate @ 1.5 g or Monocrotophos @ 1.6 ml or Thiodicarb @ 1.5 g per one litre of water.
 - Due to prevailing high temperature, black headed caterpillar infestation was noticed in well grown coconut palms in the North Western Zone of Tamil Nadu. Farmers are advised to place Braconid parasite at the rate of 30 per palm for 5 times at 15 days interval to control this infestation.
 - Other advisories are mentioned in Annexure – I.
 - Stages of major crops are mentioned in Annexure II.
 - Varieties of the crops are mentioned in Annexure III.
- **Animal Husbandry:**
 - Farmers in the Scarce Rainfall Zone of Andhra Pradesh are advised to protect animals from exposure to hot weather by housing in sheds with thatched roofing especially in the day time and should not be allowed to graze between 11.00 a.m to 4.00 p.m to avoid exposure to extreme hot weather conditions.
 - Farmers in the South Telangana Zone of Andhra Pradesh are advised to minimize the effect of summer in poultry sheds by arranging fans and foggers in sheds, covering sheds with paddy straw and sprinklers, feed poultry birds with wet mash to increase the feed intake and provide cool water for drinking.

- Due to prevailing high day temperature (38 to 39°C) farmers of North East Transition Zone of Karnataka are advised to maintain optimum temperature by applying 4-6 inch thick hay thatch as a roofing material and spray water on the floor and roof of shelter periodically during peak hot hours to lower the temperature.

Annexure I

Other Advisories

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

- Farmers in Valley Temperate Zone of Jammu & Kashmir are advised to prepare field for rice nursery and maize. Start harvesting of oat wherever cut is required.
- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to continue sowing of foxtail millet under optimum soil moisture.
- Farmers in Punjab and Haryana are advised to undertake harvesting of wheat. Complete planting of sugarcane. Undertake sowing of okra.
- Farmers in Delhi are advised to undertake harvesting of matured wheat and mustard crop. Start sowing of green gram, French bean, amaranthus, vegetable lobia, lady's finger, bottle gourd, cucumber, ridge gourd and summer radish. Sowing of baby corn may also be done. Farmers are advised for transplanting of marigold seedling in fields for summer crop.
- In Central Plain Zone of Uttar Pradesh, farmers are advised to complete transplanting of papaya plants in new orchard. Prepare field for sowing of ginger and turmeric.
- Farmers are advised to start field preparation for sowing of cotton in Irrigated North Western Plain Zone of Rajasthan and also in Semi Arid Eastern Plain Zone of Rajasthan.
- Farmers in Western Zone in Haryana are advised to prepare the field for sowing of Cotton (American or BT crop). For summer fodder undertake sowing of bajra, lobia, sudan and Napier grass. Undertake sowing of summer vegetables. Do the intercultural operations in horticultural crops.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Farmers in Jhabua Hill Zone of Madhya Pradesh are advised to control of fruit dropping in mango by spraying nethelic acitic acid @ 20-25 ppm or planofix @ 0.3 ml / litre of water and kerathion @ 2.0 gm / litre of water.
- Farmers in Jhabua Hills zone of Madhya Pradesh are advised to undertake sowing of moong, urad crops.
- Farmers in Bundelkhand Zone of Madhya Pradesh are advised to undertake sowing of lobia, cowpea, jawar and maize.
- Farmers in Chhattisgarh Plain Zone are advised to complete the sowing of summer green gram and planting of sugarcane.

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

- Farmers in North West and South Bihar Alluvial Plain Zone are advised to continue sowing of summer mung and urad.
- Farmers of East and South Eastern Coastal Plain Zone of Odisha are advised to complete sowing of green gram and black gram.
- Farmers of East and South Eastern Coastal Plain Zone of Odisha are advised to complete sowing of green gram and black gram.
- Farmers in Mid Central Table Land Zone of Odisha are advised to complete sowing of different summer vegetables. Farmers of are also advised to complete the sowing of cucurbits like pumpkin, bitter gourd and bottle gourd.
- Farmers of North Eastern Ghat Zone of Odisha are advised to complete the sowing of summer maize and sesame.
- Farmers in Old Alluvial Zone of West Bengal are advised to undertake land preparation and sowing of jute.
- Farmers in Laterite and Red soil Zone of West Bengal are advised to undertake sowing of pulses like moong.
- Farmers in Coastal Saline Zone of West Bengal are advised to undertake land preparation for sowing of summer cucurbits.
- Infestation of thrips has been occurred in groundnut in East and South Eastern Coastal Plain Zone of Ganjam district of Odisha. Farmers are advised to spray 2 ml Endosulphan in 1 litre water.
- *Helicoverpa* borer attack has been noticed on hybrid sunflower crop. Farmers of North Eastern Coastal Plain Zone of Odisha are advised to spray Fenvalrate@ 2ml/litre.

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

- Farmers in Central Brahmaputra Valley Zone of Assam are advised to undertake harvesting of matured wheat crop on a non-rainy day and to continue sowing of regular direct seeded *ahu* and *bao* rice, summer pulses, *Capsularis* jute and summer vegetables. Also undertake planting of sugarcane, ginger and turmeric.
- Farmers in North Bank Plain Zone of Assam are advised to undertake sowing of maize, *bau* rice, transplanting of early *ahu* rice, planting of sugarcane, ginger, turmeric and banana.
- Farmers in Sub-Tropical Hill Zone of Arunachal Pradesh are advised to continue land preparation and sowing of *jhum* rice and sowing of okra, maize, soya bean, black gram, green gram, French bean and cucurbits. Also undertake planting of banana.

- Farmers in Mild Tropical Hill Zone of Mizoram are advised to continue land preparation and sowing of okra, chilli, brinjal, ginger, turmeric and cucurbits.
- Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to continue sowing of *kharif* maize, jute, summer vegetables like French bean, brinjal, bottle gourd etc. Undertake sowing of summer pulses like black gram and green gram and seed bed preparation for planting of turmeric and ginger.
- Farmers in Sub Tropical Plain Zone of Manipur are advised to continue transplanting of *pre-kharif* rice and complete the sowing of French bean at the earliest.
- Farmers in Mild Tropical Hill Zone of Nagaland are advised to complete sowing of summer maize, continue sowing of upland rice and summer vegetables like okra, land preparation for ginger and turmeric and transplanting of chilli.
- Farmers in Tripura are advised to continue sowing of *jhum* rice, summer vegetables and summer maize.
- In Sub Tropical Plain Zone of Manipur, red pumpkin beetle starts affecting cucurbits. Use Methyl Eugenol as trap @ 10 traps/ sangam to control the attack.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- As mango is at maturity stage at a few places in Konkan, farmers are advised to harvest mango with stalk intact early in the morning or late in the evening.
- Carry out hand weeding and intercultural operations in groundnut in North Gujarat Zone, South Gujarat Heavy Rainfall Zone and North Saurashtra Zone. Keep the groundnut and sugarcane crop weed free in South Saurashtra Zone.
- Spray a solution of 200 mg NAA + 200 g urea in 10 litres water in mango orchard to enhance fruit size and reduce fruit drop in North West Zone of Gujarat.

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

- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to harvest rice fallow maize, Bengal gram and red gram.
- Drying of inflorescence due to stem fly attack is found in mango in the Northern Zone of Kerala. Farmers are advised to apply Asataf @ 4 g / litre of water and add a sticking agent, Agrowet @ 1 ml / litre of the solution.
- Farmers in the Cauvery Delta of Tamil Nadu are advised to undertake sowing of ADT 5 summer black gram.

Annexure II

Major Crops

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

- Wheat (grain filling), pea (maturity/harvesting), pome and stone fruits (planting), apple (green tip to pink bud), potato, onion (vegetative), cabbage, cauliflower (head formation/ maturity), capsicum, tomato, brinjal (sowing), cucurbits, French bean, okra, fodder crops (chari, bajra) (sowing) in Himachal Pradesh.
- Wheat (grain filling/maturity), pea, gram (pod development), radish (flowering/ fruiting), mustard (maturity), onion (vegetative / boll formation), lady's finger, French bean, cluster bean, summer radish, hybrid cluster bean (sowing), chilli, tomato, brinjal and cucurbits (nursery raising/ transplanting / seedling), green gram, black gram (sowing) in Delhi.
- *Rabi* cereal (wheat - tillering), pulses (pea and lentil) (vegetative / flowering), brown sarson (vegetative), fodder oat (tillering / harvesting), vegetables (sowing / planting / transplanting), rice, maize (field preparation) in Valley Temperate zone (Srinagar), sunflower (early vegetative / vegetative), garlic, cucurbits, okra (seedling / early vegetative), potato (planting), radish, spinach (sowing), carrot, turnip (sowing), onion, cole crops (nursery sowing / transplanting), mustard (maturity / harvesting), wheat (late sown – ear head emergence, normal / early sown – milky / dough), barley (jointing / flag leaf initiation), pulses (pea, lentil, gram) (pod development), oat, berseem (vegetative), summer moong & mash (sowing), fruit crops (nursery bed preparation) in Jammu & Kashmir.
- Wheat (grain maturity/harvesting), arhar (pod maturity/harvesting), ginger (vegetative), autumn sugarcane (vegetative), yellow sarson, mustard (capsule formation), barley (grain filling/maturity), oat (tillering / ear head emergence), moong, urd, okra (sowing), sugarcane, cucurbits (sowing) in Uttarakhand.
- Wheat (grain maturity/harvesting), new sugarcane (planting), linseed, jai (flowering/pod formation), onion, garlic (vegetative), rapeseed, mustard, pea, lentil, gram (pod maturity/harvesting) maize (grain maturity/harvesting), moong, urad (sowing/ germination), summer vegetables (sowing) in Uttar Pradesh.
- Wheat (dough), sugarcane (harvesting/planting), potato (harvesting), new sugarcane (planting), mustard (capsule maturity), maize (sowing / germination), summer pulses (field preparation for sowing), cucurbits (sowing), berseem (vegetative / cutting), fruit (planting) in Punjab.
- Wheat (hard dough/maturity), sugarcane (harvesting), new sugarcane (planting), mustard (harvesting), barseem (vegetative / cutting), gram (harvesting) in Haryana.
- *Zaid* crops (moong, groundnut, fodder crops) (field preparation / sowing), sugarcane (maturity / harvesting), new sugarcane (field preparation), maize (maturity), capsicum, guar, vegetables (tinda, water melon, pumpkin, cucumber, coriander, bhindi, ridge gourd) (sowing / germination / seedling), potato (tuber maturity / harvesting), mustard (capsule formation / maturity / harvesting), gram (pod maturity / harvesting), wheat (dough/grain maturity/ harvesting), barley (grain maturity / harvesting), opium poppy (pre-flowering / flowering) in Rajasthan.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Ladies finger (flowering / fruiting / harvesting), sugarcane (elongation), summer vegetables, lobia, cowpea, jawar and maize (sowing/ transplanting), wheat (grain filling/maturity/harvesting) in Madhya Pradesh.
- Sugarcane (planting/vegetative), pigeon pea, groundnut (pod filling/maturity), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (transplanting/ early vegetative), vegetables (transplanting / vegetative), millet (flowering), wheat (grain development/maturity), rice (transplanting), niger, kulthi (vegetative) in Chhattisgarh.

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

- Gram, lentil (harvesting), sunflower (head formation), maize (cob formation), sugarcane (planting), potato (tuber maturity / harvesting), mustard (maturity / harvesting), wheat (milk / dough), pigeon pea (flowering / pod formation), summer vegetables (sowing / early vegetative), moong, urad (sowing) in Bihar.
- Wheat (milk/dough), potato (tuber maturity / harvesting), pigeon pea (pod formation), onion (transplanting), vegetables (vegetative / flowering / fruiting / harvesting), gram, linseed, lentil, pea (pod formation / pod filling / maturity), rapeseed, mustard (harvesting) in Jharkhand.
- Jute (sowing), Summer rice (late tillering/panicle initiation), sugarcane (tillering), banana (vegetative), mustard, *rabi* groundnut (maturity/harvesting), cowpea (pod formation / maturity), fruit crops (planting / seedling), wheat (maturity/harvest), tomato (flowering / fruiting), black gram, green gram (maturity/harvesting), summer vegetables (sowing), sunflower (seed formation/maturity) in Odisha.
- *Boro* rice (active tillering / panicle initiation), wheat (milk / dough / maturity), sesame (sowing / vegetative), maize (flowering to cob formation), summer vegetables (transplanting), potato (tuber maturity / harvesting), mango (flowering), tomato (flowering / fruiting), mustard (capsule maturity / harvesting), pointed gourd, cucumber (flowering), sunflower (flowering), groundnut (flowering to pegging stage), chilli (flowering / fruiting) in West Bengal.

- Ginger (sprouting / early vegetative), large cardamom (primary flowering / secondary flowering), vegetables (vegetative), rice (grain formation / maturity) in Sikkim.

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

- Sugarcane (planting), *boro* rice (flowering / grain formation / grain maturity), transplanted early *ahu* rice (transplanting / tillering), transplanted normal *ahu* rice (seedling / transplanting), early *ahu* (direct seeded) (seedling / tillering), *bao* rice (sowing), maize (sowing), jute (sowing), wheat (maturity / harvesting), summer pulses (sowing / seedling / vegetative), okra (sowing / seedling), cucurbits (sowing / seedling / vegetative), ginger, turmeric, banana (planting) and summer vegetables (sowing / seedling / flowering / fruiting) in Assam.
- *Jhum* rice (sowing), okra, green gram, black gram, maize, soyabean (sowing / germination / vegetative), French bean (sowing / germination / vegetative) and cucurbits (sowing / vegetative), banana (planting) in Arunachal Pradesh.
- Pre-*kharif* rice (seedling / transplanting), *rabi* maize (vegetative / flowering), tomato, brinjal, chilli (vegetative / flowering), beans (early vegetative / vegetative), cucurbits (early vegetative / vegetative), okra (sowing), turmeric, ginger (planting) in Manipur.
- *Kharif* maize (sowing / germination / vegetative), *boro* rice (grain filling), wheat (grain filling / maturity), jute (germination / seedling / vegetative), black gram, green gram (sowing / vegetative), okra (vegetative / flowering / fruiting), summer vegetables like French bean, bottle gourd (sowing / vegetative), brinjal (transplanting) in Meghalaya.
- Maize (cob formation / maturity), tomato (fruiting / harvesting), banana (fruiting / harvesting), okra, cucurbits (sowing) and chilli, brinjal, ginger and turmeric (nursery raising) in Mizoram.
- Maize (sowing / vegetative), upland rice (sowing), banana (fruiting / harvesting), cucurbits (germination), chilli (transplanting) and okra and other summer vegetables (sowing), brinjal (nursery raising) in Nagaland.
- *Boro* rice (panicle initiation / flowering / grain formation), *jhum* rice (sowing), summer brinjal, tomato (flowering / fruiting), summer green gram and black gram (vegetative), summer vegetable, summer maize (sowing) in Tripura.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- *Adsali*, pre seasonal & *suru* sugarcane (cane maturity / harvesting in Madhya Maharashtra and Marathwada), new *adsali* (tillering / elongation), new pre seasonal (early tillering / tillering), new *suru* sugarcane (early tillering), wheat (grain maturity / harvesting), summer rice (grain formation in early variety and panicle initiation / flowering in mid late and late varieties in South Konkan and tillering / panicle initiation in Western Ghat region and East Vidarbha), summer groundnut (pegging / pod formation in South Konkan and vegetative / flowering / pegging / pod formation in Madhya Maharashtra, Marathwada and Vidarbha), summer bajra (ear head emergence / flowering in Pune and Nasik region) in Maharashtra.
- Pearl millet (early vegetative / vegetative), pulses (vegetative / flowering), summer groundnut (flowering / pegging / pod formation), summer rice (panicle initiation / flowering), summer vegetables (vegetative), wheat (maturity / harvesting), sugarcane (vegetative / elongation / grand growth), jowar (grain formation / grain maturity), *rabi* fennel (maturity / harvesting), in Gujarat.

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

- *Rabi* groundnut (maturity/harvest), *rabi* maize (cob maturity), sunflower (flowering / seed formation), *rabi* rice (flowering/grain formation), summer cotton (early vegetative), Bengal gram (harvesting), Red gram (harvesting), cowpea (pod maturity), rice fallow pulses (pod development/pod maturity), sesame (flowering /capsule formation), sugarcane (tillering), mango (flowering/fruit initiation) and vegetables (all stages) in Andhra Pradesh.
- *Samba* rice (maturity/harvesting), *thaladi* rice (maturity/ harvesting), rice fallow pulses (maturity/harvesting), rainfed groundnut (maturity/harvest), maize (flowering / maturity/ harvesting), pearl millet (sowing), red gram (maturity/harvest), summer sorghum, maize (flowering), cotton (squaring), black gram (vegetative), rice (grain filling/maturity),vegetables (fruiting) in Tamil Nadu.
- Coconut (harvesting), *punja* rice (harvesting), summer rice (tillering), vegetables (planting/flowering/harvesting), sugarcane and vegetables (planting), pepper and cardamom (new planting) in Kerala.
- Cowpea, black gram and green gram (pod maturity/harvesting), pigeon pea (harvesting), chilli (fruiting), chick pea (pod development /harvesting), grapes (fruit development), jowar (grain formation/harvest), ragi (ear head emergence), maize (cob development/harvesting), groundnut (pod formation/harvesting), mango (fruit development), summer green gram/ black gram (branching), rice (tillering/panicle initiation), sugarcane (planting/tillering) in Karnataka.

Annexure III

List of Varieties

Assam

Early *ahu* rice (direct seeded): Luit, Kopilee, Cauvery, Culture -1, Rasi, Lachit, Chilarai, Dichang, Banglami, Puthichapali, Nilajee, Hasakumra.

Transplanted early *ahu* rice: Rasi, Soket, IR-50, IR-36, Luit, Kopilee, Cauvery, Culture -1, Panjasali, Koijapori, Kaujuli, Hasakumra, Gobind.

Bao rice: Maguri, Kekua Bao, Negheri Bao, Pani Kekua, Padmapani, Tara Bao.

Jute:

***Capsularis* jute:** JRC 212, JRC 321 (Sonali), JRC 7447 (Shyamali) and UPC 94 (Reshma).

***Olitorius* jute:** JRO 524 (Navin), JRO 785 (Basudev), JRO 632 (Baisakhtissa), Set-2 (Bahagi).

Okra: Pusa Sawani, Parvani Kranti, Arka Anamika.

Black gram: T-9, Pant-U-19, UG-157, JU-78.

Green gram: Pratap, Kopergaon, T 44, AAU 34, AAU-39, SG 1, K-851 and ML-55.

Pumpkin: Arka Suryamukhi, Arka Chandan.

Ridge gourd: Pusa Nasdar, AAUJ-1, AAUJ-2, AAUC-3.

Sponge gourd: Pusa Chikni.

Bitter gourd: Long Green, Extra Long, Pusa Do Mousumi.

Cucumber: Chinese Green, Pusa Sanjog and Poinshetti.

Ginger: Nadia, Karkai, Maran, Jorhat, Chaina.

Turmeric: Shillong Type, CL-24, PTS-38, PCT-13, VK-145.

Banana:

Dwarf variety: Jahaji.

Medium tall variety: Chenichampa, Malbhog, Barjahaji.

Arunachal Pradesh:

***Jhum* rice:** Bhalum 1, 2, 3 and 4.

Meghalaya:

***Kharif* maize:** Vijay, RCM-76, Local White and Yellow, DA-61-A and QPM.

Jute:

***Capsularis* jute:** JRE-21, JRC-321, D-154, JRC-7447.

***Olitorious* jute:** JRO-632, JRO-514, JRO-7835, JRO-878.

French bean: Naga Local, Arka Komal.

Brinjal: Local Umroi, Mutakesh.

Bottle gourd: Pusa Summer, Prolific Long, Prolific Round, Pusa Meghdoot.

Tripura:

***Jhum* rice:** Garo Malati, Binni.

Green gram: PDM 139.

Black gram: T-9, Panth Urd- 35.

Summer maize: HQPM 1, DMH 849, DMH 117.

Summer Sesame: GT- 2, 4, 3 & 10.

Ridge gourd: Pusa Nasdar, Satputia.

Cucumber: Japanese Long, Straight 8, Sweet Gourd.

Maharashtra

Summer green gram: AKM 8802, Pusa Vaishakhi.

Gujarat

Green Gram: Guj. Mung- 3, 4, K-851.

Pearl millet: GHB-526 and GHB-558.

Fodder Maize: African Tall.

Odisha

Sugarcane: CO 740, CO 6304, CO7219, COT 8201, Neelamadhaba and Sabita.

Sesame: Vinayak, Kanak, Kalika, Uma, Usha, Amrit, Prachi, Nirmala

Maize: Dhabal, Navjot, Decca, Ganga, Deccan 105, Kargil 900-M, PRO 345, Kargil 633.

Sunflower: Morden, PAC-36, KBSH, MSFH-8, SFH-7, KBSH-1, MSHF-1, MSFH-17.

Papaya: Honey dew, Kurg honey dew, Coimbatore-1, Coimbatore-2, Pusa delicious, Pusa majestic, Pusa dwarf and Pusa giant.

Summer Green Gram: PDM 11, PDM-54, Pusa Baisakhi.

West Bengal:

Sesame: Rama, Tilottama, B64, B14.

Moong: Chaiti mung, Sonali, T44, PDM-84, Samrat, Basanti.

Jute: Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali.

Water melon: Sugar Baby, Ashi Yeamato.

Jharkhand:

Onion: Pusa Red, Pusa Ratnar, N-53, Arka Nikatan, Arka Kalyan, Agrifound Dark Red.

Moong: Pusa Vishal, Pant moong-2, Samrat, S.M.L.-668 etc.

Maize: **Makka -1, Birsa Makka-2, Suwan-1**

Bihar:

Bhindi: Parvani Kranti, Arka Abhay, Arka Anamika, Barsha Uphar, KS 312, Okra 4, Punjab 7, Pant Bhindi 1.

Summer Maize: Suwan, Deoki, Ganga 11, Shaktiman 1 and 2.

Papaya: Redleady, Taiwan.

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

Urad: Type 9.

Jammu & Kashmir

Onion: Pusa Red, N-53.

Knolkhol: Purple Vienna and White Vienna.

Radish: Japanese White and Minowase.

Beans: Bush types: Contender and Arka Komal; and

Potato: Kufri Jyoti.

Tomato : Pusa Ruby, Hisar Arun, Hisar Lalit, Punjab Chuhara, Hybrids: Rupali and Meenakshi, **brinjal :** Pusa Purple Long, Pusa Purple Round, Pusa Purple Cluster, Pant Samrat, Pant Rituraj, Hybrid: Pusa Hybrid-5, Pusa Hybrid-6, Suphal and Saurabh) and **chillies :** NP 46A, Pusa Jawala, Hybrid: CH-1 and CH-3.

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

Himachal Pradesh

Bhindi : P-8, Prabhini kranti, Arka anamika

Frenchbean : Contender

Delhi

Lady's finger: A-4 and Parbhani Kranti.

Spinach: Pusa Harit hybrid varieties.

Maize : African Tall

Green gram : Pusa Visal, Pusa 672, Pusa 9351, Punjab 668

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

Cluster bean : Pusa Komal, Pusa Sukamol

Baby corn: hybrid cultivar : HM-4.

Punjab:

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), CoH-119, CoJ-88, CoS-8436 (mid maturing) and CoJ-89 (late maturing).

Okra - Punjab Padmini or Punjab 7 or 8

Uttarakhand:

Moong & Urd :Pant Urd-19, Pant Urd-30, Pant Urd-31, Pant Urd-35 or Narendra Urd-1 etc.

Brinjal : Pant Samrat, Pant Rituraj, Pant Brinjal-4, ARU-1 etc.

French bean:VL Boni Bean-1, VL Bean-2, Kantender, Pant Anupama etc.

Fox millets: VL-29, VL-21 and VL-Madira-172.

Uttar Pradesh:

Arhar: UPS-120, T-21,

Moong & Urd :Pant Urd-19, Pant Urd-30, Pant Urd-31, Pant Urd-35 or Narendra Urd-1 etc.

Rajasthan :

Sugarcane : CO 6617, CO7717, COS 95255, COS 767.

Summer Groundnut : TAG-24, SB-11, DH-86 and GG-2.

Moong : S.M.L – 668, **Fodder Jowar** (1st cut varieties): Raj Chari-1, Raj Chari-2, Raj Chari-3, (multicut varieties): S.S.G.-59, M.P. Chari-59, M.P. Chari, P.C.-9.

Fodder Bajra : Raj Bajra Chari-2, L-72, L-74, H.B.-11

Okra : improved varieties Pusa sawani, Pusa Makhmali, Parbhani, Kranti, Ark Abhay & Arka Anamika

Green gram : improved varieties K-851 (60-70 days), PDM-11 (60-65 DAYS), Pusa Baisakhi (60-80 days), RMG-268 (65-70 days).

Sorghum: for green fodder-SSG-59-3, MP Chari, Raj-Chari, Raj Chari-2 and SPV-837, for multicut - SSG-59-3.

Cotton : improved varieties : **RG-18, HD-123**, RG-8 (170-180 days, Desi cotton), Bikaneri nerma (190-200 days, American cotton) & RST-9 (190-200 days, American cotton), **hybrid varieties : Raj D.H.-9**

Madhya Pradesh :

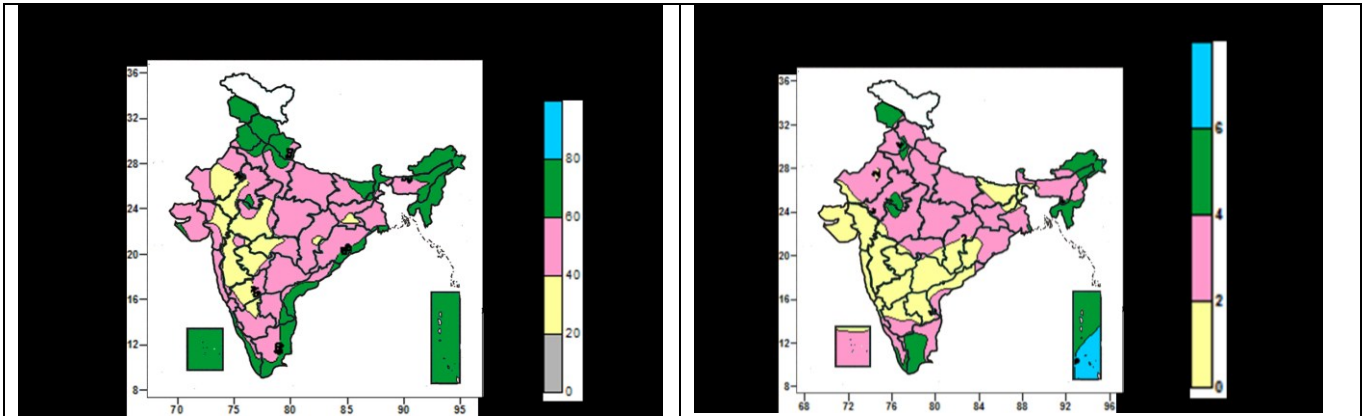
Soybean: GS-9560

Moong: PDM-11, HUS-1, HUS-1, JM-721

Urad: Jawahar Urad-2, PDU-1, TPU-4

Annexure IV

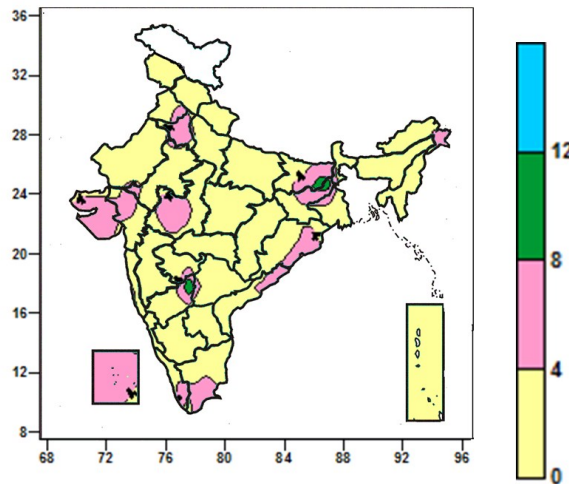
Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 03.04.2013



Relative humidity ranged between 60 to 80% over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Sub-Himalayan West Bengal, Sikkim, Coastal Andhra Pradesh, Tamil Nadu, Kerala, Lakshdweep, Andaman & Nicobar Islands, some parts of Haryana, West Uttar Pradesh, East Rajasthan, Bihar, Gangetic West Bengal, Orissa, Rayalaseema, Saurashtra, 20 to 40 % over many parts of West Madhya Pradesh, Maharashtra except Konkan & Goa, North Interior Karnataka, some parts of Rajasthan, Jharkhand, Chhattisgarh, Gujarat, South Interior Karnataka, 40 to 60 % over remaining parts of the country.

Cloud amount 4 to 6 okta over many parts of Jammu & Kashmir, Arunachal Pradesh, Mizoram, Tripura, Tamil Nadu, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Punjab, Haryana, East Rajasthan, West Madhya Pradesh, Assam, Nagaland, Manipur, Kerala, 0 to 2 okta over many parts of Bihar, Gujarat, Saurashtra & Kutch, Konkan & Goa, Madhya Mahrashtra, Marathwada, Andhra Pradesh, Karnataka, some parts of Rajasthan, East Uttar Pradesh, Jharkhand, West Bengal, Chattisgarh, Orissa, West Madhya Pradesh, Vidarbha, Lakshdweep Islands, 2 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 03.04.2013



Wind speed ranged between 8 to 12 knots over some parts of Bihar, Jharkhand, North Interior Karnataka, 4 to 8 knots over many parts of Haryana, Delhi, Gujarat, Saurashtra, West Madhya Pradesh, Lakshdweep Islands, some parts of Punjab, West Uttar Pradesh, Bihar, Jharkhand, Orissa, Coastal Andhra Pradesh, Marathwada, North Interior Karnataka, Telengana, Tamil Nadu, Kerala, 0 to 4 knots over remaining parts of country.