

Significant weather and realized rainfall during last week:

- Significant rainfall received in Sikkim; few districts of Arunachal Pradesh; Himachal Pradesh; Madhya Pradesh; Dibrugarh, Sibsagar, Tinsukia districts of Assam; Anantnag, Doda, Kupwara, Poonch, Ramban districts of Jammu & Kashmir; Uttarkashi district of Uttarakhand; one or two districts of Chattisgarh, Kerala and Tamil Nadu. Mainly dry weather prevailed over rest parts of the country.

Major Features of Weather Forecast up to 0830 hours IST of 25th March, 2013

- Rain/thundershowers would occur at a few places over Jammu & Kashmir and Himachal Pradesh and at one or two places over Uttarakhand, Punjab, Haryana, Delhi and north Rajasthan from 23rd March and increase thereafter.
- Rain/thundershowers would occur at one or two places over east Madhya Pradesh and north Chhattisgarh during next 24 hours.
- Rain/thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Assam & Meghalaya during next 24 hours and at one or two places thereafter.
- Rain/thundershowers would occur over one or two places over Nagaland, Manipur, Mizoram & Tripura.
- Mainly dry weather would prevail over rest parts of the country.

Weather Warning during next 3 days

- Thundersquall would occur at one or two places over Sub-Himalayan West Bengal, Assam & Meghalaya and Nagaland during next 24 hours.

Regionwise Salient Advisories

North India

Major crops

- Wheat (ear head emergence / milky / dough / grain maturity), mustard (capsule formation / maturity / harvesting)



- As there are chances of rainfall at a few places in Jammu & Kashmir, Himachal Pradesh and at one or two places over Uttarakhand, Punjab, Haryana, Delhi and north Rajasthan from 23rd and increase thereafter, farmers are advised to postpone irrigation to the standing crops in these States. As there was no significant rain over remaining parts of the region and either no significant rain or mainly dry weather is likely to prevail, apply irrigation to the standing crops.

Central India

Major crops

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



- As significant rainfall occurred in Jabalpur, Sagar, Sidhi, Singrauli and Umaria districts of East Madhya Pradesh, Guna, Hoshangabad, Rajgarh, Ujjain and Vidisha districts of West Madhya Pradesh and in Koriya district of Chhattisgarh, postpone irrigation to standing crops in these areas. As mainly dry weather prevailed over rest parts of 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

- Gram, lentil (maturity / harvesting), Wheat (milky / dough stage / grain maturity) and potato (tuber maturity/ harvesting).
- As significant rainfall occurred in East Sikkim, West Sikkim and North Sikkim during last week and rain / thundershowers would also occur at a few places during next 24 hours, farmers are advised to postpone irrigation to the standing crops. As mainly dry weather prevailed over the remaining States during last week and mainly dry weather is likely to prevail during the period, farmers are advised to apply irrigation to the standing crops in these regions.

Northeast India

Major crops

- Boro* rice (active tillering / panicle initiation), early *ahu* rice (sowing / seedling), wheat (dough stage / grain maturity), rapeseed, mustard (capsule maturity / harvesting), summer vegetables (sowing / transplanting).
- As significant rainfall occurred in Dibang Valley, East Siang, Lohit, Lower Dibang Valley, Tawang, Tirap, Upper Siang and West Siang districts in Arunachal Pradesh and Dibrugarh, Tinsukia and Sibsagar districts in Assam, postpone irrigation to the standing crops in these districts. As no significant rain occurred over remaining districts of the States of 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.

West India

Major crops

- New *suru* sugarcane (late planting / germination), summer groundnut (vegetative / flowering / pegging), summer bajra (vegetative), wheat (milk / dough / grain maturity stage).
- As no significant rain occurred over the States of the region during last couple of weeks and either isolated rain will occur or dry or mainly dry weather will prevail during the period, farmers are advised to apply irrigation to summer groundnut, late sown wheat, gram, vegetables, fruit crops etc. in Gujarat and summer bajra, sugarcane and vegetables in Madhya Maharashtra, Marathwada and Vidarbha.

South India

Major crops

- Sunflower (flowering / seed formation), rice fallow pulses (vegetative), *puncha* rice (grain formation / maturity stage), sugarcane (rationing / planting), summer sorghum, maize and cotton (sowing).
- As there was no significant rainfall occurred over the region except in Kottayam and Thiruvananthapuram districts of Kerala and Tirunelveli district of Tamil Nadu during last week, 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)

Issued by

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

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

Executive Summary

North India

- As there are chances of rainfall at a few places in Jammu & Kashmir, Himachal Pradesh and at one or two places over Uttarakhand, Punjab, Haryana, Delhi and north Rajasthan from 23rd and increase thereafter, farmers are advised to postpone irrigation to the standing crops in these States. As there was no significant rain over remaining parts of the region and either no significant rain or mainly dry weather is likely to prevail, apply irrigation to the standing crops.
- In Cold Arid Zone of Jammu & Kashmir, farmers are advised to cover the polythene of greenhouses with black polythene or maintain 2 layers of polythene over greenhouse (at least 150 gsm each) in the night for proper growth of crops.
- In view of increasing temperatures and wind speed in Delhi, farmers are advised to apply irrigation to wheat wherever the crops are at grain filling stage. Also apply light irrigation to onion crop.
- Due to present weather condition in Arid Western Plain Zone of Rajasthan, there is possibility of attack of Cucumber Mosaic Virus and Watermelon Virus in cucurbits. If symptoms are found, farmers are advised to destroy the affected plants and spray Asiphet 2 gm or mixture of Melathion 50 EC 2 ml per litre water.

Central India

- As significant rainfall occurred in Jabalpur, Sagar, Sidhi, Singrauli and Umaria districts of East Madhya Pradesh, Guna, Hoshangabad, Rajgarh, Ujjain and Vidisha districts of West Madhya Pradesh and in Koriya district of Chhattisgarh, postpone irrigation to standing crops in these areas. As mainly dry weather prevailed over rest parts of 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.
- Farmers in Chhattisgarh Plain Zone are advised to give irrigation to mango to prevent fruit dropping due to rise in temperature.
- Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised that there is possibility of leaf curl disease in the tomato and chilli crops, if found, spray Methyl demeton 25 E.C. @ 2 ml or Emidachloprid @ 0.5 ml per litre of water for their control.
- In Bastar Plateau Zone of Chhattisgarh there are chances of attack of powdery mildew in pea and mustard. Farmers are advised to spray Karathane or Calixin @ 1 gram per litre of water for its control.

East India

- As significant rainfall occurred in East Sikkim, West Sikkim and North Sikkim during last week and rain / thundershowers would also occur at a few places during next 24 hours, farmers are advised to postpone irrigation to the standing crops. As mainly dry weather prevailed over the remaining States during last week and mainly dry weather is likely to prevail during the period, farmers are advised to apply irrigation to the standing crops in these regions.
- As present weather is favourable for wilt disease in tomato and brinjal in Jharkhand, farmers are advised to spray Streptocycline @ 100 mg and Bavistin @ 0.5 g / litre of water to control it.
- In East and South Eastern Coastal Plain Zone of Odisha, increase in temperature may favour increase in stem borer in the main rice field. As a control, place 4 Pheromone traps / acre, collect the adults and destroy them. Increase in difference between daily maximum and minimum temperature favours the infestation of blast in rice. Spray 1 g Beam / litre of water after decrease of wind speed as the wind speed of 9-12 km / hr is forecast.
- The stem borer attack has been widely noticed in summer rice in North Eastern Coastal Plain Zone of Odisha; farmers are advised to use pheromone traps @ 20-25 no. per hectare. Avoid spraying during this period as the wind velocity will be around 9-12 Km / hr.

Northeast India

- As significant rainfall occurred in Dibang Valley, East Siang, Lohit, Lower Dibang Valley, Tawang, Tirap, Upper Siang and West Siang districts in Arunachal Pradesh and Dibrugarh, Tinsukia and Sibsagar districts in Assam, postpone irrigation to the standing crops in these districts. As no significant rain occurred over remaining districts of the States of 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.
- Due to cloudy weather and rise in humidity, there is possibility of stem borer infestation in *boro* rice in Central Brahmaputra Valley Zone of Assam; farmers are advised to monitor and apply appropriate plant protection measures on a non-rainy day, if infestation occurs.
- Due to dry weather conditions in Mild Tropical Plain Zone of Tripura, farmers are advised to apply irrigation in *boro* rice as moisture stress may cause problem in emergence of tillers.
- In Mild Tropical Plain Zone of Tripura farmers are advised to keep cattle in the sheds during noon hours as day temperature is going beyond 30°C along with high humidity.

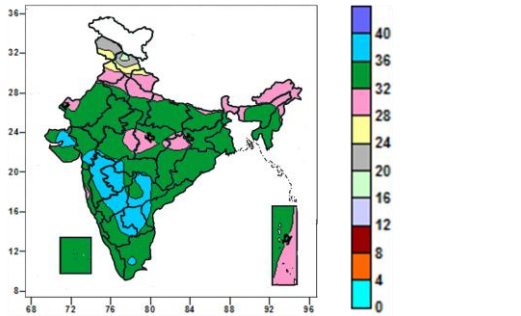
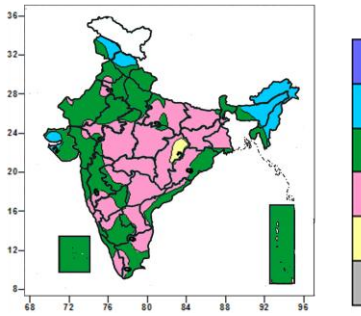
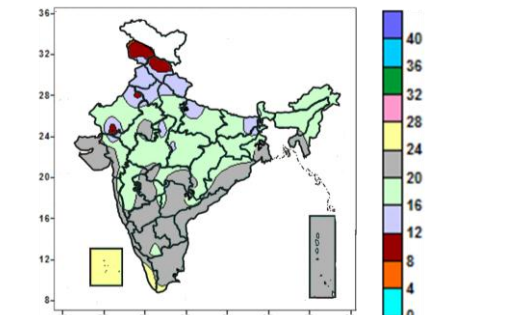
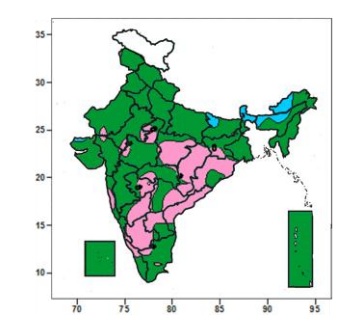
West India

- As no significant rain occurred over the States of the region during last couple of weeks and either isolated rain will occur or dry or mainly dry weather will prevail during the period, farmers are advised to apply irrigation to summer groundnut, late sown wheat, gram, vegetables, fruit crops etc. in Gujarat and summer bajra, sugarcane and vegetables in Madhya Maharashtra, Marathwada and Vidarbha.
- In view of increasing day temperature, farmers are advised for mulching with crop residues and other plant waste products in the orchards and in sugarcane field to minimize the rate of evaporation. Farmers of Konkan region are advised to use black polythene mulch (25 μ thickness) between 2 trenches or beds of the fruit crop nursery to control weeds and improve soil water conservation. Also provide 15 – 20 litres of water for newly planted mango grafts at 10-12 days interval.
- Under prevailing weather there is possibility of tikka in groundnut in North Konkan; spray Mancozeb @ 25 g or Carbendazim @ 10 g in 10 litres of water.
- There may be incidence of aphids on vegetables and pulses in Konkan due to cloudy weather and rise in temperature; for control, spray Dimethoate @ 20 ml in 10 litres of water.
- Due to high temperature in Middle Gujarat Zone and North West Zone of Gujarat, there is chance of infestation of sucking pests in vegetables; spray Dimethoate 30 EC @ 10 ml in 10 litres of water.

South India

- As there was no significant rainfall occurred over the region except in Kottayam and Thiruvananthapuram districts of Kerala and Tirunelveli district of Tamil Nadu during last week, 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.
- Increasing day temperatures are favourable for incidence of fruit borer in mango in Scarce Rainfall Zone of Andhra Pradesh. For controlling fruit borer, spray Chlorpyrifos @2.5 ml or Dichlorovos @1.5 ml or Neem oil @ 3.0 ml + Chlorpyrifos @ 2.5 ml or Fenprothrin 1.0ml per one litre of water.
- Farmers in the North East Transition Zone of Karnataka are advised to provide irrigation to sugarcane and mango as there will be no rainfall for next five days.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 20.03.2013

<p>Actual Mean Maximum Temperature (°C) in India for the week ending 20.03.2013</p> 	<p>Mean Maximum Temperature (°C) Anomaly in India for the week ending 20.03.2013</p> 
<p>Actual Mean Maximum temperature ranged between 36 to 40°C over many parts of Madhya Maharashtra, Marathwada, Telangana, Raylaseema, North Interior Karnataka, some parts of Gujarat, Saurashtra & Kutch, West Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh, South Interior Karnataka, Tamil Nadu, 28 to 32°C over many parts of Uttarakhand, Punjab, Hrayana, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, some parts of Uttar Pradesh, Bihar, Assam, Nagaland, Chattisgarh, Madhya Pradesh, Andaman & Nicobar Islands, 24 to 28°C over some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, 20 to 24°C over many parts of Jammu & Kashmir, Himachal Pradesh, 16 to 20°C over some parts of Himachal Pradesh, 32 to 36°C over remaining parts of the country.</p>	<p>Mean Maximum temperature anomaly ranged between 2 to 4°C over many parts of Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, some parts of Tripura, Saurashtra & Kutch, -2 to 0°C over many parts of East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal Orissa, Central India, Vidarbha, Marathwada, Andhra Pradesh, North Interior Karnataka, some parts of Punjab, Haryana, Rajasthan, Gujarat, Madhya Maharashtra, Marathwada, Konkan & Goa, Coastal & South Interior Karnataka, Tamil Nadu, Kerala, 0 to 2°C over rest of the country.</p>
<p>Actual Mean Minimum Temperature (°C) in India for the week ending 20.03.2013</p> 	<p>Mean Minimum Temperature (°C) Anomaly in India for the week ending 20.03.2013</p> 
<p>Actual Mean Minimum Temperature ranged between 24 to 28°C over many parts of Lakshadweep, some parts of Kerala, Tamil Nadu, 20 to 24°C over many parts of Mizoram, Tripura, Orissa, Konkan & Goa, Marathwada, Vidarbha, Saurashtra & Kutch, Andhra Pradesh, Karnataka, Tamil Nadu, Andaman & Nicobar Islands, some parts of East Rajasthan, Gangetic West Bengal, West Madhya Pradesh, Madhya Maharashtra, Kerala, 8 to 12°C over many parts of Jammu & Kashmir, Himachal Pradesh, some parts of West Rajasthan, 12 to 16 over many parts of Uttarakhand, Punjab, Haryana, Delhi, some parts of Jammu & Kashmir, Himachal Pradesh, Rajasthan, Uttar Pradesh, Bihar, Madhay Pradesh, Gujarat, 16 to 20°C over remaining parts of the country.</p>	<p>Minimum Temperature anomaly ranged between 2 to 4°C over many parts of Sub-Himalayan West Bengal & Sikkim, some parts of Bihar, Assam & Meghalaya, Arunachal Pradesh, Kutch, -2 to 0°C over many parts of East Madhya Pradesh, Chhattisgarh, Orissa, Andhra Pradesh, North & South Interior Karnataka, some parts of Rajasthan, Jharkhand, West Madhya Pradesh, Gujarat, Konkan & Goa, Marathwada, Vidarbha, Coastal Karnataka, North Kerala, Tamil Nadu, 0 to 2°C over rest of the country.</p>

Significant weather and realized rainfall during last week

Significant rainfall received in Dibang Valley, East Siang, Lohit, Lower Dibang Valley, Tawang, Tirap, Upper Siang, West Siang districts of Arunachal Pradesh; Dibrugarh, Sibsagar, Tinsukia districts of Assam; Kinnaur, Kullu, Lahaul and Spiti, Mandi, Shimla, Solan districts of Himachal Pradesh; Anantnag, Doda, Kupwara, Poonch, Ramban districts of Jammu & Kashmir; Uttarkashi district of Uttarakhand; Jabalpur, Sagar, Sidhi, Singrauli, Umaria districts of East Madhya Pradesh; Guna, Hosangabad, Rajgarh, Ujjain, Vidisha districts of West Madhya Pradesh; Koriya district of Chattisgarh; Sikkim; Kottayam, Thiruvananthapuram districts of Kerala; Tirunelveli district of Tamil Nadu. Mainly dry weather prevailed over rest parts of the country.

Distribution of rainfall of the country during week ending on 20.03.2013

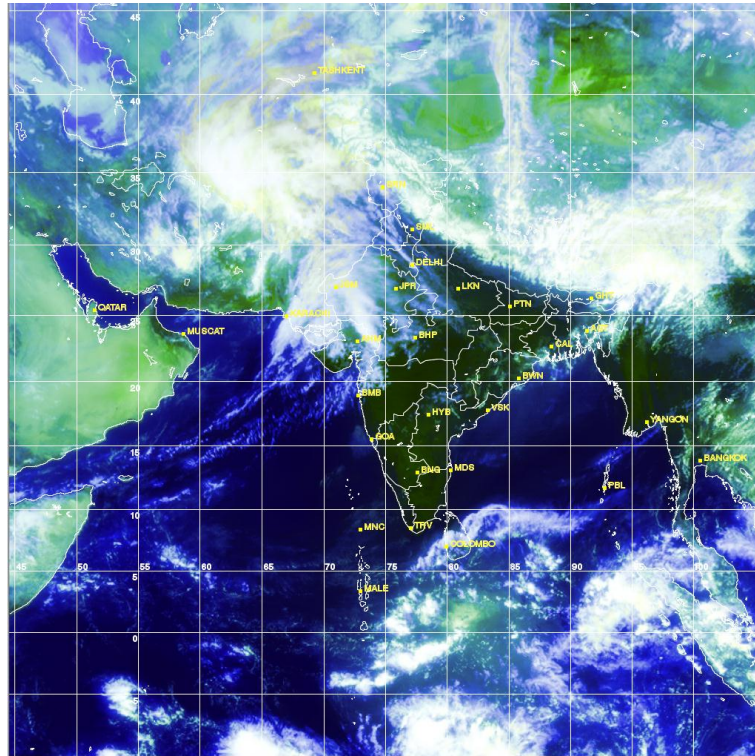
State/Districts	Actual (mm)	(% Dep.)			
Arunachal Pradesh			Kangra	13.1	-38
Anjaw	**	**	Kinnaur	33	12
Changlang	8.3	-92	Kullu	47.7	32
Dibang Valley	90	27	Lahaul and Spiti	24.8	-46
East Kameng	3.8	-81	Mandi	27.2	18
East Siang	20.5	-19	Shimla	37.7	79
Kurung Kumey	**	**	Sirmaur	11.9	17
Lohit	24.7	-45	Solan	28.9	109
Lower Dibang Valley	25.0	-65	Una	3.9	-57
Lower Subansari	0.0	-100	Jammu & Kashmir		
Papumpara	10.9	-70	Anantnag	20.0	-48
Tawang	21.0	48	Badgam	16.8	-29
Tirap	21.1	-26	Bandipore	**	**
Upper Siang	102.6	23	Baramula	16.0	-82
Upper Subansari	16.4	-41	Doda	29.8	-42
West Kameng	8.2	-42	Ganderwal	12.6	-50
West Siang	59.5	256	Jammu	6.1	-53
Assam			Kargil	0.0	-100
Baksa	0.0	-100	Kathua	8.2	-33
Barpeta	0.0	-100	Kistwar	**	**
Bongaigaon	1.5	-83	Kulgam	18.6	-51
Cachar	0.4	-99	Kupwara	34.7	-36
Chirang	6.0	-33	Ladakh(Leh)	0.0	-100
Darrang	0.0	-100	Poonch	30.0	39
Dhemaji	1.0	-95	Pulwama	8.0	-66
Dhubri	0.0	-100	Rajouri	19.4	120
Dibrugarh	32.5	7	Ramban	38.2	-26
Goalpara	0.0	-100	Reasi	12.2	-62
Golghat	2.0	-85	Samba	5.9	-55
Hailakandi	0.0	-100	Shopian	18.0	-23
Jorhat	16.3	-12	Srinagar	15.7	-38
Kamrup(Rural)	5.7	-56	Udhampur	6.7	-79
Kamrup(Metro)	0.0	-100	East Madhya Pradesh		
Karbi Anglong	0.4	-97	Anuppur	3.5	9
Karimganj	0.0	-100	Balaghat	2.2	-9
Kokrajhar	1.7	-56	Chhatarpur	0.4	-56
Lakhimpur	2.5	-87	Chindwara	0.0	-100
Morigaon	0.0	-100	Damoh	19.2	1100
N.C.Hills	0.0	-100	Dindori	1.2	-48
Nowgong	0.8	-92	Jabalpur	27.4	1205
Nalbari	0.9	-93	Katni	0.0	-100
Sonitpur	1.1	-91	Mandla	16.5	259
Sibsagar	21.8	0	Narsingpur	2.6	117
Tinsukia	33.4	-9	Panna	0.0	-100
Udalgiri	0.0	-100	Rewa	11.0	631
Himachal Pradesh			Sagar	30.7	960
Bilaspur	10.3	-15	Satna	6.8	196
Chamba	15.6	-38	Seoni	14.0	158
Hamirpur	2.8	-78	Shahdol	4.0	186
			Sidhi	22.4	833
			Singrauli	25.0	1371
			Tikamgarh	3.5	600
			Umaria	44.6	1139
			West Madhya Pradesh		
			Alirajpur	0.0	-100
			Asoknagar	12.5	1289
			Badwani	0.0	-100
			Betul	4.5	124
			Bhind	0.0	-100
			Bhopal	15.6	1200
			Burhanpur	0.0	-100
			Datia	2.7	167
			Dewas	3.2	188
			Dhar	2.0	552
			Guna	30.8	1521
			Gwalior	0.0	-100
			Harda	0.1	-80
			Hosangabad	24.4	961
			Indore	8.9	1379
			Jhabua	0.0	-100
			Khandwa	0.3	-76
			Khargone	0.0	-100
			Mandsaur	7.3	3538
			Morena	0.0	-100
			Neemuch	2.2	340
			Raisen	12.6	601
			Rajgarh	28.0	3011
			Ratlam	5.0	733
			Sehore	9.8	654
			Shajapur	11.5	2200
			Sheopur Kalani	1.0	150
			Shivpuri	0.0	-100
			Ujjain	26.6	4333
			Vidisha	23.8	1388
			Chattisgarh		
			Bastar	0.0	-100
			Bijapur	0.0	-100
			Bilaspur	6.1	65
			Dantewara	5.0	525
			Dhamtari	0.0	-100
			Durg	1.9	-17
			Janjgir	2.7	67
			Jashpurnagar	1.5	-12
			Kanker	0.0	-100
			Korba	0.5	-71
			Koriya	22.1	1061
			Kawardha	6.0	107
			Mahasumund	0.5	-38
			Narayanpur	1.0	-71
			Raigarh	0.0	-100
			Raipur	3.5	44
			Rajandgaon	0.0	-100
			Surguja	5.0	138
			Uttarakhand		

Almora	5.9	-26	Alappuzha	9.7	14	Krishnagiri	0.0	-100
Bageshwar	9.1	14	Kannur	0.0	-100	Madurai	0.0	-100
Chamoli	19.1	-15	Ernakulam	10.8	66	Nagapattinam	0.2	-89
Champawat	4.5	-43	Idukki	7.6	-6	Namakkal	0.0	-100
Dehradun	11.5	-7	Kasaragod	0.0	-100	Nilgiris	0.1	-98
Garhwal Pauri	2.1	-79	Kollam	6.3	-51	Perambalur	0.0	-100
Garhwal Tehri	12.1	-3	Kottayam	28.9	291	Puducherry	0.0	-100
Haridwar	1.0	-77	Kozhikode	0.7	-85	Pudukottai	0.0	-100
Nainital	10.9	42	Malappuram	8.1	138	Ramanathapuram	2.7	-40
Pithorgarh	11.3	-17	Palakkad	0.6	-85	Salem	0.0	-100
Rudraprayag	16.8	-19	Pathanamthitta	13.0	7	Sivaganga	0.0	-100
Udham Sing Nagar	11.2	313	Thiruvananthapuram	21.0	147	Thanjavur	2.4	14
Uttarkashi	22.0	6	Thrissur	3.0	-30	Theni	2.7	-57
West Bengal			Wyanad	18.9	411	Tirunelveli	24.3	155
SHWB			Tamil Nadu			Tirupur	0.0	-100
Cooch Behar	0.0	-100	Ariyalur	0.0	-100	Tiruvallur	0.1	-88
Darjeeling	1.4	-88	Chennai	0.1	-78	Tiruvannamalai	0.0	-100
East Sikkim	36.0	114	Coimbatore	1.4	-47	Tiruvarur	0.0	-100
Jalpaiguri	0.0	-100	Cuddalore	0.0	-100	Toothukudi	9.3	39
Malda	0.8	-60	Dharmapuri	0.0	-100	Trichy	0.0	-100
North Dinajpur	0.0	-100	Dindigul	0.9	-76	Vellore	0.0	-100
North Sikkim	40.6	-28	Erode	0.0	-100	Villupuram	0.0	-100
South Dinajpur	0.0	-100	Kanchipuram	0.0	-100	Virudhunagar	2.0	-66
South Sikkim	17.1	2	Kanyakumari	1.3	-86	Andhra Pradesh		
West Sikkim	30.0	-47	Karikal	0.0	-100			
Kerala			Karur	0.0	-100			

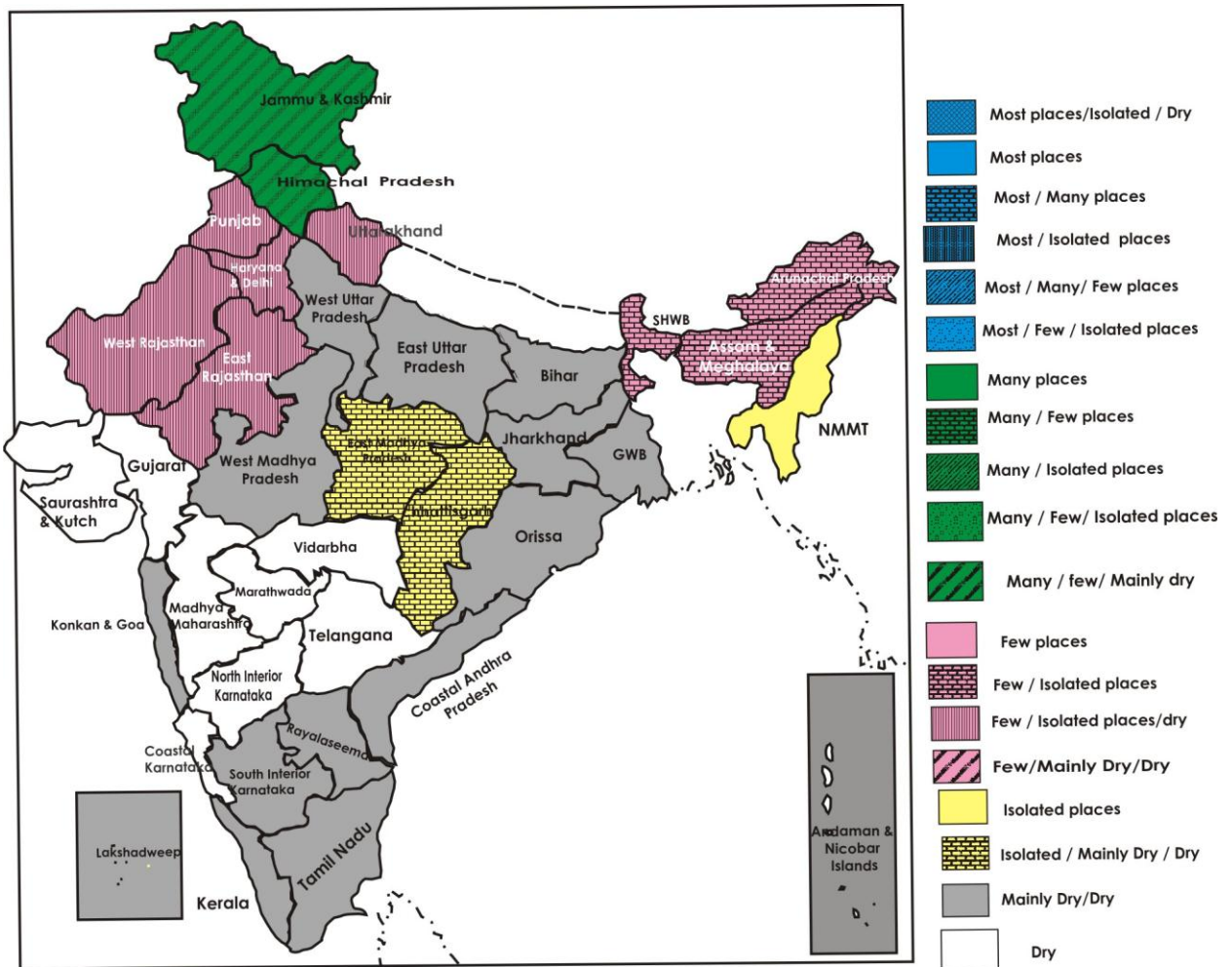
Legends

	(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 22nd March, 2013



Weather Forecast (Valid upto 0830 hours of 25th March, 2013)



Major Feature of Weather Forecast up to 0830 hours IST of 25th March, 2013

- Rain/thundershowers would occur at a few places over Jammu & Kashmir and Himachal Pradesh and at one or two places over Uttarakhand, Punjab, Haryana, Delhi and north Rajasthan from 23rd March and increase thereafter.
- Rain/thundershowers would occur at one or two places over east Madhya Pradesh and north Chhattisgarh during next 24 hours.
- Rain/thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Assam & Meghalaya during next 24 hours and at one or two places thereafter.
- Rain/thundershowers would occur over one or two places over Nagaland, Manipur, Mizoram & Tripura.
- Mainly dry weather would prevail over rest parts of the country.

Weather Warning during next 3 days

- Thundersquall would occur at one or two places over Sub-Himalayan West Bengal, Assam & Meghalaya and Nagaland during next 24 hours.

Weather Outlook for subsequent 4 days from 25th to 29th March, 2013

- Rain/thundershowers would occur at one or two places over western Himalayan region, Punjab, Haryana, Delhi and west Uttar Pradesh on 25th March.
- Rain/thundershowers would occur at one or two places over northeastern states on 25th March and increase thereafter.
- A fresh western disturbance may affect western Himalayan region from 27th March.
- Weather would be mainly dry over rest of the country.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall received in Anantnag, Doda, Kupwara, Poonch, Ramban districts of Jammu & Kashmir, Kinnaur, Kullu, Lahaul and Spiti, Mandi, Shimla and Solan districts of Himachal Pradesh and Uttarkashi district of Uttarakhand. Weather remained mainly dry over rest parts of the region.
- **Weather Forecast:** Rain / thundershowers would occur at a few places over Jammu & Kashmir and Himachal Pradesh and at one or two places over Uttarakhand, Punjab, Haryana, Delhi and north Rajasthan from 23rd and increase thereafter. Mainly dry weather would prevail over rest parts of the region.
- **Advisory:**
 - As there are chances of rainfall in Jammu & Kashmir, Himachal Pradesh and at one or two places over Uttarakhand, Punjab, Haryana, Delhi and north Rajasthan from 23rd and increase thereafter, farmers are advised to postpone irrigation to the standing crops in these States. As there was no significant rain over remaining parts of the region and either no significant rain or mainly dry weather is likely to prevail, apply irrigation to the standing crops.
 - In Sub Tropical Zone of Jammu & Kashmir, farmers are advised to harvest matured mustard crop immediately, if 75-80 percent of the pod is matured.
 - In Cold Arid Zone of Jammu & Kashmir, farmers are advised to cover the polythene of greenhouses with black polythene or maintain 2 layers of polythene over greenhouse (at least 150 gsm each) in the night for proper growth of crops.
 - In view of increasing temperatures and wind speed in Delhi, farmers are advised to apply irrigation to wheat wherever the crops are at grain filling stage. Also apply light irrigation to onion crop.
 - Due to present weather condition in Arid Western Plain Zone of Rajasthan, there is possibility of attack of Cucumber Mosaic Virus and Watermelon Virus in cucurbits. If symptoms are found, farmers are advised to destroy the affected plants and spray Asiphet @ 2 g or mixture of Melatheaon 50 EC @ 2 ml per litre water.
 - 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**
 - Due to variation in temperature in Himachal Pradesh, farmers are advised to protect the animals (especially new born calves) during night hours. In grazing animals, there are chances of increased tick infestation during this period. In case of tick infestation ectoparasiticide like Cypermethrin (10% w/v) @ 2-3 ml / litre of water can be applied on animal body.
 - Due to expected increase in day temperature in Uttarakhand, keep all animal inside the shed during noon time. Give the animals fresh water for drinking.
 - In Valley Temperate Zone of Jammu & Kashmir, it is advised to make arrangements for proper insulation of sheds particularly during night hours. Livestock should not be allowed to graze in the fields during early morning hours.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in Jabalpur, Sagar, Sidhi, Singrauli and Umaria districts of East Madhya Pradesh, Guna, Hoshangabad, Rajgarh, Ujjain and Vidisha districts of West Madhya Pradesh and in Koriya district of Chhattisgarh.
- **Weather forecast:** Rain/thundershowers would occur at one or two places over East Madhya Pradesh and north Chhattisgarh during next 24 hours. Mainly dry weather would prevail over West Madhya Pradesh.
- **Advisories:**
 - As significant rainfall occurred in Jabalpur, Sagar, Sidhi, Singrauli and Umaria districts of East Madhya Pradesh, Guna, Hoshangabad, Rajgarh, Ujjain and Vidisha districts of West Madhya Pradesh and in Koriya district of Chhattisgarh, postpone irrigation to standing crops in these areas. As mainly dry weather prevailed over rest parts of 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.
 - Farmers in Chhattisgarh Plain Zone are advised to give irrigation to mango to prevent fruit dropping due to rise in temperature.
 - As partial cloudy and increase in temperature is expected, farmers are advised to irrigate late sown wheat and vegetable crops in Central Narmada Valley Zone of Madhya Pradesh and harvest wheat, oilseeds and pulse crops in Kymore and Satpura Plateau Zone of Madhya Pradesh.
 - As no rainfall is expected and dry weather prevailed in Malwa Plateau Zone, Gird Zone and Nimar Valley Zone of Madhya Pradesh, farmers are advised to irrigate late sown wheat crop.

- Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised that there is possibility of leaf curl disease in the tomato and chilli crops, if found, spray Methyl demeton 25 E.C. @ 2 ml or Emidachloprid @ 0.5 ml per litre of water for their control.
- Farmers in Malwa Plateau Zone of Madhya Pradesh advised that to prevent dropping of fruits and flowers in mango, spray hormone planofix @ 1ml in 4.5 litre of water. Looking to the adverse weather conditions, fungal attack on mango flower is also possible, for its control spray Bavistin @ 1 gm/litre of water. Also in the present weather conditions, there is a possibility of attack of thrips in garlic. Spray Rogor @ 1ml/litre in water solution on the crop. There is also possibility of attack of aphids in tomato, chilli and brinjal. To control, spray of malathion @ 2 ml/litre in water.
- In Bastar Plateau Zone of Chhattisgarh there are chances of attack of powdery mildew in pea and mustard. Farmers are advised to spray Karathane or Calixin @ 1 gram per litre of water for its control.
- Other advisories are mentioned in Annexure – I.
- Stages of major crops are mentioned in Annexure II.
- **ANIMAL HUSBANDRY & POULTRY**
 - Farmers in Kymore Plateau and Satpura Hill Zone of Madhya Pradesh are advised to vaccinate their calves to prevent from foot and mouth disease.

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

- **Realised Rainfall:** Significant rainfall occurred in East Sikkim, West Sikkim and North Sikkim in Sub-Himalayan West Bengal and mainly dry weather prevailed over rest of the States of the region during last week.
- **Weather Forecast:** Rain / thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim during next 24 hours and one or two places thereafter. Mainly dry weather would prevail over rest parts of the region.
- **Weather Warning:** Thundersquall would occur at one or two places over Sub-Himalayan West Bengal during next 24 hours.
- **Advisories:**
 - As significant rainfall occurred in East Sikkim, West Sikkim and North Sikkim during last week and rain / thundershowers would also occur at a few places during next 24 hours, farmers are advised to postpone irrigation to the standing crops. As mainly dry weather prevailed over the remaining States during last week and mainly dry weather is likely to prevail during the period, farmers are advised to apply irrigation to the standing crops in these regions.
 - Due to prevailing dry weather condition, farmers in South Bihar Alluvial Zone are advised to apply irrigation to late sown wheat at milk stage and in summer vegetables.
 - As present weather is favourable for wilt disease in tomato and brinjal in Jharkhand, farmers are advised to spray 100 mg of Streptocycline and Bavistin @ 0.5 g / litre of water to control it.
 - In view of prevailing dry weather condition in Jharkhand, farmers are advised to continue harvesting of potato, rapeseed and mustard and store the harvested produce at safe place.
 - Temperature is now suitable for proper germination of cucurbits like pumpkin, bitter gourd and bottle gourd in North Eastern Plateau Zone of Odisha; farmers are advised to continue sowing in the prepared field.
 - As weather will remain dry and temperature is expected to rise, farmers of North Eastern Coastal Plain Zone of Odisha are advised to apply irrigation to groundnut and sunflower.
 - 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.
 - Under the prevailing weather condition in New Alluvial Zone of West Bengal, there is possibility of increased attack of Anthracnose leading to black spot in mango; to control it, spray 1 ml Carbendazim per litre of water.
 - In East and South Eastern Coastal Plain Zone of Odisha, increase in temperature may favour increase in stem borer in the main rice field. As a control, place 4 Pheromone traps / acre, collect the adults and destroy them. Increase in difference between daily maximum and minimum temperature favours the infestation of blast in rice. Spray 1 g Beam / litre of water when wind velocity is less as the wind velocity 9-12 Km / hr is forecast.
 - The stem borer attack has been widely noticed in summer rice in North Eastern Coastal Plain Zone of Odisha; farmers are advised to use pheromone traps @ 20-25 no. per hectare. Avoid spraying during this period as the wind velocity will be around 9-12 Km / hr.
 - 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**
 - As temperature is increasing, farmers in North West Alluvial Plain Zone of Bihar are advised to keep livestock in shade.
- **Poultry:**
 - In Orissa, due to rise in temperature, give poultry birds drinking water 2-3 times in a day. The farmers are advised to vaccinate poultry against Ranikhet disease.

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

- **Realised Rainfall:** Significant rainfall occurred in Dibang Valley, East Siang, Lohit, Lower Dibang Valley, Tawang, Tirap, Upper Siang and West Siang districts in Arunachal Pradesh and Dibrugarh, Tinsukia and Sibsagar districts in Assam. 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 Arunachal Pradesh and Assam & Meghalaya during next 24 hours and at one or two places thereafter. Rain / thundershowers would occur at one or two places over Nagaland, Manipur, Mizoram and Tripura.
- **Weather Warning:** Thundersquall would occur at one or two places over Assam & Meghalaya and Nagaland during next 24 hours.
- **Advisories:**
 - As significant rainfall occurred in Dibang Valley, East Siang, Lohit, Lower Dibang Valley, Tawang, Tirap, Upper Siang and West Siang districts in Arunachal Pradesh and Dibrugarh, Tinsukia and Sibsagar districts in Assam, postpone irrigation to the standing crops in these districts. As no significant rain occurred over remaining districts of the States of 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.
 - 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. In tomato, reduced soil moisture hinders availability of calcium; farmers are advised to ensure weekly irrigation for optimum fruit setting.
 - Due to cloudy weather and rise in humidity, there is possibility of stem borer infestation in *boro* rice in Central Brahmaputra Valley Zone of Assam; farmers are advised to monitor and apply appropriate plant protection measures on a non-rainy day, if infestation occurs.
 - Due to dry weather conditions in Mild Tropical Plain Zone of Tripura, farmers are advised to apply irrigation in *boro* rice as moisture stress may cause problem in emergence of tillers.
 - 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 farmers are advised to keep cattle in the sheds during noon hours as day temperature is going beyond 30°C along with high humidity.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** No significant rain occurred in the districts of the States of the region during last week.
- **Weather Forecast:** Dry / mainly dry weather would prevail over the States of the region during the period.
- **Advisories:**
 - As no significant rain occurred over the States of the region during last couple of weeks and dry or mainly dry weather will prevail during the period, farmers are advised to apply irrigation to summer groundnut, late sown wheat, gram, vegetables, fruit crops etc. in Gujarat and summer bajra, sugarcane and vegetables in Madhya Maharashtra, Marathwada and Vidarbha.
 - In view of increasing day temperature, farmers are advised for mulching with crop residues and other plant waste products in the orchards and in sugarcane field to minimize the rate of evaporation. Farmers of Konkan region are advised to use black polythene mulch (25 μ thickness) between 2 trenches or beds of the fruit crop nursery to control weeds and improve soil water conservation. Also provide 15 – 20 litres of water for newly planted mango grafts at 10-12 days interval.
 - To reduce the rate of transpiration of the plants in Pune region, farmers are advised to spray 8% Kaolin or chalk powder. Farmers in Marathwada region are advised to spray Kaolin @ 6 g in 10 litres of water in sugarcane field.
 - As dry weather is expected, farmers of Madhya Maharashtra and Marathwada are advised to complete the harvesting of late sown wheat in morning hours. They are also advised to store the produce in cool and dry place.
 - Maximum temperature will rise up to 37°C during day time in North Saurashtra Zone of Gujarat; under such conditions apply irrigation to the standing crops at regular intervals.
 - Taking advantage of dry weather in Bhal and Coastal Zone of Gujarat, farmers are advised to complete harvesting of matured *rabi* crops like wheat, mustard and chickpea.
 - As dry weather prevailed in last few weeks and is likely to continue in South Saurashtra Zone, North Gujarat Zone and Bhal and Coastal Zone, apply irrigation in summer groundnut. Apply irrigation in mango at an interval of 10 to 12 days in South Saurashtra Zone.

- In view of prevailing dry weather and increasing temperatures in Middle Gujarat Zone, apply irrigation in summer groundnut, late sown wheat and gram.
- Due to high temperature in North Gujarat Zone, irrigate all vegetables during evening hours.
- Under prevailing weather there is possibility of tikka in groundnut in North Konkan; spray Mancozeb @ 25 g or Carbendazim @ 10 g in 10 litres of water.
- There may be incidence of aphids on vegetables and pulses in Konkan due to cloudy weather and rise in temperature; for control, spray Dimethoate @ 20 ml in 10 litres of water.
- Due to high temperature in Middle Gujarat Zone and North West Zone of Gujarat, there is chance of infestation of sucking pests in vegetables; spray Dimethoate 30 EC @ 10 ml in 10 litres of water.
- 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 the high temperatures 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 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. Make shade arrangement with proper ventilation to protect animals from direct sunlight and temperature in South Gujarat Heavy Rainfall Zone.
 - To protect cattle from summer heat in North Saurashtra Zone, shower the animals with cold water two to three times in 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 Kottayam and Thiruvananthapuram districts of Kerala and Tirunelveli district of Tamil Nadu during last week and mainly dry weather prevailed over rest of the region.
- **Rainfall Forecast:** Mainly dry weather would prevail over the region during the period.
- **Advisories:**
 - As there was no significant rainfall occurred over the region except in Kottayam and Thiruvananthapuram districts of Kerala and Tirunelveli district of Tamil Nadu during last week, 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.
 - In the Problem Area Zone of Kerala, as wind speed is likely to increase, farmers are advised to undertake propping in banana to prevent lodging.
 - Farmers in the North East Transition Zone of Karnataka are advised to provide irrigation to sugarcane and mango as there will be no rainfall for next five days.
 - Increasing day temperatures are favourable for incidence of fruit borer in mango in Scarce Rainfall Zone of Andhra Pradesh. For controlling fruit borer, spray Chlorpyrifos @2.5 ml or Dichlorovos @1.5 ml or Neem oil @ 3.0 ml + Chlorpyrifos @ 2.5 ml or Fenprothrin 1.0ml per one litre of water.
 - Weather is congenial for incidence of blast in rice in the North Telangana Zone of Andhra Pradesh. Farmers are advised 2 to 3 sprays of Tricyclazole 75 WP @ 0.6 g ml per litre of water or Isoprothiolane 40 EC @1.5 ml lit per litre of water at 15 days interval.
 - Weather is congenial for incidence of Early Shoot borer in sugarcane in Southern Zone of Andhra Pradesh. Farmers are advised to spray Chlorpyrifos @ 2.5 ml per litre of water.
 - Other advisories are mentioned in Annexure – I.
 - Stages of major crops are mentioned in Annexure II.
- **Animal Husbandry:**
 - As the day temperatures would reach 38°C in the North Western Zone of Tamil Nadu, heat stress in poultry birds is likely to increase. Hence, farmers are advised to give due care to birds with summer management like monitoring for availability of water throughout day time and the temperature of the water flowing through the pipeline should be frequently evacuated to prevent rise in water temperature, to reduce the heat stress in poultry.

Annexure I

Other Advisories

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

- In Sub Tropical Zone of Jammu & Kashmir, farmers are advised to harvest matured mustard crop, if 75-80 percent of the pod is matured. They are also advised to prepare field for sowing pulses like mash, moong after harvesting of early sown mustard and potato crop.
- In Cold Arid Zone of Jammu & Kashmir, farmers are advised to harvest cabbage, broccoli, chinese cabbage, lettuce, beet leaf var. Mongol, spinach, coriander and mint at 10-15 days intervals in the greenhouses.
- In Central Plain Zone of Uttar Pradesh, farmers are advised to continue sowing / transplanting of cucurbitaceous and lady's finger, sowing of autumn maize and planting of autumn sugarcane. Complete harvesting of brinjal, chillies, leafy vegetable, potato, sugarcane and mustard. Undertake transplanting of papaya plants in new orchard.
- In Arid Western Plain Zone of Rajasthan, farmers are advised to undertake deep summer ploughing immediately after harvesting of *rabi* crops. Prepare field for sowing of *zaid* crops i.e. jowar, bajra for summer green fodder.
- In Semi Arid Eastern Plain Zone of Rajasthan, farmers are advised to start sowing of summer okhra, cucurbits, *zaid* crops viz. pearl millet fodder, sorghum fodder and green gram.
- Farmers in Punjab are advised to undertake transplanting of chilli, sowing of okra, moong, mash and sowing of early summer and multicut fodder during this month to meet fodder scarcity during lean period. They are also advised to start planting of sugarcane.
- Farmers in Delhi are advised for harvesting of matured mustard. They are also advised to start sowing of green gram, black gram and direct sowing of French bean, amaranthus, vegetable lobia, lady's finger, bottle gourd, cucumber, ridge gourd and summer radish, as present temperature is suitable for germination of seeds.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Farmers in Kymore Plateau and Satpura Hill Zone of Madhya Pradesh are advised to harvest potato, onion and garlic crops and store at appropriate place.
- Farmers those who have irrigation facilities in Gird Zone of Madhya Pradesh are advised to undertake sowing of soybean. They are also advised to sow summer moong and urad.
- Farmers in Bundelkhand Zone of Madhya Pradesh are advised to undertake sowing of moong crop.
- Farmers in Vindhya Plateau Zone of Madhya Pradesh are advised to sow summer moong and urad crops.
- Attack of stem borer in late sown wheat crop is noticed in Vindhyan Plateau Zone of Madhya Pradesh. Farmers are advised to spray trizophas 40 E.C. @ 2 ml. per liter of water for their control.

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

- The farmers of Puri district in East and South Eastern Coastal Plain Zone of Odisha are advised to undertake sowing of summer cow pea and sesame.
- Farmers in North West and South Bihar Alluvial Plain Zone are advised to continue sowing of summer mung and urad.
- Farmers of Mid Central Table Land Zone of Odisha are advised to complete sowing of different summer vegetables like pumpkin, bitter gourd and bottle gourd. Before sowing the seeds are to be soaked overnight in water.
- The farmers of East and South Eastern Coastal Plain Zone of Odisha are advised to complete sowing of maize, sesame, green gram and black gram and continue sowing of summer cow pea.
- Early planted sugarcane crop is at 75 days stage in East and South Eastern Coastal Plain Zone of Odisha. Farmers are advised to go for hoeing and weeding. Apply 33 kg N followed by earthing up.
- The farmers of North Central Plateau Zone of Odisha are advised to complete sowing of green gram and black gram with inoculation of the seeds with Rhizobium culture and drying it under shade before sowing. Also complete sowing of Sunflower.
- Fruit and shoot borer in brinjal has been found in Mid Central Table Land Zone of Odisha. Farmers are advised to install pheromone trap @12 nos /acre. Alternately spray 4 g Sevin WP or 2 ml Malathion in 1 litre of water. Thrips in chilli has been found. Spray 300 ml Ethion or 400 ml Carbosulphan in 200 litre water/acre.
- Farmers in Jharkhand are advised to undertake sowing of summer vegetables like sponge gourd, bottle gourd, pumpkin, water melon, musk melon, okra etc. and transplanting of onion.
- Farmers in Jharkhand are advised to sow moong and different summer vegetable like cauliflower, cabbage, chilli along with cucurbitaceous crops.
- Farmers in Jharkhand are advised not to apply irrigation and insecticides in Mango and Litchi as they are at flowering stage.
- Farmers in New Alluvial Zone and Laterite and Red Soil Zone of West Bengal are advised to prepare land and complete sowing of sesame.

- Farmers in New Alluvial Zone of West Bengal are advised to undertake sowing of jute and complete the sowing operation of moong and lentil within the next week.
- Farmers in Coastal Saline Zone of West Bengal are advised to prepare sandy loam soil for cultivation of Watermelon. Before sowing seed should be treated with Mancozeb M45 @ 3 g / kg of seed.
- Farmers in Old Alluvial Zone of West Bengal are advised for sowing of different summer vegetables such as pointed gourd, lady's finger, brinjal, chili etc. Due to favourable weather condition in Terai Zone of West Bengal Farmers are advised to prepare land for sowing of jute and maize.

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

- In Upper Brahmaputra Valley Zone and Barak Valley Zone of Assam, farmers are advised to continue land preparation and sowing of summer pulses and summer vegetables.
- In Hill Zone, Barak Valley Zone and Lower Brahmaputra Valley Zone of Assam, farmers are advised to continue nursery raising of early *ahu* rice.
- In Lower Brahmaputra Valley Zone of Assam, farmers are advised to undertake sowing of *baou* rice and continue sowing of maize, jute, summer pulses like black gram and green gram and summer vegetable crops like pumpkin, ridge gourd, sponge gourd, okra etc.
- Farmers in North Bank Plain Zone of Assam are advised to continue sowing of summer vegetables like ridge gourd, sponge gourd, cucumber, bitter gourd, okra etc. and undertake land preparation for sowing of summer pulses.
- Farmers in Central Brahmaputra Valley Zone of Assam are advised to continue land preparation and sowing of summer pulses, *Capsularis* jute and summer vegetables and undertake harvesting of matured wheat crop.
- Farmers in Sub-Tropical Hill Zone of Arunachal Pradesh are advised to continue land preparation for *jhum* rice and sowing of okra, maize, soya bean, black gram, green gram and French bean. Also undertake sowing of cucurbits.
- Farmers in Mild Tropical Hill Zone of Mizoram are advised to continue land preparation and sowing of okra, chilli, brinjal, ginger, turmeric and cucurbits.
- In Mild Tropical Plain Zone of Tripura, farmers are advised to apply irrigation to summer brinjal and tomato.
- Farmers in Sub Tropical Plain Zone of Manipur are advised to continue land preparation for nursery raising of *pre-kharif* rice, intercultural operation in cucurbits and undertake harvesting of rapeseed and pea.
- Farmers in Mild Tropical Hill Zone of Nagaland are advised to undertake sowing of summer vegetables like okra, cucurbits and land preparation for sowing of summer maize, ginger and turmeric and transplanting of chilli and brinjal.
- Farmers in Tripura are advised to undertake land preparation and sowing of summer vegetables, summer maize and summer sesame.

Animal Husbandry

- In North Bank Plain Zone of Assam and Mild Tropical Plain Zone of Tripura, farmers are advised to undertake vaccination during this period to control ranikhet disease in poultry.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Harvest the wheat crop at proper physiological maturity in North Gujarat Zone and South Gujarat Heavy Rainfall Zone. Make bundles on same day or the next day to avoid shattering losses. Carry out harvesting of early sown and timely sown wheat in early morning in Middle Gujarat Zone.
- Carry out sowing of summer cluster bean and summer green gram in North Gujarat Zone and North West Zone of Gujarat. Complete sowing of summer pearl millet and carry out sowing of pulses in Bhal and Coastal Zone of Gujarat. Carry out sowing of summer bajra in Middle Gujarat Zone.
- Carry out hand weeding and intercultural operations in timely sown crops in South Gujarat Heavy Rainfall Zone, North Gujarat Zone, North West Zone and North Saurashtra Zone.
- Complete sowing of summer crops under assured irrigation in North Saurashtra Zone of Gujarat. Farmers are advised to monitor the mango orchard for mango mealy bug and leaf hopper.

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

- Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to undertake land preparation for sowing of potato, beans, peas, radish, turnip and knolkol and transplanting of cabbage.
- Farmers in the South Zone of Tamil Nadu are advised to undertake sowing of summer irrigated pulses and pearl millet.
- Farmers in the North Telangana Zone and Krishna Godavari Zone of Andhra Pradesh are advised to harvest Bengal gram and red gram and allow the pods to dry.
- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to complete sowing of summer cotton by selecting short duration sucking pest tolerant varieties for summer cotton cultivation.
- As dry weather is going to prevail for the next few days, farmers in the Cauvery Delta Zone and Western Zone of Tamil Nadu are advised to harvest the matured *Samba & Thaladi* rice and undertake sowing of ADT 5 summer Black gram.

- In the Central Zone of Kerala farmers advised to apply Chlorpyrifos at the rate of 2.5 ml/ 1 liter mixed with gum on the pseudostem to control pseudostem weevil in banana.
- Farmers in the North Transition Zone of Karnataka are advised to undertake harvesting of sugarcane, sorghum (October and November sown), wheat, and chick-pea.
- In the Southern Transition Zone of Karnataka farmers are advised to go for spraying of Chloropyrophos@1.5 ml/lit and Bavastine@2 g/lit to control stem borer and blast disease respectively in paddy and irrigate the groundnut crop.

Annexure II

Major Crops

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

- Wheat (milky), pea (maturity/harvesting), radish (vegetative), pome and stone fruits (planting), 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), carrot, turnip coriander, fenugreek, spinach (vegetative / flowering / fruiting), mustard (maturity), onion (vegetative), lady's finger, French bean, cluster bean, summer radish, hybrid cluster bean (sowing), chilli, tomato, brinjal and cucurbits (nursery raising/ transplanting), green gram, black gram (sowing) in Delhi.
- *Rabi* cereal (wheat - tillering), pulses (pea and lentil) (vegetative), brown sarson (vegetative), fodder oat (tillering), vegetables (sowing / planting / transplanting) 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 filling/maturity), arhar (pod formation/maturity), ginger (vegetative), autumn sugarcane (vegetative), yellow sarson, mustard (capsule formation), barley (milky/grain filling), oat (tillering / ear head emergence), moong, urd, okra (sowing), sugarcane, cucurbits (sowing) in Uttarakhand.
- Wheat (milky/grain filling), sugarcane (harvesting), new sugarcane (planting), linseed, jai (flowering/pod formation), onion, garlic (vegetative), rapeseed, mustard, pea, lentil, gram (pod formation / maturity) maize (grain maturity/harvesting), moong, urad (sowing), summer vegetables (sowing) in Uttar Pradesh.
- Wheat (ear head emergence/milky/dough), sugarcane (harvesting), potato (harvesting), new sugarcane (planting), mustard (capsule formation), maize (sowing / germination), summer pulses (field preparation for sowing), cucurbits (sowing), berseem (vegetative / cutting), fruit (planting) in Punjab.
- Wheat (ear head emergence/dough), sugarcane (harvesting), new sugarcane (planting), mustard (capsule formation), barseem (vegetative / cutting) 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), barley (grain maturity / harvesting), opium poppy (pre-flowering / flowering) in Rajasthan.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Ladies finger (flowering / fruiting / harvesting), pigeon pea, gram (harvesting), potato, onion (harvesting), sugarcane (elongation), summer vegetables (sowing/ transplanting), wheat (grain filling/maturity/harvesting), maize (harvesting), lentil, mustard, linseed (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 (maturity / 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.
- Sugarcane (sprouting), banana (vegetative), mustard (capsule capsule maturity), cowpea (pod formation / maturity), *rabi* groundnut (pod maturity), fruit crops (planting / seedling), wheat (milk / dough / maturity), tomato (flowering / fruiting), summer green gram, summer vegetables (sowing) in Odisha.
- *Boro* rice (active tillering / panicle initiation), wheat (milk / dough / maturity), sesame (sowing / vegetative), maize (vegetative), summer vegetables (transplanting), potato (tuber maturity / harvesting), mango (flowering), tomato (flowering / fruiting), mustard (capsule maturity / 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), vegetables (vegetative), rice (grain formation / maturity) in Sikkim.

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

- *Boro* rice (active tillering / panicle initiation), early *ahu* rice (nursery raising / sowing / seedling), *bao* rice (sowing), maize (sowing), jute (sowing), wheat (dough /maturity), tomato (flowering / fruiting), summer pulses (sowing), okra (sowing / seedling), cucurbits (sowing) and summer vegetables (sowing) in Assam.
- Pea (pod formation / pod maturity), French bean, okra, green gram (sowing) and cucurbits (sowing) in Arunachal Pradesh.
- Pre-*kharif* rice (sowing / transplanting), *rabi* maize (vegetative), potato (tuber formation / harvesting), pea (pod formation / pod maturity), cauliflower, cabbage (sowing), rapeseed (pod formation / pod maturity), onion, garlic (vegetative / bulb formation), tomato, brinjal, chilli (transplanting / vegetative), beans (early vegetative / vegetative), cucurbits (transplanting / early vegetative), okra (sowing) in Manipur.
- *Rabi* maize (silking / tasselling / cob formation), *boro* rice (tillering), pea, lentil, toria (flowering / pod formation), chilli, brinjal (vegetative / flowering / fruiting) in Meghalaya.
- Pea (harvesting), tomato (fruiting / harvesting), banana (vegetative / harvesting), maize (cob formation / maturity), okra, cucurbits (sowing) and chilli, brinjal, ginger and turmeric (nursery raising) in Mizoram.
- *Rabi* maize (cob maturity), cabbage (head formation), mustard (flowering / capsule formation), tomato (flowering / fruiting), pea (pod maturity / harvesting), banana (fruiting), potato (tuber formation), cucurbits (germination), chilli, brinjal (transplanting), and okra and other summer vegetables (sowing) in Nagaland.
- *Boro* rice (active tillering / panicle initiation), summer brinjal, tomato (flowering / fruiting), potato (tuber maturity / harvesting), pea, bean (maturity / harvesting), summer green gram and black gram (vegetative), summer vegetable, summer maize, sesame (sowing) in Tripura.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- *Adsali*, pre seasonal & *suru* sugarcane (cane maturity / harvesting in Madhya Maharashtra and Marathwada), new *adsali* (tillering), new pre seasonal (early tillering), new *suru* sugarcane (early sprouting), wheat (grain maturity / harvesting), summer rice (tillering / panicle initiation in South Konkan and tillering in Western Ghat region and East Vidarbha), summer groundnut (flowering / pegging in South Konkan and vegetative in Madhya Maharashtra, Marathwada and Vidarbha), summer bajra (vegetative in Pune and Nasik region) in Maharashtra.
- Pearl millet (sowing / early vegetative), pulses (sowing), summer groundnut (flowering / pegging), summer rice (tillering), summer vegetables (sowing / transplanting / vegetative), wheat (maturity / harvesting), gram (pod maturity / harvesting), sugarcane (vegetative / elongation), potato (tuber maturity / harvesting), mustard (pod maturity / harvesting), jowar (grain formation / grain maturity), *rabi* fennel (flowering / pod formation / grain development), fenugreek (flowering / pod formation), maize (cob maturity / harvesting) in Gujarat.

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

- *Rabi* groundnut (pod development/ maturity/harvest), *rabi* maize (flowering/seed filling), sunflower (flowering / seed formation), *rabi* rice (panicle initiation), summer cotton (sowing), Bengal gram (harvesting), red gram (harvesting), cowpea and sesame (pod formation/ pod maturity), rice fallow pulses (pod development), sugarcane (tillering), mango (flowering/fruit initiation) and vegetables (all stages) in Andhra Pradesh.
- *Samba* rice (maturity/harvesting), *thaladi* rice (maturity/ harvesting), sorghum (harvesting), rice fallow pulses (pod formation), rainfed groundnut (maturity), maize (flowering / maturity/ harvesting), red gram (pod formation/maturity), summer sorghum, maize and cotton (sowing),vegetables (fruiting) in Tamil Nadu.
- Coconut (harvesting), *puncha* rice (maturity/harvesting), vegetables (planting/seedling), summer rice (seedling), sugarcane (harvesting/land preparation for next crop), 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 (flowering to fruit setting /fruit development), summer green gram/ black gram (branching), rice (transplanting), sugarcane (harvesting/planting) in Karnataka.

Annexure III

List of Varieties

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

Punjab:

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

Chilli - CH-3/CH-1/Punjab Guchhedar and Punjab Surakh

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.

Sugarcane : Co- Pant 84211, COS-8436, COS-88230, COS-96268 or recent released variety CO Pant & 3220 and moderate to late varieties like Co-Pant 97222, Co-Pant-96219, Co-Pant-90223. COS-1148, CO-167 etc.

Cucurbits: cucumber var. Pant Khira-1 or Balam Khira ; Long Melon var. Pant kakari-1 ; Bottle Gourd var. Pant Lauki-4, Pant Sankar Lauki-1 or Pant Sankar Lauki-2 ; Bitter Gourd var. Pant Karela-1 ; Water Melon etc.

Tomato : Avinash-2, Himsona, Himraja, Apurva,

Tomato: VL-Tomato

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

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).

Madhya Pradesh

Soybean: GS-9560

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

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

Odisha

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

Sesame: Vinayak, Kanak, Kalika, Uma, Usha.

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 Yeamoto.

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.

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.

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, Hasakumora, Gobind.

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

Jute: JRC 321, UPC 94.

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.

Arunachal Pradesh:

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

Manipur :**French Bean:**

Dwarf type: Anupam, Pant Anupam.

Pole type: Tangkhul Hawaii (local variety).

Tripura:

Green gram: PDM 139.

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

Tomato: Anup.

Maharashtra

Summer Green Gram: AKM8802, Pusa Vaishakhi.

Gujarat

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

Cowpea: Guj. Cowpea-4, 5, Pusa Falguni.

Pearl millet: GHB-526 and GHB-558.

Tomato: Pusa Hybrid, Pusa Rubi, Jungadh Rubi, Junagadh Tomato-1.

Brinjal: Junagadh Oblong, Junagadh Long, Guj. Brinjal-2.

Lady's finger: Guj. Hy. 2.

Ridge gourd: Pusa Nasdar, Jaipuri.

Bottle gourd: Junagadh Tender Long, Pusa Summer Prolific Long.

Sponge gourd: Pusa Chikni.

Bitter gourd: Priya, Pusa Domosmi.

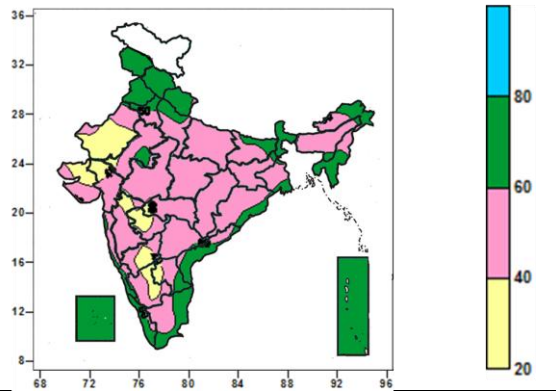
Cluster bean: Pusa Sadabahar, Pusa Navbahar, IC-11388, Gujarat Guar-2.

Water melon: Sugar Baby, Arka Jyoti.

Annexure IV

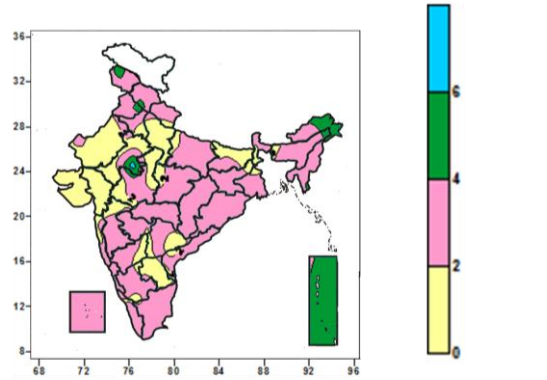
Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 20.03.2013

Relative Humidity (%) over India for the week ending 20.03.2013



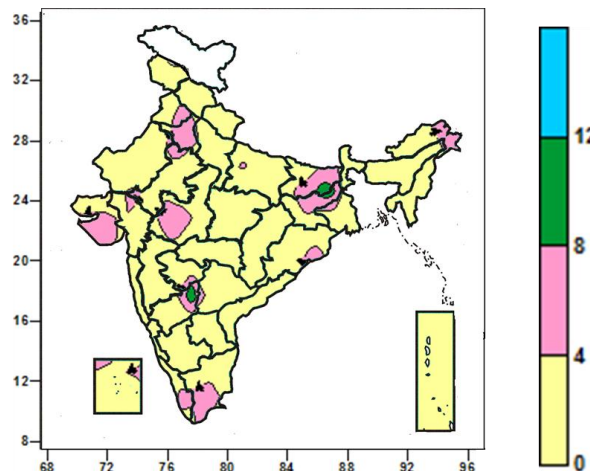
Relative humidity ranged between 60 to 80% over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Manipur, Mizoram, Tripura, Coastal Andhra Pradesh, Coastal Karnataka, Coastal Tamil Nadu, Coastal Karnataka, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Rajasthan, Haryana, West Uttar Pradesh, Konkan & Goa, Bihar, Jharkhand, Gangetic West Bengal, Assam & Meghalaya, Orissa, West Madhya Pradesh, Raylaseema, 20 to 60 % over remaining parts of the country.

Cloud amount (okta) over India for the week ending 20.03.2013



Cloud amount 6 to 8 okta over some parts of East Rajasthan, 4 to 6 okta over many parts of Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, East Rajasthan, West Madhya Pradesh, Arunachal Pradesh, Assam, 0 to 2 okta over many parts of Rajasthan, West Uttar Pradesh, Bihar, Gujarat, Saurashtra & Kutch, Raylaseema, some parts of Uttarakhand, Haryana, East Uttar Pradesh, Jharkhand, West Bengal, Assam & Meghalaya, Konkan, Madhya Maharashtra, Marathwada, Madhya Pradesh, Coastal Andhra Pradesh, Telangana, South & North Interior Karnataka, Kerala, 2 to 4 okta over remaining parts of the country.

Wind speed (knots) over India for the week ending 20.03.2013



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, Bihar, Jharkhand, Saurashtra, West Madhya Pradesh, some parts of Punjab, Uttar Pradesh, Gangetic West Bengal, Arunachal Pradesh, Orissa, Gujarat, Marathwada, Telangana, North Interior Karnataka, Telangana, Tamil Nadu, Kerala, 0 to 4 knots over remaining parts of country.