

Regionwise Salient Advisories

Northern India

Major crops

- Wheat (grain maturity/harvesting), mustard (maturity / harvesting)



- As significant rainfall occurred in most districts of Jammu & Kashmir, farmers are advised to postpone irrigation to the standing crops in Jammu & Kashmir. As most parts of the region was mainly dry during last week, apply irrigation to summer moong, urad in Uttarakhand and summer vegetables, apple, stone fruits in Himachal Pradesh except in Kinnaur and Kullu districts of Himachal Pradesh.
- Due to dry weather condition and high temperature in Eastern Plain Zone of Uttar Pradesh, farmers are advised to apply light irrigation in urad, moong, maize and fodder crops.

Central India

Major crops

- Wheat (harvesting), autumn sugarcane (vegetative / elongation)



- As no significant rainfall occurred 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 the region.

Eastern India

Major crops

- Wheat (harvesting), summer vegetables (vegetative / flowering).
- As rain / thundershowers would occur at a few places over Sikkim and Sub-Himalayan West Bengal during next 24 hours, farmers are advised to postpone irrigation to the standing crops in these areas. As mainly dry weather prevailed over the remaining districts of the States during last week and no significant rainfall is likely during the period, farmers are advised to apply irrigation to the standing crops.
- As thundersquall would occur at one or two places over Odisha, West Bengal & Sikkim during next 48 hours, farmers are advised to arrange propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds.

Northeast India

Major crops

- Boro* rice (grain formation / grain maturity), early *ahu* rice (early vegetative), wheat (harvesting), rapeseed, mustard (harvesting), summer vegetables (transplanting / vegetative).
- As rainfall is likely to occur at many places during next 24 hours and decrease thereafter over the States of the region, postpone irrigation to the standing crops in these states. Undertake intercultural operations and application of fertilizers and plant protection measures after current spells of rain.
- As Thundersquall would occur at one or two places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 48 hours, farmers are advised to arrange mechanical support to banana and staking for vegetables and also carry out propping up in sugarcane to prevent the crops from lodging due to strong winds.
- In view of likely occurrence of rain at many places during the period, farmers in Mild Tropical Hill Zone of Nagaland are advised to provide proper drainage and earthing up in maize as the crop is highly susceptible to water logging.

Western India

Major crops

- New *suru* sugarcane (early tillering), summer groundnut (flowering / pegging), summer bajra (grain formation), pulses (vegetative / flowering).



- As dry weather prevailed during last few weeks and mainly dry weather is likely to prevail over Gujarat State during the period, farmers are advised to apply irrigation in cluster bean, green gram, groundnut and vegetable crops. Carry out mulching with the help of crop residues to minimize the rate of evaporation.
- As dry weather prevailed over the State during last few weeks and dry or mainly dry weather is expected during the period, farmers are advised to apply irrigation to summer bajra (Pune and Nasik region), sugarcane and vegetables in morning hours or in the evening to avoid excessive evaporation.

South India

Major crops

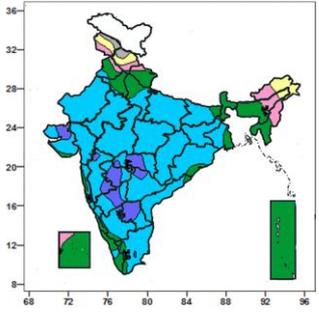
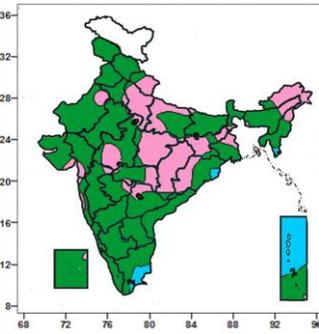
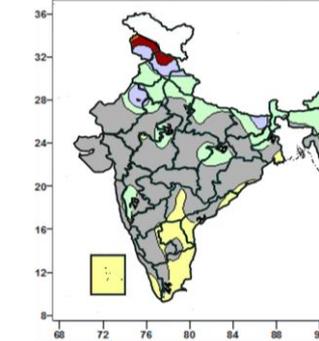
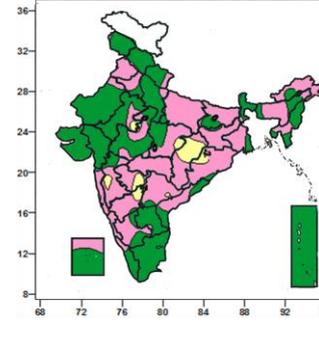
- Sunflower (seed formation / maturity), rice fallow pulses (vegetative), *puncha* rice (harvesting), sugarcane (ratooning / planting), summer sorghum, maize (cob development) and cotton (vegetative).
- Significant rainfall occurred over Kollam district in Kerala during last week and mainly dry weather prevailed over remaining parts of the region and no significant rainfall is likely to occur, farmers are advised to apply irrigation to the standing crops. Postpone irrigation to the crops in Kollam district in Kerala, as there was significant rainfall.

Issued by

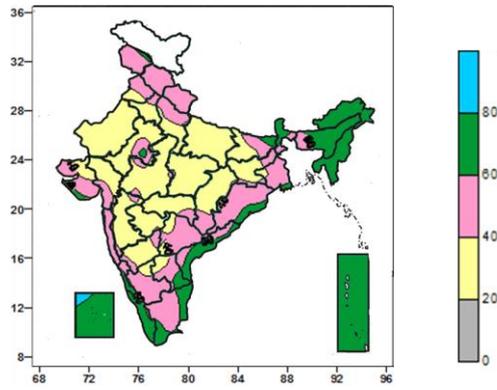
National Agrometeorological Advisory Service Centre, Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.

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

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 17.04.2013

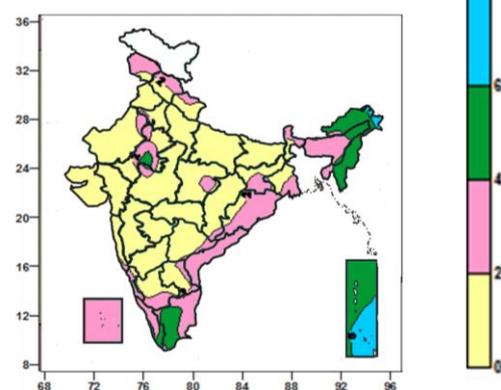
Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 17.04.2013	Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 17.04.2013
	
<ul style="list-style-type: none"> • 36 to 40$^{\circ}\text{C}$ and above over most of the parts of country except Jammu Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Sub-Himalayan West Bengal & Sikkim, North East India, Kerala, Lakshdweep, Andaman & Nicobar Islands. • 32 to 36$^{\circ}\text{C}$ over most parts of Uttarakhand, Punjab, Haryana, Delhi, Sub-Himalayan West Bengal & Sikkim, West parts of Assam, Mizoram, Tripura, West Coast, Lakshdweep, Andaman & Nicobar Islands. • 28 to 32$^{\circ}\text{C}$ over many parts of West parts of Arunachal Pradesh, East part of Assam, Nagaland, Manipur. • 24 to 28$^{\circ}\text{C}$ over many parts of East Arunachal Pradesh, some parts of Assam. • 20 to 24$^{\circ}\text{C}$ over some parts of Jammu & Kashmir, Himachal Pradesh. 	<ul style="list-style-type: none"> • 2 to 4$^{\circ}\text{C}$ over many parts of Andaman & Nicobar Islands, some parts of coastal Orissa, Coastal Tamil Nadu. • 0 to 2$^{\circ}\text{C}$ all over country except Uttarakhand, West Uttar Pradesh, Jharkhand, Arunachal Pradesh, East Madhya Pradesh, Chhattisgarh, West part of Orissa. • -2 to 0$^{\circ}\text{C}$ over many parts of Uttarakhand, Uttar Pradesh, Jharkhand, Arunachal Pradesh, East Madhya Pradesh, Chhattisgarh, West parts of Orissa.
Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 17.04.2013	Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 17.04.2013
	
<ul style="list-style-type: none"> • 24 to 28$^{\circ}\text{C}$ over many parts of Andhra Pradesh, Tamil Nadu, South Kerala, Lakshdweep, some parts of Orissa, Gangetic West Bengal, Andaman & Nicobar Islands, • 20 to 24$^{\circ}\text{C}$ over most parts of Country except Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, North Uttar Pradesh, Sub-Himalayan West Bengal, Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur. • 16 to 20$^{\circ}\text{C}$ over many parts of Uttarakhand, Punjab, Haryana, Delhi, North Uttar Pradesh, Sub-Himalayan West Bengal, Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur. • 12 to 16$^{\circ}\text{C}$ over some parts of Jammu & Kashmir, Himachal Pradesh, West Rajasthan, Bihar. • 8 to 12$^{\circ}\text{C}$ over many parts of Jammu & Kashmir, some parts of Himachal Pradesh. 	<ul style="list-style-type: none"> • 0 to 2$^{\circ}\text{C}$ many parts of North India except Punjab, Haryana, East Uttar Pradesh, Gangetic West Bengal, Nagaland, Manipur, Mizoram, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, Rayalaseema, Kerala, Tamil Nadu, Lakshdweep, Andaman & Nicobar Islands. • -2 to 0$^{\circ}\text{C}$ over many parts of Punjab, Haryana, East Uttar Pradesh, East India except Sub-Himalayan West Bengal & Sikkim, East Madhya Pradesh, Chhattisgarh, Maharashtra, Karnataka, Coastal Andhra Pradesh, Telengana. • -4 to -2$^{\circ}\text{C}$ over some parts of Madhya Pradesh, Chhattisgarh, Orissa, Madhya Maharashtra, Marathwada, North Interior Karnataka.

Relative Humidity (%) over India for the week ending 17.04.2013



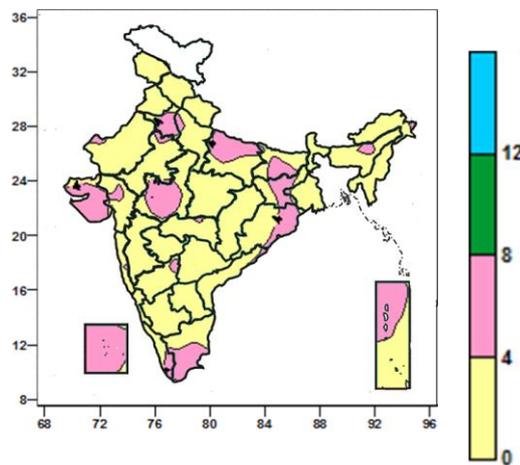
- 60 to 80% over many parts of Northeast India, Sub_Himalayan West Bengal & Sikkim, east coast from Orissa to Tamil Nadu, Coastal Karnataka, Kerala, Lakshdweep, Andaman & Nicobar Islands.
- 40 to 60% over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, north part of West Uttar Pradesh, Bihar, West Bengal, Orissa, Saurashtra & Kutch, Konkan & Goa, Telengana, Rayalaseema, South Interior Karnataka, Tamil Nadu.
- 20 to 40 % over many parts of Haryana, Delhi, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Central India, Madhya Maharashtra, Marathwada, Vidarbha, Gujarat, Kutch, North Interior Karnataka.

Cloud amount (okta) over India for the week ending 17.04.2013



- 6 okta and above over many parts of Andaman & Nicobar Islands.
- 4 to 6 okta over many parts of Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tamil Nadu, Andaman & Nicobar Islands.
- 2 to 4 okta over many parts of Jammu & Kashmir, Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Tripura, Orissa, Coastal Andhra Pradesh, Coastal Karnataka, Kerala, Lakshdweep Islands.
- 0 to 2 okta over many parts of North India (except Jammu & Kashmir), Bihar, Jharkhand, West Bengal, Central India, West India, Telengana, Rayalaseema, Interior Karnataka.

Wind speed (knots) over India for the week ending 17.04.2013



- 4 to 8 knots over many parts of Haryana, Delhi, East Uttar Pradesh, Bihar, Jharkhand, Coastal Orissa, West Madhya Pradesh, Saurashtra & Kutch, South Tamil Nadu, South Kerala, Lakshdweep, Andaman & Nicobar Islands.
- 0 to 4 knots over many part of North India except Haryana, East Uttar Pradesh, Bihar, Jharkhand, Saurashtra & Kutch, South Tamil Nadu, Lakshdweep, Andaman & Nicobar Islands.

Significant realized rainfall during last week

Significant rainfall received in most of the districts of Jammu & Kashmir, Arunachal Pradesh, Assam, Sub-Himalayan West Bengal, Sikkim, East Khasi Hills, West Khasi Hills districts of **Meghalaya**; Aizwal, Lawngtlai, Lunglei, Serchhip districts of **Mizoram**; Imphal east, Thoubal districts of **Manipur**; Dimapur, Kohima, Mokokchung, Zunheboto districts of **Nagaland**; Dhalai, North Tripura, West Tripura districts of **Tripura**; Kinnaur, Kullu districts of **Himachal Pradesh**; Jashpurnagar district in **Chattisgarh**; East Singbhum district of **Jharkhand**; Jharsugud, Mayurbhanj, Sundargarh districts of **Orissa**; Mandya district of **South Interior Karnataka**; Kollam district of **Kerala**. Mainly dry weather prevailed over rest parts of the country.

Distribution of rainfall of the country during week ending on 17.04.2013

State/Districts	Actual (mm)	% Dep.
Arunachal Pradesh		
Dibang Valley	128.0	152
East Kameng	32.2	-3
East Siang	76.9	92
Lohit	206.4	183
Lower Dibang Valley	127.0	150
Lower Subansari	18.8	-39
Papumpara	73.7	101
Tawang	174.0	439
Tirap	96.5	28
Upper Siang	130.0	117
Upper Subansari	**	**
West Kameng	53.3	65
West Siang	77.6	10
Assam		
Baksa	70.4	111
Barpeta	64.3	93
Bongaigaon	36.9	10
Cachar	62.6	18
Chirang	91.7	174
Darrang	7.0	-85
Dhemaji	71.0	118
Dhubri	28.1	2
Dibrugarh	120.0	129
Goalpara	90.0	126
Golghat	27.9	-17
Hailakandi	30.0	-29
Jorhat	28.6	-36
Kamrup(Rural)	47.4	32
Kamrup(Metro)	22.3	-38
Karbi Anglong	0.0	-100
Karimganj	53.9	-16
Kokrajhar	54.5	21
Lakhimpur	53.2	63
Morigaon	14.0	-33
N.C.Hills	32.6	-49
Nowgong	16.6	-36
Nalbari	59.8	76
Sonitpur	31.9	-6
Sibsagar	53.0	94
Tinsukia	141.7	219
Udalgiri	57.6	24
Meghalaya		
East Garo Hills	6.0	-87
East Khasi Hills	141.1	83
Jaintia Hills	16.0	-75
Ribhoi	16.8	6

State/Districts	Actual (mm)	% Dep.
South Garo Hills	7.0	-77
West Garo Hills	9.2	-70
West Khasi Hills	25.0	-5
Mizoram		
Aizwal	26.4	-20
Champhai	19.0	-25
Chhimituipui	**	**
Kolasib	10.0	-71
Lawngtlai	33.0	50
Lunglei	26.0	24
Mamit	1.0	-97
Saiha	15.0	-14
Serchhip	20.0	-42
Manipur		
Bishnupur	7.0	-68
Chandel	0.0	-100
Churachandpur	0.0	-100
Imphal east	27.2	-16
Imphal west	**	**
Tamenglong	**	**
Thoubal	26.0	-14
Senapati	**	**
Ukhrul	18.0	-11
Nagaland		
Dimapur	104.0	324
Kephire	12.0	-74
Kohima	31.2	72
Longleng	**	**
Mokokchung	39.0	-9
Mon	**	**
Paran	**	**
Phek	19.1	6
Tuensang	**	**
Wokha	1.0	-96
Zunheboto	21.0	-54
Tripura		
Dhalai	80.0	61
North tripura	33.4	-51
South tripura	3.0	-92
West tripura	24.0	-46
Himachal Pradesh		
Bilaspur	0.3	-95
Chamba	11.3	33
Hamirpur	2.2	-74
Kangra	10.2	16
Kinnaur	30.2	61
Kullu	24.7	49

State/Districts	Actual (mm)	% Dep.
Lahaul and Spiti	17.5	-38
Mandi	15.8	32
Shimla	16.5	29
Sirmaur	2.5	-49
Solan	1.0	-87
Una	0.2	-96
Jammu & Kashmir		
Anantnag	62.3	122
Badgam	28.7	43
Bandipore	**	**
Baramula	42.5	3
Doda	14.8	-47
Ganderwal	40.0	98
Jammu	0.4	-96
Kargil	0.0	-100
Kathua	4.6	-43
Kistwar	**	**
Kulgam	49.4	76
Kupwara	38.4	7
Ladakh(Leh)	0.9	-52
Poonch	43.5	73
Pulwama	56.2	191
Rajouri	12.2	26
Ramban	21.5	-23
Reasi	28.1	59
Samba	1.1	-88
Shopian	58.0	201
Srinagar	52.7	161
Udhampur	11.9	-33
Chattisgarh		
Bastar	2.0	-65
Bijapur	2.0	-5
Bilaspur	9.7	544
Dantewara	0.0	-100
Dhamtari	1.0	0
Durg	2.2	175
Janjgir	3.3	233
Jashpurnagar	33.5	885
Kanker	18.5	538
Korba	6.5	103
Koriya	17.0	200
Kawardha	5.0	233
Mahasumund	6.5	400
Narayanpur	14.0	87
Raigarh	7.3	948
Raipur	11.5	621
Rajandgaon	0.0	-100

State/Districts	Actual (mm)	% Dep.
Surguja	18.8	1989
Orissa		
Angul	4.1	-46
Balasore	9.7	-25
Bargarh	2.4	58
Bhadrak	5.5	-59
Bolangir	3.1	-31
Boudh	3.0	-39
Cuttack	4.4	-15
Deogarh	12.1	477
Dhenkanal	5.4	-34
Gajapati	1.8	-83
Ganjam	0.3	-97
Jagatsingpur	2.9	-17

State/Districts	Actual (mm)	% Dep.
Jajpur	7.4	-13
Jharsuguda	34.3	1124
Kalahandi	0.9	-76
Kandhamal	1.8	-63
Kendrapara	6.5	0
Keonjhar	8.9	-12
Khurda	5.8	20
Koraput	0.3	-96
Malkangiri	0.0	-100
Mayurbhanj	20.6	61
Nawapara	1.2	-75
Nawarangpur	13.9	37
Nayagarh	2.4	-41
Puri	0.2	-95
Rayagada	2.5	-82

State/Districts	Actual (mm)	% Dep.
Sambalpur	16.5	685
Sonepur	3.5	93
Sundargarh	30.1	1016
West Bengal		
SHWB		
Cooch Behar	29.0	19
Darjeeling	23.2	-12
East Sikkim	92.0	177
Jalpaiguri	37.1	75
Malda	9.3	24
North Dinajpur	3.0	173
North Sikkim	40.1	-4
South Dinajpur	17.9	198
South Sikkim	25.0	-25
West Sikkim	40.0	-5

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

Weather Forecast

Major Feature of Weather Forecast up to 0830 hours IST of 22nd April, 2013

- Rain/thundershowers would occur at one or two places over Jammu & Kashmir.
- Rain/thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim and at many places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura during next 24 hours and decrease thereafter.
- Rain/thundershowers would occur at one or two places over Jharkhand, Odisha and Gangetic West Bengal.
- Rain/thundershowers would occur at one or two places over east Rajasthan and west Madhya Pradesh during next 24 hours.
- Rain/thundershowers would occur at one or two places over Tamilnadu, Kerala and Andaman & Nicobar Islands.
- Rain/thundershowers would occur at one or two places over north coastal Andhra Pradesh during next 48 hours and at a few places thereafter.
- No significant change in maximum temperatures over plains of northwest, central and adjoining east India.
- Mainly dry weather would prevail over rest parts of the country.

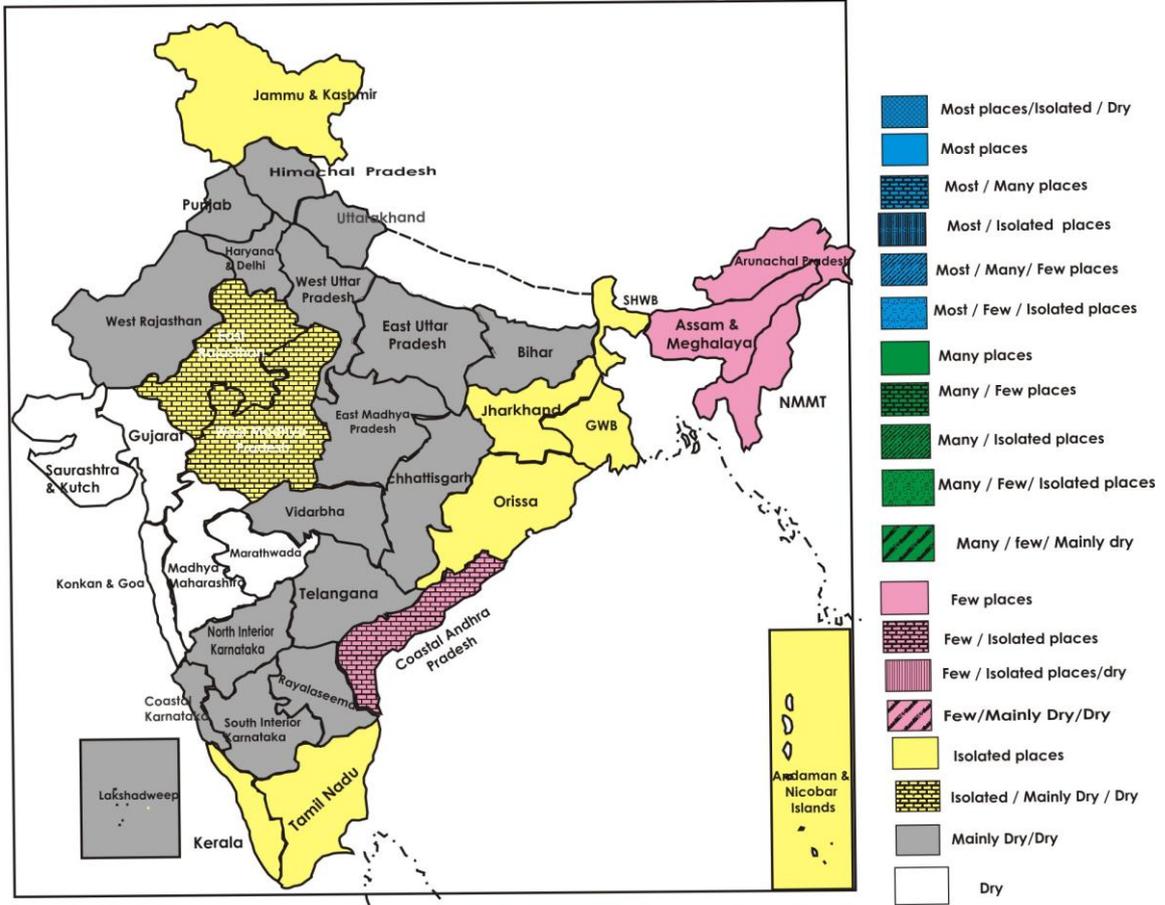
Weather Warning during next 3 days

- Thunderstorm accompanied with thundersquall would occur at one or two places over coastal Odisha, West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 48 hours.

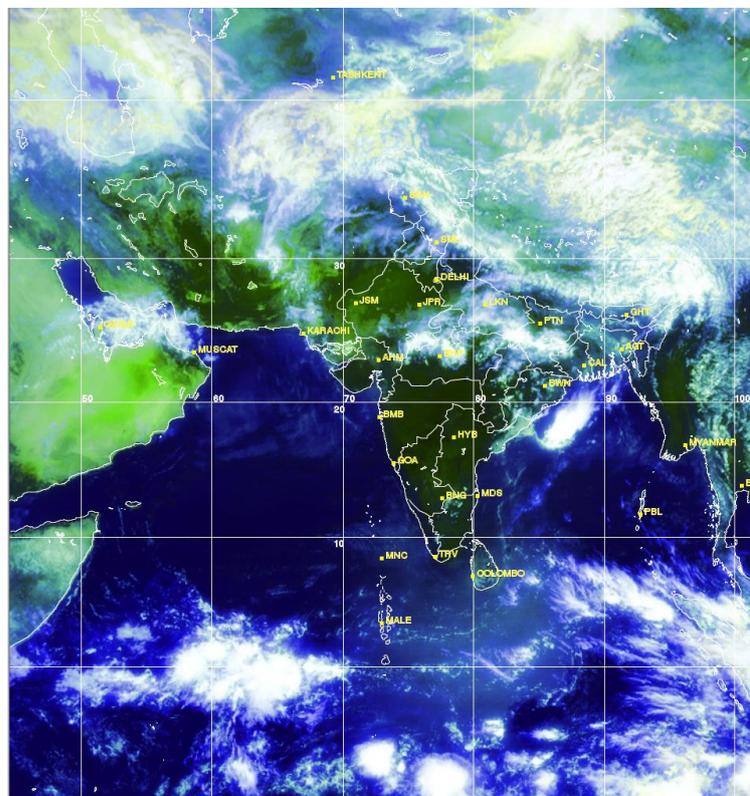
Weather Outlook for subsequent 4 days from 22nd to 26th April, 2013

- Rain/thundershowers would occur at one or two places over western Himalayan region and adjoining plains.
- Rain/thundershowers would occur at one or two places over Andhra Pradesh, east & northeast India.
- Rain/thundershowers would occur at one or two places over extreme south peninsular India.
- A fresh western disturbance would affect western Himalayan region from 24th April.
- Weather would be mainly dry over rest parts of the country.

Weather Forecast Map (Valid upto 0830 hours of 26th April, 2013)



Satellite image 0600 UTC dated 19th April, 2013



Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in Anantnag, Badgam, Baramula, Ganderwal, Kulgam, Kupwara, Poonch, Pulwama, Ramban, Reasi, Shopian, Srinagar districts of Jammu & Kashmir and Kinnaur and Kullu districts of Himachal Pradesh. Weather remained mainly dry over rest parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at one or two places during next three days in Jammu & Kashmir and during next 24 hours in East Rajasthan. Mainly dry weather would prevail over rest of the region. No significant change in maximum temperature over the region.
- **Advisory:**
 - As significant rainfall occurred in Anantnag, Badgam, Baramula, Ganderwal, Kulgam, Kupwara, Poonch, Pulwama, Ramban, Reasi, Shopian and Srinagar districts of Jammu & Kashmir and Kinnaur and Kullu districts of Himachal Pradesh during last week, farmers are advised to postpone irrigation to the standing crops in Jammu & Kashmir. Apply irrigation to summer moong, urad in Uttarakhand and summer vegetables in Himachal Pradesh in rest parts of the region.
 - Due to dry weather condition and high temperature in Eastern Plain Zone of Uttar Pradesh, farmers are advised to apply light irrigation in urad, moong, maize and fodder crops.
 - Farmers in Flood Prone Eastern Plain Zone of Rajasthan are advised to give light and frequent irrigation to the tree saplings and cover with thatching material to protect against heat injury.
 - Due to rise in temperature and decrease in humidity in Western Zone of Punjab, farmers are advised to undertake suitable measures like mulching and whitewashing of trunks to save their fruit trees from moisture stress, and sun injury. Farmers in Western Plain Zone of Punjab are advised to apply mulching using materials like rice straw and husk in sugarcane fields to conserve soil moisture and to reduce soil temperature.
 - Due to increase in temperature, there are chances of fruit drop in citrus fruits. Farmers are advised to spray 10 ppm solution of 2,4-D to prevent and also spray 15 ppm solution of NAA in mango.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - Due to diurnal variation in temperature livestock owners of Mid Hills Sub-Humid zone of Himachal Pradesh are advised to protect the animals (especially new born animals) during night hours.
 - In Arid Western Plain Zone of Rajasthan, protect animals from hot wind in summer and also feed with green fodder.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant Rainfall occurred in Jashpurnagar district of Chhattisgarh. Mainly dry weather prevailed over rest of the region.
- **Weather forecast:** Rain/thundershowers would occur at one or two places during next 24 hours in West Madhya Pradesh. Mainly dry weather will prevail over rest of the region. No significant change in maximum temperature over the region.
- **Advisories:**
 - As no significant rainfall occurred during last week in the region except in Jashpurnagar district of Chhattisgarh and no significant rain is likely to occur during the period, farmers are advised to apply irrigation to the standing crops in the region except Jashpurnagar district.
 - Dry weather and clear sky is expected in Satpura Plateau Zone of Madhya Pradesh; farmers are advised to apply irrigation in summer maize, urad and moong crops along with top dressing of nitrogenous fertilizer in maize.
 - Present Maximum temperature in the range 38-40° C is favourable for sowing of summer maize in Chhattisgarh Plain Zone, farmers are advised to undertake sowing of summer maize.
 - As dry weather conditions are prevailing in Chhattisgarh Plain Zone, farmers are advised to irrigate mango trees at 8-10 days interval. Spray NAA @ 20-25 mg / litre of water or Planofix @ 2 ml and Kerathane @ 2 g / litre of water at 15 days interval to avoid fruit dropping in mango.
 - Due to prevailing dry weather along with increase in temperature in Malwa Plateau Zone of Madhya Pradesh, there are chances of occurrence of white fly and fruit borer in summer vegetables. Spray Dimethoate @ 1 ml / liter of water to control.
 - As dry weather is prevailing in Central Narmada Valley Zone of Madhya Pradesh, there are chances of incidences of leaf curl disease in tomato and chilli crops. To control the vector, spray Methyl demeton 25 E.C. @ 2 ml per litre of water or Emidachloprid @ 0.5 ml per litre of water.

- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry & Poultry**
- Farmers in Kymore Plateau Zone, Gird Zone and Central Narmada Valley Zone of Madhya Pradesh are advised to keep animals in shady and cool places in view of the prevailing high temperature.

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

- **Realised Rainfall:** Significant rainfall occurred in Sikkim, Cooch Behar and Darjeeling and Jalpaiguri districts of Sub Himalayan West Bengal, Jharsuguda, Mayurbhanj and Sundargarh districts of Odisha and East Singhbhum district of Jharkhand and mainly dry weather prevailed over Bihar during last week.
- **Weather Forecast:** Rain / thundershowers would occur at a few places over Sub-Himalayan West Bengal and Sikkim during next 24 hours and decrease thereafter. Rain / thundershowers would occur at one or two places over Jharkhand, Odisha and Gangetic West Bengal and mainly dry weather would prevail over Bihar.
- **Weather Warning:** Thunderstorm accompanied with thundersquall would occur at one or two places over coastal Odisha, West Bengal & Sikkim during next 48 hours.
- **Advisories:**
 - As there was no significant rainfall in the region during last week except in Sikkim, Darjeeling, Cooch Behar and Jalpaiguri districts of Sub Himalayan West Bengal, Jharsuguda, Mayurbhanj and Sundargarh districts of Odisha and East Singhbhum district of Jharkhand and no significant rainfall is likely in Bihar, Jharkhand and Orissa, farmers are advised to apply irrigation to the standing crops in these areas. Farmers are advised to postpone irrigation in Sikkim, Darjeeling, Cooch Behar and Jalpaiguri districts of Sub Himalayan West Bengal, Jharsuguda, Mayurbhanj and Sundargarh districts of Odisha and East Singhbhum district of Jharkhand to the standing crops.
 - As thundersquall would occur at one or two places over coastal Odisha, West Bengal & Sikkim, farmers are advised to arrange propping up in sugarcane and staking of vegetables to prevent the crops from lodging due to strong winds.
 - In view of prevailing dry weather condition in North West Alluvial Plain Zone and South Bihar Alluvial Zone, farmers are advised to undertake harvesting of matured wheat crop.
 - As mainly dry weather is prevailing, farmers in North West Alluvial Plain Zone of Bihar are advised to give irrigation to summer maize and summer vegetable crops during night time and undertake harvesting of wheat. Apply irrigation to the mango and litchi orchards at 15 days interval.
 - Due to dry weather condition in North East Alluvial Zone of Bihar, farmers are advised to apply irrigation to autumn & spring season sugarcane and onion.
 - In view of prevailing dry weather condition in South Bihar Alluvial Zone, farmers are advised to apply irrigation to spring maize, moong, sunflower, onion, summer vegetables and fodder crops like fodder lobia, sorghum, hybrid napier grass. To protect the litchi plant from high temperature use plant leaves as mulch in the base area of plant and irrigate the plants.
 - 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 in per litre of water.
 - In view of prevailing mainly dry weather condition, farmers of Jharkhand are advised to give irrigation to summer maize, moong and summer vegetable crops.
 - Due to dry weather and high temperature in Jharkhand, farmers are advised to irrigate the fruit bearing mango and litchi tree at regular interval.
 - Due to high temperature and humidity in New Alluvial Zone of West Bengal, there is possibility of attack of the fungal diseases like fruit rot, stem rot or powdery mildew in summer vegetables. To prevent it apply blitox (4 gram) or carbendazim (1 g) for rot and for powdery mildew apply hexaconazole or dinocap or propiconazole @ 1 ml per litre of water.
 - As mainly dry weather is prevailing, farmers in Laterite and Red soil Zone of West Bengal are advised to give irrigation to *boro rice* and maintain 5-7 cm standing water in the field.
 - Under the prevailing high temperature in Laterite and Red Soil Zone of West Bengal, there is a possibility of spread of blast disease in *boro rice*; apply Hinosan or Kitazin at recommended dose. Due to high temperature and humidity, incidence of aphid and borer is likely, apply Acephate (Lucid) 2.5 gm per litre of water.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - Farmers in South West Alluvial Plain Zone of Bihar are advised to keep livestock in shade and provide more amount of drinking water due to high temperature.
 - Farmers in Jharkhand are advised to bath the cattle twice a day (morning & evening) to prevent from heat stroke due to high temperature.

- **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.
- Due to increasing temperature, hens may be affected from heat stroke. Farmers in South Bihar Alluvial Zone are advised to take special care to protect the hens.

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

- **Realised Rainfall:** Significant rainfall occurred in East Khasi hills and West Khasi Hills districts in Meghalaya; Aizwal, Lawngtlai Lunglei and Serchip districts in Mizoram; Imphal east and Thoubal districts in Manipur, Dimapur, Kohima Mokokchung and Zunheboto districts in Nagaland and the districts of Arunachal Pradesh except Lower Subansari, all districts in Assam except Darrang, Karbi Anglong, Morigaon, Nagaon districts and all districts in Tripura except South Tripura district. No significant rainfall occurred over the remaining districts of the States of the region during last week.
- **Weather Forecast:** Rain / thundershowers would occur at many places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura during next 24 hours and decrease thereafter.
- **Weather warning:** Thunderstorm accompanied with thundersquall would occur at one or two places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 48 hours.
- **Outlook:** Rain / thundershowers would occur at one or two places over the States.
- **Advisories:**
 - As rainfall is likely to occur at many places during next 24 hours and decrease thereafter over the States of the region, postpone irrigation to the standing crops in these states. Undertake intercultural operations and application of fertilizers and plant protection measures after current spells of rain.
 - As Thundersquall would occur at one or two places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 48 hours, farmers are advised to arrange mechanical support to banana and staking for vegetables and also carry out propping up in sugarcane to prevent the crops from lodging due to strong winds.
 - In view of likely occurrence of rain at many places during the period, farmers in Mild Tropical Hill Zone of Nagaland are advised to provide proper drainage and earthing up in maize as the crop is highly susceptible to water logging.
 - Due to prevailing weather conditions in Barak Valley Zone of Assam, there is chance of attack of beetles and fruit and shoot borer summer gourd vegetables and okra. Farmers are advised to spray Malathion 50 EC @ 1.5 litre / ha with spray volume of 500 – 700 litre / ha after current spell of rains.
 - In Mild Tropical Plain Zone of Tripura, present weather is conducive for fruit & shoot borer attack in summer brinjal and tomato. To control the attack Cypermethrin @ 1.5 ml or Flubendamid @ 0.5 ml per liter of water may be applied after the current spell of rain.
 - In Mild Tropical Plain Zone of Tripura, cloudy weather with high humidity is conducive for attack of mango hopper in mango. For its control spray Thiamethoxam (0.005%, i.e., 0.2 g per liter of water) or acephate (1.5 g per liter of water) after current spell of rains.
 - 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 and damping off in cucurbits; famers are advised to spray Carbendazim @ 2 g per litre of water or Endofil-M-45 @ 3 g / litre of water, after current spell of rain, 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 @ 0.5 ml per liter of water, after current spells of rain, to manage the attack.
 - Weather is favourable for incidence of fruit borer in tomato and Cercospora / Sigatoka leaf spot in banana in Mild Tropical Hill Zone of Mizoram; farmers are advised to spray 5% neem seed kernel extract or NPV @ 250-500 LE with 100 ml teepol / ha, for fruit borer and spray combination of fungicides Mancozeb + carbendazim @ 2 g / litre against cercospora / sigatoka leaf spot in banana, after current spells of rain.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Mizoram, weather is conducive for swine fever in pig; farmers are advised to undertake vaccination during this period to avoid swine fever in pig.

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 during last few weeks and mainly dry weather is likely to prevail over Gujarat State during the period, farmers are advised to apply irrigation in cluster bean, green gram, groundnut and vegetable crops. Carry out mulching with the help of crop residues to minimize the rate of evaporation.
 - As dry weather prevailed over the State during last few weeks and dry or mainly dry weather is expected during the period, farmers are advised to apply irrigation to summer bajra (Pune and Nasik region), sugarcane and vegetables in morning hours or in the evening to avoid excessive evaporation.
 - Considering high day temperature in Konkan, farmers are advised to apply irrigation at 4-5 days interval to summer rice at grain formation stage. Due to prevailing high temperature in Konkan, farmers are advised to provide 150-200 litres of water per mango tree at 15 days interval upto mango at arecanut size stage. Provide shade-net to saplings like coconut, arecanut, cinnamon, nutmeg, clove, etc. to protect from scorching sun.
 - Due to acute water shortage in the State, farmers in Madhya Maharashtra are advised to apply sprinkle irrigation instead of flood irrigation to groundnut in Konkan. Provide 15 – 20 litres of water for newly planted mango grafts at an interval of 10-12 days. Apply sprinkle irrigation to sesamum and green gram in Vidarbha.
 - Due to prevailing high temperature there will be more evaporation (upto 12 mm / day); farmers in Pune region are advised 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. They are also advised to apply 20 litres water to each banana plant / day by flood irrigation and apply 9-10 litres water / dripper.
 - Considering prevailing dry weather in Konkan, farmers are advised to start the harvesting of already matured summer rice in morning hours.
 - As dry weather and high maximum temperature prevailed during last few weeks and is likely to prevail, provide irrigation to cluster bean, green gram, groundnut and other vegetables at regular intervals in North Gujarat Zone, North West Zone, Bhal and Coastal Zone of Gujarat, South Gujarat Heavy Rainfall Zone, North Saurashtra Zone and to sugarcane, mango and groundnut in South Saurashtra Zone and to groundnut and vegetables in Middle Gujarat Zone to meet the water requirement of the crops.
 - As high temperature is predicted and groundnut is at pegging stage in South Gujarat Heavy Rainfall Zone; apply irrigation in groundnut.
 - In South Gujarat Zone carry out mulching in sugarcane with crop residues to minimize the rate of evaporation due to high temperature.
 - As dry weather and high maximum temperature is prevailing and pearl millet is at tillering stage in North West Zone of Gujarat, apply irrigation in pearl millet.
 - High maximum temperature favours dropping of flowers and may cause poor fruit setting in Sapota in Middle Gujarat Zone. Use mulching to maintain the soil moisture. Spray 20 ppm Amnethelin Acetic acid and 2 % Urea solution for effective control of fruit dropping in mango orchard in South Gujarat Zone.
 - As high temperature persists, there may be incidence of shoot borer in *suru* sugarcane in Pune region; use 2 Phule Tricocard per acre at 10 days interval for 2-3 times.
 - Due to increase in day temperature, there is possibility of incidence of thrips on new flush of fruit crops graft in North Konkan; spray Acephate 1.5 g per litre of water.
 - High temperature and cloudy weather is favourable for outbreak of sucking pests in vegetables in Middle Gujarat Zone; spray Phosphomedon 40 SL 10 ml /10 liter of water to control it.
 - Stages of major crops are mentioned in Annexure I.
- **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 high maximum temperature is persisting and also predicted in North Gujarat Zone, North West Zone of Gujarat, South Gujarat Heavy Rainfall Zone and Bhal and Coastal Zone of Gujarat, keep animals under shade during noon hours and avoid feeding between 11 to 15 hrs. Arrange for fresh and cold drinking water for animals. Make arrangement of curtains for poultry house.
 - To protect cattle from summer heat in North Saurashtra Zone shower the animals with cold water two to three times a day and increase the green fodder quantity for feeding.

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

- **Realised Rainfall:** Significant rainfall occurred over Mandya district in South Interior Karnataka and Kollam district in Kerala during last week and mainly dry weather prevailed over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over north coastal Andhra Pradesh during next 48 hours and at a few places thereafter and at one or two places over Tamil Nadu and Kerala. Mainly dry weather would prevail over rest parts of the country.
- **Advisories:**
 - As there no significant rainfall in the region during last week except Mandya district in South Interior Karnataka and Kollam district in Kerala 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 Mandya district in South Interior Karnataka and Kollam district in Kerala, as there was significant rainfall during last week.
 - Incidence of aphids, thrips and fruit fly is likely due to high temperature and high humidity in summer vegetables in Southern Zone of Kerala. Farmers are advised to spray Neem oil emulsion 2% at fortnightly interval or Rogor 1.5 ml per litre of water as a prophylactic measure against these pests and protect cucurbitaceous fruits with Cue-lure traps.
 - Due to increased humidity, there is a chance of incidence of pollu beetle and thrips in pepper in High Altitude Zone of Kerala. Farmers are advised to take appropriate plant protection measures.
 - Weather is congenial for incidence of cob borer in maize in North Coastal Zone of Andhra Pradesh. Farmers are advised to spray Chlorpyriphos @ 2.5 ml or Monocrotophos @ 1.6 ml for litre of water.
 - Prevailing high day temperature is congenial for incidence of thrips and yellow stem borer in rice in Scarce Rainfall zone of Andhra Pradesh. Farmers are advised to spray Chlorpyriphos 2ml per 1 litre of water for control of yellow stem borer and spray Monocrotophos 1.6 ml or Fipronil 2.0 ml per litre of water to control thrips.
 - Prevailing temperatures (T max >30°C and T min >20°C) is favourable for incidence of leaf blast in rice in High Altitude Tribal Zone of Andhra Pradesh. Farmers are advised to spray Tricyclazole 75 WP 0.6 g or Isoprothiolane 40 EC 1.5 ml/litre of water.
 - Due to high temperature in Southern Zone of Andhra Pradesh there is chance of attack of thrips in the summer groundnut. Farmers are advised to spray Monochrotophos 1.6 ml per litre of water.
 - Prevailing low temperature in morning hours is congenial for attack of powdery mildew and leaf hopper in mango orchard in the Eastern Dry Zone of Karnataka. Farmers are advised to spray Carbaryl WP@ 4 g/ litre of water or spray Carbendazim @ 1 g/litre or Confidor @ 0.5 ml/ litre of water.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry:**
 - Farmers in the Scarce Rainfall Zone of Andhra Pradesh are advised to ensure periodic vaccination of animals against FMD, Brucellosis, Haemorrhagic Septicaemia, Anthrax and small ruminants against PPR and Sheep and Goat Pox.
 - Prevailing high temperatures may cause heat stress and stroke conditions among the birds in the North Western Zone of Tamil Nadu. Farmers are advised to add good amount of vitamin C and electrolytes in the feed and water, reduce the metabolic energy content of the feed by about 50 kcal per kg so that no excess heat is generated in the body of the birds and advised to use foggers till the wind sets up in the evening.
 - Farmers in the Eastern Dry Zone of Karnataka are advised to maintain optimum room temperature in silkworm and poultry rearing houses to take care against the rapid increase in air temperature and decrease in relative humidity.
 - Farmers in the Cauvery Delta Zone of Tamil Nadu are advised to allow animals to graze in the morning hours, shelter them in tree sheds during noon and provide cool water for drinking during day time due to prevailing high temperature.
 - Farmers in the Problem Area Zone of Kerala are advised to avoid grazing of animals from 12 to 3 p.m to protect from heat stroke, provide large quantity of clean water and add good amount of electrolytes and Vitamin C in the feed.

Annexure I

Stages of Major Crops

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

- Wheat (maturity/harvesting), pome and stone fruits (planting), apple (green tip to pink bud), onion (vegetative), cabbage, cauliflower (maturity), capsicum, tomato, brinjal (sowing/transplanting), cucurbits, okra, fodder crops (chari, bajra) (sowing) in Himachal Pradesh.
- Wheat (maturity/harvesting), onion (bulb formation), cluster bean, amaranthus, summer radish, summer green gram, vegetable lobia, lady's finger, bottle gourd, cucumber, ridge gourd (sowing), chilli, tomato, brinjal and cucurbits (vegetative), in Delhi.
- *Rabi* cereal (wheat - tillering), pulses (pea and lentil) (flowering), fodder oat (harvesting), vegetables (sowing / planting / transplanting), rice, maize (field preparation / sowing), fruit crops (nursery bed preparation) in Valley Temperate Zone (Srinagar), sunflower (early vegetative / vegetative), garlic, cucurbits, okra (seedling / early vegetative), radish, spinach (sowing), carrot, turnip (sowing), onion, cole crops (nursery sowing / transplanting), wheat (late sown – dough, normal / early sown –maturity), barley (jointing / flag leaf initiation), oat, berseem (vegetative), summer moong & mash (sowing), daincha (sowing), fruit crops (nursery bed preparation) in Jammu & Kashmir.
- Wheat (grain maturity/harvesting), arhar (harvesting), ginger (vegetative), autumn sugarcane (vegetative), barley (grain maturity/harvesting), oat (tillering / ear head emergence), moong, urd (vegetative/flowering), okra (seedling/vegetative), sugarcane, cucurbits (sowing / planting / seedling), fodder jowar (sowing) in Uttarakhand.
- Wheat (grain maturity/harvesting), linseed, jai (pod maturity), onion, garlic (vegetative/maturity), maize (grain maturity/harvesting), moong, urad (germination/vegetative), summer vegetables, spring sugarcane (sowing / planting), summer green fodder like maize, lobia, sunhemp, dhaincha(sowing) in Uttar Pradesh.
- Wheat (maturity/harvesting), sugarcane (harvesting), new sugarcane (planting), maize (sowing / germination), summer pulses (field preparation for sowing), cucurbits (sowing), berseem (vegetative / 1st cutting), fruit (planting) in Punjab.
- Wheat (maturity/ harvesting), sugarcane (harvesting), new sugarcane (planting / early vegetative), barseem (vegetative / cutting), summer fodder crops [bajra, lobia, Sudan grass and Napier grass] (sowing), cotton (field preparation / sowing) 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), wheat (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), lobia, cowpea, jawar, maize (sowing), summer vegetables (sowing / transplanting), wheat (harvesting) in Madhya Pradesh.
- Sugarcane (planting/vegetative), pigeon pea, groundnut (pod filling/maturity), sesame (late vegetative), ginger, turmeric, papaya (vegetative), onion (transplanting/ early vegetative), vegetable crops (transplanting / vegetative), millet (flowering), wheat (harvesting), rice (transplanting), niger, kulthi (vegetative) in Chhattisgarh.

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

- Gram, lentil (harvesting), sunflower (head formation), maize (cob maturity/harvesting), sugarcane (planting), wheat (harvesting), pigeon pea (flowering / pod formation), summer vegetables (early vegetative/vegetative), moong, urad (sowing/vegetative), yam (sowing) in Bihar.
- Wheat (harvesting), potato (tuber maturity / harvesting), pigeon pea (pod formation), onion (transplanting), vegetables (vegetative / flowering / fruiting / harvesting), gram, linseed, lentil, pea (pod formation / pod filling / maturity) in Jharkhand.
- Jute (sowing), Summer rice (late tillering/panicle initiation), sugarcane (tillering), banana (vegetative), *rabi* groundnut (maturity/harvesting), cowpea (pod formation / maturity), fruit crops (planting / seedling), wheat (harvest), tomato (flowering / fruiting), summer vegetables (sowing), sunflower (seed formation/maturity) in Odisha.
- *Boro* rice (panicle initiation/heading stage), wheat (maturity), sesame (sowing/vegetative), maize (flowering to cob formation), summer vegetables (transplanting), potato (tuber maturity / harvesting), mango (flowering

/fruiting), tomato (flowering / fruiting), mustard (harvesting), pointed gourd, cucumber (flowering), sunflower (flowering), groundnut (vegetative/flowering), chilli (flowering / fruiting) in West Bengal.

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

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

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

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane New *adsali* (tillering / elongation), new pre seasonal (tillering), new *suru* sugarcane (early tillering), summer rice (grain maturity in early variety and grain formation in medium late and late maturing varieties in South Konkan and flowering / grain formation in Western Ghat region and East Vidarbha), summer groundnut (pod development / maturity in South Konkan and pod formation in Madhya Maharashtra, Marathwada and Vidarbha), summer bajra (grain formation in Pune and Nasik region) in Maharashtra.
- Pearl millet (vegetative / tillering), pulses (vegetative / flowering), summer groundnut (flowering / pegging / pod formation), summer rice (panicle initiation / flowering / grain formation), summer vegetables (vegetative / flowering / fruiting), wheat (maturity / harvesting), sugarcane (vegetative / elongation / grand growth), jowar (grain maturity / harvesting) in Gujarat.

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

- Summer groundnut (early vegetative), *rabi* maize (cob maturity), sunflower (seed formation/maturity), *rabi* rice (flowering/grain formation), summer cotton (early vegetative), Green gram (vegetative), cowpea (pod maturity/harvest), rice fallow pulses (pod development/pod maturity), sesame (flowering /capsule formation), sugarcane (tillering), mango (fruit development/fruit maturity) and vegetables (all stages) in Andhra Pradesh
- Maize (cob development), cotton (boll formation /boll maturity), black gram (sowing /early vegetative flowering), sesame (early vegetative), sugarcane (tillering) and vegetables (vegetative/flowering) in Tamil Nadu.
- Summer rice (tillering/panicle initiation), vegetables (all stages), arecanut (flowering) mango (fruiting / fruit maturity), banana (sowing /vegetative), pepper, ginger and cardamom (planting) in Kerala.
- Chilli (fruiting), groundnut (pod maturity/harvesting), mango (fruit maturity /harvesting), summer green gram/ black gram (early vegetative), rice (grain filling), sugarcane (tillering) arecanut (flowering), banana (fruit development) and vegetables (all stages) in Karnataka.