

National Agromet Advisory Bulletin

Thursday, 17th May, 2012
(For the period 17th to 21st May, 2012)



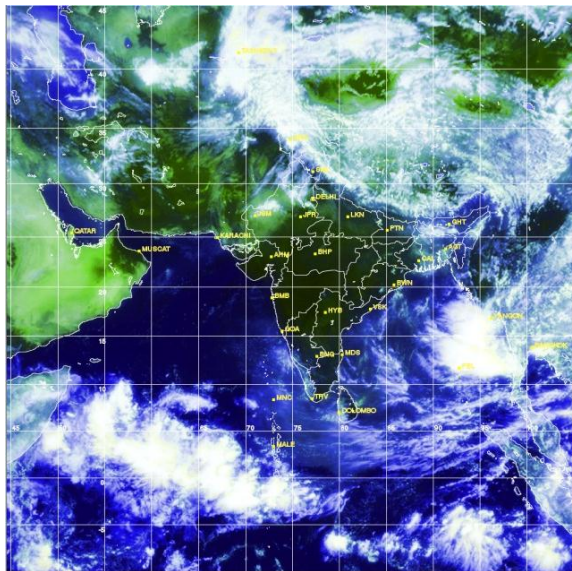
IMD's forecast for onset of southwest monsoon – 2012

The date of onset of southwest monsoon over Kerala is likely to be on 1st June with a model error of ± 4 days.

Thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over Punjab, Haryana, Delhi, Rajasthan, West Uttar Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal and Orissa during next 48 hours. Farmers in these States are advised to transport the harvested produce to safer places, arrange for mechanical support for vegetables and young plants in orchards.

Significant rainfall occurred over many districts of South Interior Karnataka, some districts in Arunachal Pradesh and Kerala and a few districts in Jammu & Kashmir, Sub Himalayan West Bengal and Tamil Nadu. Rain / thundershowers are also likely to occur at many places over Jammu & Kashmir and northeastern States. Farmers in these regions are advised to postpone irrigation to the standing crops. As there was no significant rain over most of the remaining parts of the country and no significant rain is likely to occur during next three days, farmers are advised to provide irrigation to the standing summer crops.

Satellite image 0600 UTC dated 18th May, 2012



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

Minimum temperature rose by 2-3°C over some parts of western Himalayan region, Punjab, Haryana, Delhi, Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Andhra Pradesh and Tamil Nadu and isolated pockets of north Chhattisgarh, Orissa and Kerala and changed a little elsewhere over the country. As dry weather prevailed with high temperature over most parts of the above region, farmers are advised to apply frequent irrigation to the standing summer crops.

Thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over Punjab, Haryana, Delhi, Rajasthan, West Uttar Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal and Orissa during next 48 hours. Farmers in these States are advised to complete harvesting and transport the produce to safer places; Also, arrange for mechanical support for vegetables and young plants in orchards.

Significant rainfall occurred over many districts of South Interior Karnataka (SIK), some districts in Arunachal Pradesh, Kerala and a few districts in Jammu & Kashmir, Sub Himalayan West Bengal and Tamil Nadu. Rain / thundershowers are also likely to occur at many places over Jammu & Kashmir and Northeastern States. Farmers in these regions are advised to postpone irrigation to the standing crops as there is chance of rain. Wherever harvesting of crops is completed, ploughing may be undertaken to conserve the rain water.

As there was no significant rain over most of the remaining parts of the country and no significant rain is likely to occur during next three days, farmers are advised to provide irrigation to the standing summer crops.

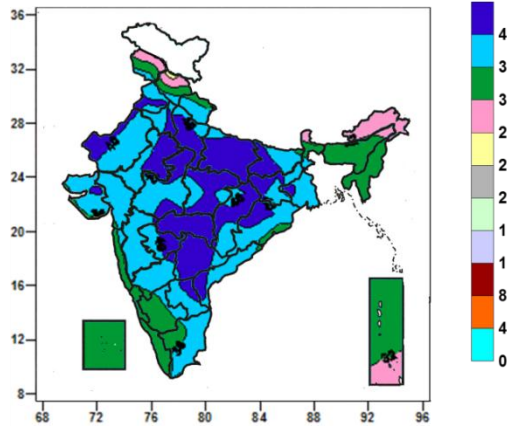
Due to favourable weather conditions, incidences of early stem borer in sugarcane and thrips in groundnut in Orissa, thrips in summer moong and mites in cucurbitaceous crops, bean, ladies finger, brinjal etc. in Jharkhand, thrips in summer moong in Punjab and thrips, mites and *Chaenophora* blight in chilli, downy mildew in gourds and thrips, mites and fruit canker in sweet orange in Andhra Pradesh below economic threshold level (ETL) has been reported. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases, if the population exceeds ETL.

Farmers are advised to undertake sowing of crops in areas with assured irrigation. Sowing of the crops in different States of the country is mentioned below:

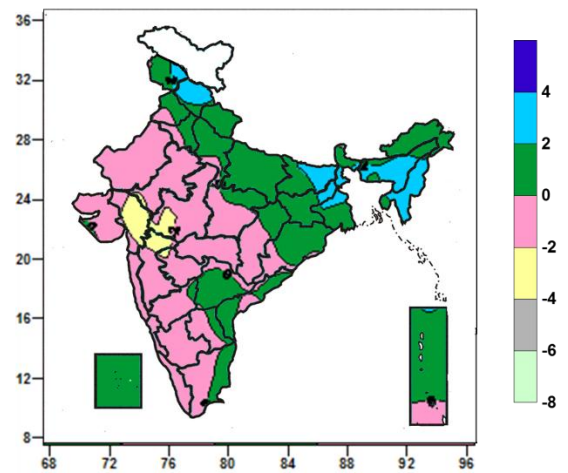
- **Assam:** Sowing of cowpea and pumpkin, planting of banana and transplanting of *ahu* rice.
- **Arunachal Pradesh:** Nursery sowing of *jhum* and WRC rice.
- **Meghalaya:** Sowing of maize, jute and vegetables like ladies finger, pumpkin, French bean, bottle gourd, ash gourd, cauliflower, cabbage etc.
- **West Bengal:** Sowing of jute and marigold.
- **Punjab & Haryana:** Sowing of cotton and maize and nursery sowing of rice.
- **Delhi:** Sowing of pigeon pea and cotton.
- **Uttarakhand:** Sowing of maize and nursery sowing of brinjal and long duration rice varieties.
- **Himachal Pradesh:** Sowing of bhindi, *capsicum*, pepper, cucumber, summer squash, bitter gourd and tomato in polyhouses and also chari, bajra and maize in low hills for green fodder.
- **Orissa:** Sowing of maize and planting of ginger.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 16.05.2012

Actual Mean Maximum Temperature (°C) in India for the week ending 16.05.2012



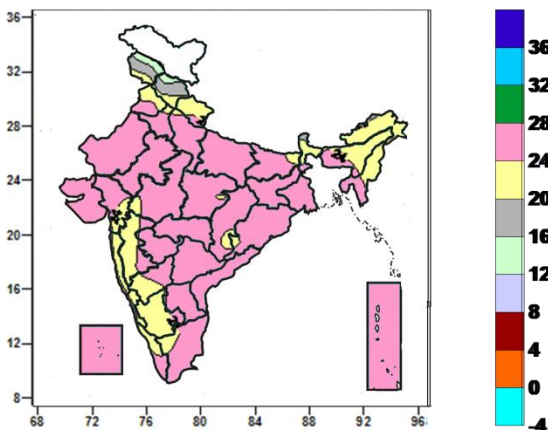
Maximum Temperature (°C) Anomaly in India for the week ending 16.05.2012



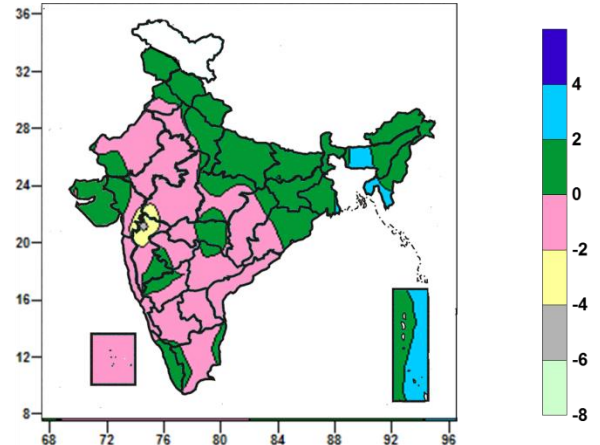
Actual Mean Maximum temperature ranged between 24 to 28°C over some parts of Jammu & Kashmir, Himachal Pradesh, 28 to 32°C over most parts of Arunachal Pradesh, Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, Assam, Andaman & Nicobar Islands, 32 to 36°C over many parts of Sub-Himalayan West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Konkan & Goa, Coastal & South Interior Karnataka, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Coastal Orissa, adjoining part of Tamil Nadu and between 36 to 40°C and above also over remaining parts of the country

Actual Mean Maximum temperature anomaly ranged between 2 to 4°C and above over most parts Himachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, some parts of Jammu & Kashmir, Bihar, Jharkhand, West Bengal, 0 to 2°C most parts of Jammu & Kashmir, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, East India, Arunachal Pradesh, Andhra Pradesh, Coastal Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Chhattisgarh, East Madhya Pradesh, North Interior Karnataka, below 0°C upto -4°C over rest of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 16.05.2012



Minimum Temperature (°C) Anomaly in India for the week ending 16.05.2012



Actual Mean Minimum Temperature ranged between 12 to 16°C over some parts Jammu & Kashmir, Himachal Pradesh, 16 to 20°C over most parts of Jammu & Kashmir, Himachal Pradesh, some parts of Sikkim, 20 to 24°C over most parts of Uttarakhand, Sub-Himalyan West Bengal, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Konkan & Goa, Madhya Maharashtra, Karnataka, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Bihar, Gujarat, Madhya Pradesh, Chhattisgarh, Orissa, Kerala, Tamil Nadu and between 24 to 28°C over remaining parts of the country.

Minimum Temperature anomaly ranged between 2 to 4°C over many part of Mizoram, Tripura, Andaman & Nicobar Islands, some parts of Assam & Meghalaya, 0 to 2°C over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Uttar Pradesh, East and Northeast India, Gujarat, Saurashtra & Kutch, Kerala, Andaman & Nicobar Islands, some parts of Punjab, Haryana, Rajasthan, Central India, Madhya Maharashtra, Marathwada, Tamil Nadu, below 20°C over remaining parts of the country.

Distribution of rainfall of the country during week ending on 16.05.2012

State/Districts	Actual (mm)	% Dep.
Arunachal Pradesh		
Anjaw	**	**
Changlang	7.0	-91
East Kameng	15.2	-74
East Siang	247.4	347
Kurung Kumey	**	**
Lohit	108.9	73
Lower Dibang Valley	**	**
Lower Subansiri	14.0	-84
Papumpara	82.1	-29
Tawang	73.6	-3
Tirap	150.0	121
Upper Dibang Valley	83.0	62
Upper Siang	225.6	144
Upper Subansiri	32.6	39
West Kameng	20.2	-73
West Siang	65.0	52
Assam		
Baksa	65.9	-19
Barpeta	76.7	-6
Bongaigaon	82.5	-5
Cachar	72.8	-14
Chirang	70.7	-19
Darrang	**	**
Dhemaji	187.0	159
Dhubri	56.5	-34
Dibrugarh	133.5	104
East Garo Hills	46.0	-49
East Khasi Hills	137.2	-19
Goalpara	41.9	-48
Golghat	34.3	-43
Hailakandi	18.3	-79
Jaintia Hills	21.0	-75
Jorhat	50.4	-24
Kamrup(Metro)	10.6	-85
Kamrup	40.6	-41
Karbi Analog	5.5	-73
Karimganj	31.9	-77
Kokrajhar	46.1	-33
Lakhimpur	98.6	37
Morigaon	4.0	-88
N.C.Hills	7.2	-90
Nowgong	7.3	-81
Nalbari	78.6	-6
Ribhoi	27.8	-45
Sonitpur	64.2	9
Sibsagar	95.9	44
South Garo Hills	0.0	-100
Tinsukia	136.6	94
Udalgiri	6.6	-91
West Garo Hills	17.2	-79
West Khasi Hills	22.0	-69
Himachal Pradesh		
Bilaspur	1.7	-90
Chamba	6.9	-72
Hamirpur	0.6	-94

Kangra	6.9	-44
Kinnaur	7.7	-59
Kullu	5.2	-72
Lahaul and Spiti	21.4	-32
Mandi	5.0	-71
Shimla	1.1	-94
Sirmaur	0.0	-100
Solan	2.6	-85
Una	0.5	-93
Jammu & Kashmir		
Anantnag	39.8	21
Badgam	9.3	-60
Bandipore	**	**
Baramula	46.1	34
Doda	35.6	33
Ganderwal	45.2	117
Jammu	9.1	11
Kargil	0.0	-100
Kathua	21.3	373
Kistwar	**	**
Kulgam	44.5	36
Kupwara	41.1	43
Ladakh(Leh)	0.1	-95
Poonch	44.5	220
Pulwama	17.9	-36
Rajouri	11.0	26
Ramban	28.7	7
Reasi	11.5	-35
Samba	11.4	38
Shopian	**	**
Srinagar	14.3	-31
Udhampur	8.9	-50
Chattisgarh		
Bastar	64.5	438
Bijapur	0.0	-100
Bilaspur	5.3	2
Dantewara	0.0	-100
Dhamtari	0.0	-100
Durg	0.0	-100
Janjgir	2.5	-24
Jashpurnagar	20.0	160
Kanker	0.0	-100
Korba	0.0	-100
Koriya	0.0	-100
Kawardha	9.0	50
Mahasumund	0.0	-100
Narayanpur	1.0	-86
Raigarh	0.0	-100
Raipur	0.0	-100
Rajandgaon	0.0	-100
Surguja	0.0	-100
Uttarakhand		
Almora	2.2	-85
Bageshwar	6.9	-52
Chamoli	6.0	-78
Champawat	0.0	-100
Dehradun	0.0	-100
Garhwal Pauri	0.0	-100
Garhwal Tehri	0.0	-100
Haridwar	0.0	-100

Nainital	0.5	-97
Pithoragarh	29.2	6
Rudraprayag	10.4	-59
Udhm Sing Nagar	0.0	-100
Uttarkashi	8.0	-75
Bihar		
Araria	14.3	-61
Arwal	0.0	-100
Begusarai	0.0	-100
Bhabua	0.0	-100
Bhagalpur	0.0	-100
Buxar	0.0	-100
Darbhanga	23.0	41
East Champaran	17.4	53
Gaya	38.0	744
Gopalganj	0.0	-100
Jahanabad	5.5	-33
Jamui	0.0	-100
Kathihar	6.3	-78
Khagadia	0.0	-100
Kishanganj	9.4	-70
Lakhisarai	0.0	-100
Madhepura	8.5	-72
Monghyar	0.0	-100
Muzaffarpur	6.9	-64
Nalanda	0.0	-100
Nawada	2.5	-64
Patna	0.0	-100
Purnea	9.6	-62
Rohtas	0.0	-100
Samstipur	0.0	-100
Saran	0.0	-100
Sheikpura	1.2	-83
Sheohar	22.0	2
Sitamarhi	6.2	-71
Supaul	13.8	-39
Vaishali	0.0	-100
West Champaran	27.8	63
Jharkhand		
Bokaro	1.0	-90
Dhanbad	4.3	-69
Dumka	30.0	40
East Singbhum	16.7	-2
Garhwa	0.0	-100
Giridih	17.8	63
Godda	0.0	-100
Hazaribagh	1.4	-89
Jamtara	36.0	107
Pakur	6.0	-74
Palamau	0.0	-100
Ramgarh	0.0	-100
Ranchi	8.3	-24
West Singbhum	0.0	-100
East Rajasthan		
Ajmer	3.1	158
Alwar	9.3	82
Banswara	0.0	-100
Baran	5.9	743
Bharatpur	1.8	-40
Bhilwara	1.0	-29

Bundi	2.0	122
Chittorgarh	2.8	75
Dausa	8.3	152
Dholpur	0.8	-53
Dungarpur	0.0	-100
Jaipur	4.1	17
Jhalawar	0.0	-100
Jhunjhunu	20.7	223
Karauli	0.5	-83
Kota	0.9	-10
Pratapgarh	0.0	-100
Rajsamand	0.0	-100
Sawai Madhopur	15.1	459
Sikar	15.1	180
Sirohi	1.5	50
Tonk	8.5	183
Udaipur	1.9	36
West Rajasthan		
Barmer	2.7	575
Bikaner	13.9	504
Churu	18.0	253
Hanumangarh	0.0	-100
Jaisalmer	0.0	-100
Jalore	0.0	-100
Jodhpur	1.4	-7
Nagaur	7.3	161
Pali	0.3	-50
Sri Ganganagar	0.0	-100
Madhya Maharashtra		
Ahmednagar	9.1	334
Dhule	0.0	-100
Jalgaon	0.0	-100
Kolhapur	12.3	35
Nandurbar	0.0	-100
Nasik	7.2	496
Pune	1.5	-61
Sangli	5.5	-26
Satara	4.6	-17
Solapur	28.7	510
Marathwada		
Aurangabad	17.7	1507
Beed	0.0	-100
Hingoli	0.0	-100
Jalna	0.0	-100
Latur	0.0	-100
Nanded	0.0	-100
Usmanabad	8.6	95
Parbhani	1.5	-21
Vidarbha		
Akola	1.5	67
Amraoti	12.0	1100
Bhandara		
Buldhana	0.0	-100
Chandrapur	0.0	-100
Gadchiroli		
Gondia	0.0	-100
Nagpur	0.2	-87
Wardha	0.0	-100
Washim	7.0	400
Yeotmal	0.0	-100
Orissa		
Angul	2.3	-87

Balasore	14.6	-56
Bargarh	0.0	-100
Bhadrak	11.7	-67
Bolangir	0.0	-100
Boudh	0.0	-100
Cuttack	12.1	-45
Deogarh	2.8	-71
Dhenkanal	14.7	-20
Gajapati	22.9	-58
Ganjam	8.9	-77
Jagatsingpur	11.7	-73
Jajpur	4.8	-85
Jharsuguda	0.1	-99
Kalahandi	0.2	-99
Kandhamal	33.8	43
Kendrapara	6.0	-71
Keonjhar	15.4	-46
Khurda	5.0	-80
Koraput	10.3	-62
Malkangiri	14.8	-31
Mayurbhanj	10.7	-67
Nawapara	9.0	-6
Nawarangpur	32.0	67
Nayagarh	5.6	-49
Puri	14.8	-49
Rayagada	9.5	-76
Sambalpur	0.1	-99
Sonepur	0.0	-100
Sundargarh	1.4	-84
West Bengal		
GWB		
Bankura	14.5	11
Birbhum	12.4	-38
Burdwan	11.7	-35
East Midnapore	6.9	-66
Hooghly	0.0	-100
Howrah	0.2	-99
Kolkata	0.0	-100
Murshidabad	0.0	-100
Nadia	0.0	-100
24 Pargana (N)	1.0	-94
Purulia	19.4	17
24 Pargana (S)	2.7	-93
West Midnapore	4.6	-81
SHWB		
Cooch Behar	58.6	-11
Darjeeling	24.3	-54
East Sikkim	16.6	-76
Jalpaiguri	74.3	12
Malda	1.5	-94
North Dinajpur	1.0	-96
North Sikkim	37.5	-45
South Dinajpur	53.1	44
South Sikkim	6.6	-90
West Sikkim	23.0	-66
Karnataka		
Coastal Karnataka		
Dakshin Kannada	35.6	28
Udupi	20.2	-25
Uttar Kannada	6.5	-48
North Interior Karnataka		
Bagalkote	15.3	63

Belgaum	12.4	-5
Bidar	13.2	65
Bijapur	7.6	-4
Dharwad	22.2	41
Gadag	28.8	97
Gulbarga	8.9	15
Haveri	38.9	135
Koppal	11.0	-8
Raichur	7.6	-27
Yadgir	7.1	-30
South Interior Karnataka		
Bangalore Rural	63.2	204
Bangalore Urban	72.1	172
Bellary	37.9	230
Chamarajnar	23.1	-33
Chichballapur	58.9	247
Chickmagalur	37.2	71
Chitradurga	34.6	120
Davangere	20.8	18
Hassan	39.6	50
Kodagu	23.3	-32
Kolar	53.2	178
Mandya	35.6	36
Mysore	36.0	8
Ramnagara	46.5	68
Shimoga	19.6	17
Tumkur	28.7	30
Kerala		
Alappuzha	36.2	-37
Kannur	55.6	17
Ernakulam	49.2	-14
Idukki	46.0	0
Kasaragod	61.1	75
Kollam	62.8	19
Kottayam	25.8	-51
Kozhikode	20.2	-64
Malappuram	10.3	-81
Palakkad	28.7	-11
Pathanamthitta	12.4	-78
Thiruvananthapuram	33.3	-15
Thrissur	71.5	23
Wyanad	26.6	-28
Tamil Nadu		
Ariyalur	7.0	-57
Chennai	0.0	-100
Coimbatore	16.3	-17
Cuddalore	8.3	-18
Dharmapuri	36.4	50
Dindigul	13.6	-35
Erode	29.3	20
Kanchipuram	0.0	-100
Kanyakumari	12.7	-53
Karikal	18.6	88
Karur	30.0	84
Krishnagiri	38.1	56
Madurai	26.7	32
Nagapattinam	7.3	-12
Namakkal	8.4	-65
Nilgiris	26.4	-5
Perambalur	4.0	-72
Puducherry	0.3	-97
Pudukottai	6.3	-51

Ramanathapuram	9.8	-30
Salem	41.3	65
Sivaganga	4.1	-75
Thanjavur	7.6	-42
Theni	26.0	88
Tirunelveli	7.1	-45
Tirupur	0.0	-100
Tiruvallur	3.5	-58
Tiruvannamalai	19.8	22
Tiruvarur	8.5	-31
Toothukudi	0.8	-91
Trichy	39.2	186
Vellore	23.2	55
Villupuram	0.0	-100

Virudhunagar	11.0	-35
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	19.4	-21
Guntur	8.5	-57
Krishna	37.0	172
Nellore	15.0	30
Prakasam	19.0	59
Sirkakulam	11.6	-48
Visakhapatnam	4.6	-85
Vizianagram	9.4	-64
West Godavari	19.8	-5
Telangana		
Adilabad	0.0	-100

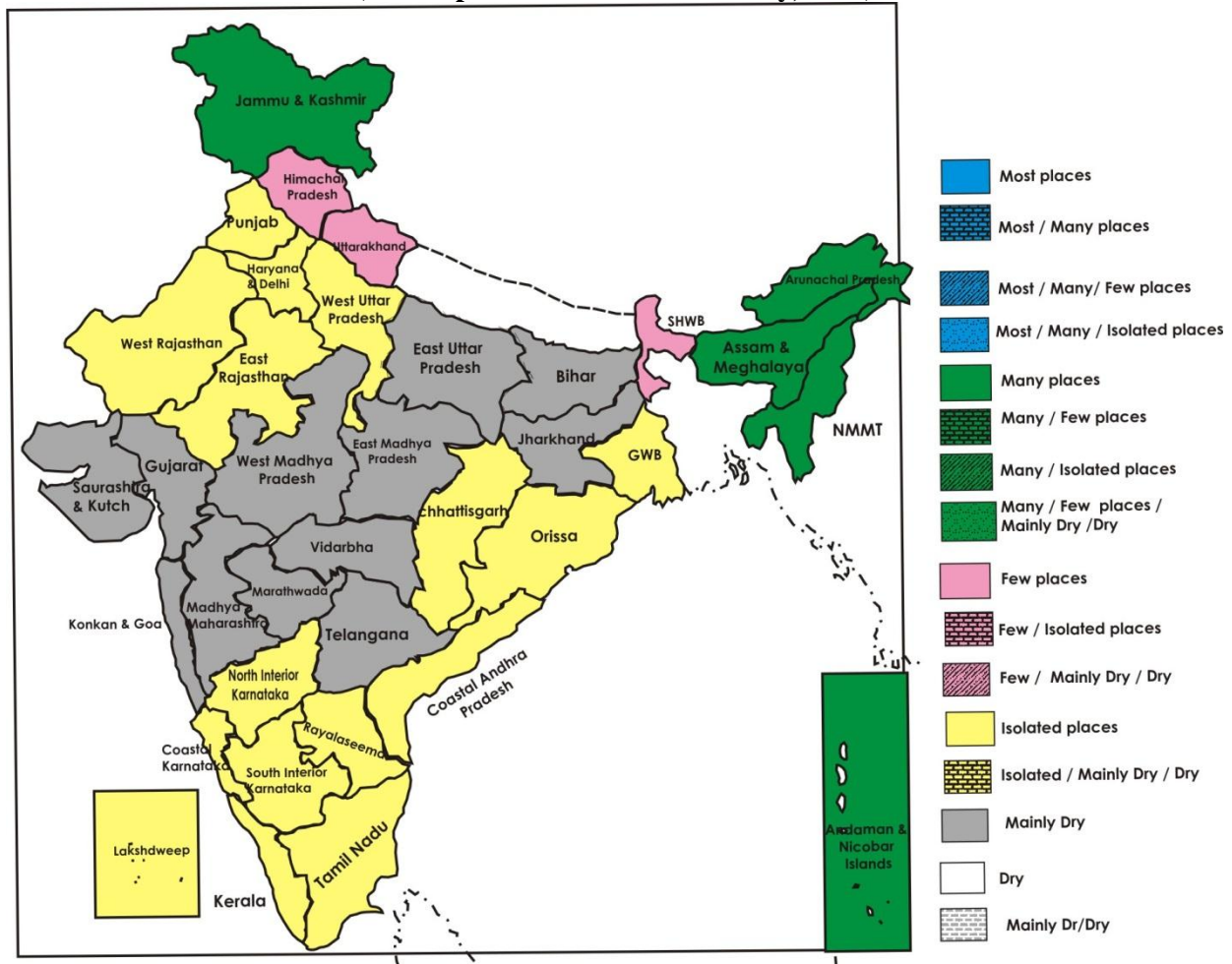
Hyderabad	3.1	-71
Karimnagar	2.5	-69
Khammam	32.5	102
Mehabubnagar	6.5	-44
Medak	15.6	77
Nalgonda	6.3	18
Nizamabad	1.1	-87
Rangareddy	7.4	-32
Warangal	8.9	-9
Rayalaseema		
Anantapur	21.4	73
Chittoor	40.0	165
Cuddapah	23.8	136
Kurnool	26.0	91



(20% or more) excess rainfall
 (-19 to +19%) normal rainfall
 (-20 to -59%) deficient rainfall

(-60 to -99%) scanty rainfall
 (-100%) no rainfall
 ** Data not available

Weather Forecast (Valid upto 0830 hours of 20th May, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 20th May, 2012

- Rain/thundershowers would occur many places over Jammu & Kashmir and at a few places over Himachal Pradesh and Uttarakhand.
- Rain/thunderstorms would occur at one or two places over plains of northwest India.
- Rain/thundershowers would occur at many places over northeastern states.
- Rain/thundershowers would occur at one or two places over West Bengal & Sikkim, Orissa and Chhattisgarh.
- Rain/thundershowers would occur at one or two places over south peninsular India and Lakshadweep.
- Rain/thundershowers would occur at many places over Andaman & Nicobar islands.
- Fall in maximum temperature by 2-4°C over northwest India.
- Weather would be mainly dry over remaining parts of the country.

Weather Warning

- Thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over Punjab, Haryana, Delhi, Rajasthan, west Uttar Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal and Orissa during next 48 hours.

Weather Outlook up to 0830 hours IST of 22nd May, 2012

- Rain/thundershowers activity at many places would continue over northeastern states and Andaman & Nicobar Islands.
- Thunderstorm activity at one or two places would continue over northwest India.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of the region.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over the States of the region. Thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over these States during next 48 hours.
- **Advisories:**
 - As thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over the States of the region during next 48 hours, farmers are advised to arrange for mechanical support for young plants in orchards.
 - As significant rainfall occurred in most of the districts of the States of the region and rain / thundershowers would occur at many places over these States, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures.
 - Farmers in the Hill Zone of Assam are advised to continue sowing of okra, ginger and cucurbitaceous crops.
 - Farmers in Central Bramhaputra Valley Zone of Assam are advised to continue land preparation and sowing of *Capsularis* jute, summer vegetables and summer pulses.
 - Farmers of Lower Bramhaputra Valley Zone of Assam are advised to continue transplanting of *ahu* rice.
 - Farmers in the Upper Bramhaputra Valley Zone of Assam are advised to continue sowing of jute, summer vegetables and planting of banana.
 - Farmers of Barak Valley Zone of Assam are advised to complete sowing of black gram, green gram, ladies finger, ridge gourd, sponge gourd and jute. Farmers are advised to give the first top dressing of urea in *ahu* rice after current spells of rain. Before top dressing remove all the weeds from the field.
 - Farmers in North Bank Plain Zone of Assam are advised to continue planting of banana, ginger and turmeric and sowing of summer vegetables like pumpkin and cow pea.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to continue sowing of *Jhum* rice and nursery preparation for early sown WRC crop. Farmers are also advised to continue sowing of maize and summer vegetables.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to complete sowing of *aus* rice and continue land preparation for sowing of sesame, arhar, groundnut and summer vegetables like ridge gourd, cucumber, ash gourd, okra etc.
 - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to continue sowing of maize, jute and vegetables like okra, pumpkin, French bean, bottle gourd, ash gourd, cauliflower, cabbage etc. and prepare nursery for brinjal.
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue land preparation and sowing of *kharif* maize, cow pea and transplanting of chilli. Farmers are also advised to complete sowing of ginger, turmeric, French bean and okra.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to continue land preparation and sowing of maize, urad and moong, groundnut and soyabean, planting of ginger, turmeric, and nursery preparation for sowing of rice.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to continue nursery preparation for sowing of rice.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Due to congenial weather conditions, there is chance of attack of blast disease in *ahu* rice in Upper Bramhaputra Valley Zone, Lower Bramhaputra Valley Zone and Central Bramhaputra Valley Zone of Assam; farmers are advised to monitor *ahu* rice and spray Bavistin @ 1 g per litre of water, if infestation is noticed above ETL.
 - There is report of *Ghandi* bug infestation in some late planted *boro* rice fields at milk / dough stage in Upper Bramhaputra Valley Zone, North Bank Plain Zone, Lower Bramhaputra Valley Zone and Central Bramhaputra Valley Zone of Assam; farmers are advised for dusting of Malathion 5% powder.

- In Lower Brahmaputra Valley Zone of Assam, stem borer infestation has been noticed in *rabi* maize; farmers are advised to spray Fenitrothion (1.5 ml) per litre of water, if infestation is noticed above ETL.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - Farmers in Manipur are advised to deworm cattle, buffalo against *Fasciola spp.*; deworm and vaccinate poultry against Ranikhet / Coccidiosis disease; deworm and vaccinate pig and goat against swine fever.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to vaccinate poultry against Ranikhet disease with R2B @ 0.50 ml through eye drop. Vaccinate cattle against Anthrax, Black Quarter (BQ) & *Haemorrhagic Septicaemia* and pig against Swine Fever.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to spray the sheds / barn and animals regularly with Butox liquid @ 2 ml per liter of water to prevent tick infestation in cattle. In Mild Tropical Hill Zone of Mizoram, poultry farmers are advised to maintain clean sanitary conditions of poultry sheds and equipment and provide balanced feed, fresh clean water as these are essential to prevent viral diseases.
- **Pishiculture**
 - Farmers of Barak Valley Zone of Assam are advised to release prawn in their fisheries. Clean up the pond well before releasing prawn.

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

- **Realised Rainfall:** Significant rainfall occurred in Dumka and Jamtara districts in Jharkhand, Darbhanga, Gaya, Sheohar and West Champaran districts in Bihar, Cooch Behar, Jalpaiguri and South Dinajpur districts in Sub Himalayan West Bengal and North Sikkim district of Sikkim and no significant rainfall occurred in remaining districts of the States of the region.
- **Rainfall Forecast:** Rain / thundershowers would occur at a few places over Sub Himalayan West Bengal and Sikkim and at one or two places over Gangetic West Bengal and Orissa during the period. Weather would be mainly dry over remaining parts of the region.
- **Weather Warning:** Thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over Gangetic West Bengal and Orissa during next 48 hours.
- **Advisories:**
 - As Thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over Gangetic West Bengal and Orissa during next 48 hours, farmers in these regions are advised to arrange for mechanical support for young plants in orchards.
 - As significant rainfall occurred in Dumka and Jamtara districts in Jharkhand, Darbhanga, Gaya, Sheohar and West Champaran districts in Bihar, Cooch Behar, Jalpaiguri and South Dinajpur districts in Sub Himalayan West Bengal and North Sikkim district of Sikkim, farmers in these districts are advised to postpone irrigation to the standing crops. As there was no significant rain in remaining districts of the region and no significant rain is likely to occur, apply irrigation to the standing crops.
 - Farmers in East and South Eastern Coastal Plain Zone of Orissa are advised to undertake sowing of jute, okra, yam and ginger and also non-paddy crops such as pulses, oilseeds, cotton, sunflower and vegetables either as sole or as mixed cropping in rainfed uplands. Farmers are also advised for sowing of maize for green cob purpose under irrigated conditions and planting of turmeric.
 - Farmers in North Central Plateau Zone of Orissa are advised to undertake planting of ginger and turmeric and provide irrigation to sunflower.
 - In North and South Bihar Alluvial Zone, apply irrigation to maize, moong, vegetable crops, mango and litchi and pluck matured pods of moong in South Bihar Alluvial Zone.
 - Farmers in Central, Western and North Eastern Plateau Zone of Jharkhand are advised for planting of ginger, turmeric, elephant foot yam and sowing of okra. Farmers are also advised to irrigate vegetables and undertake harvesting of summer rice.
 - Farmers in New Alluvial Zone of West Bengal are advised to undertake harvesting of *boro* crops. As there is less possibility of rainfall, farmers are advised to undertake intercultural operation in jute at three-week stage.

- Farmers in Terai Zone of West Bengal are advised to undertake transplanting of the seedlings of marigold for rainy season flowering, if it reaches the age of 25 days utilizing recent rain.
 - Farmers in Coastal Saline Zone of West Bengal are advised to undertake harvesting of green gram by picking the pods.
 - In Laterite and Red Soil Zone of West Bengal, farmers are advised to start harvesting of already matured *boro* rice.
 - Farmers in Old Alluvial Zone of West Bengal are advised to undertake intercultural operation in jute at three week stage.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In East and South Eastern Coastal Plain Zone of Orissa, leaf folder has been noticed in late sown summer rice; spray 20 g Streptocycline along with 400 g Copper Oxychloride in 200 litres of water per acre.
 - In Ganjam district of Orissa, early shoot borer infestation has been found in sugar cane. If it crosses the ETL (5% dead heart), undertake hoeing, weeding and apply 4 kg phorate or 12 kg Carbofuran or 10 kg Cartap followed by earthing up or spray 400 ml Monocrotophos / Tryozophos / Profenophos per ha.
 - In Puri district of Orissa, infestation of thrips in ground nut has been reported. Spray 2 ml Endosulphan in 1 litre water. White ant and white grub attack has also been found in ground nut. Thorough soil drenching with Chloropyriphos solution @ 2 ml / litre water is advised.
 - In Western Plateau Zone of Jharkhand, in some pockets, attack of mites are noticed in cucurbitaceous crops as well as in beans, lady's finger, brinjal etc. To control the mites, spray Dichophol @ 3 ml per litre of water or Omytes / Majister @ 2 ml per litre of water during afternoon. Also attack of Thrips is observed in summer moong; to control the Thrips, spray Trizophos or Profanaphos @ 1 ml per litre of water during evening.
 - Due to prevailing weather condition in Laterite and Red soil zone of West Bengal, there is chance of fruit borer attack in brinjal; apply Coragen @ 1 ml / litre of water. As the present weather conditions are favourable for attack of mites in litchi, apply Dichophol @ 2 ml or Sulfer @ 3 g per litre of water.
 - There is chance in increase of attack of stem rot in pointed gourd in New Alluvial Zone of West Bengal; apply Bavistin or Benlate @ 1 g / litre of water to control the disease. Under prevalent weather situation, there is chance of attack of weevil in jute; to control it, spray Dimethoate or Carbaryl @ 1 g / litre of water.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In North Eastern Coastal Plain Zone and North Central Plateau Zone of Orissa, as the temperature is high, provide sufficient water and rice water to the animals before leaving them for grazing. Restrict grazing after 11 am and before 4 pm due to chances of sunstroke.
 - There is possibility of attack of heat stroke in animals due to prevailing high day temperature in Central and North Eastern and Western Plateau Zone of Jharkhand. Hence, animals should be protected against intense heat and should not be allowed to be exposed in sunlight during noon and may be provided with plenty of water for drinking. Rise in temperature increases the possibility of death in poultry. Preventive measures should be taken by giving mixture of vitamin C and cool water and spraying of cool water during noon time.

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

- **Realised Rainfall:** Significant rainfall received in Anantnag, Baramula, Doda, Ganderwal, Kulgam, Kupwara, Poonch, Ramban districts of Jammu & Kashmir and Pithorgarh district in Uttarakhand. Mainly dry weather prevailed over rest part of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Jammu & Kashmir and scattered rainfall is likely over Himachal Pradesh and Uttarakhand during next three days. Either mainly dry or isolated rain is likely over the remaining parts of the region.
- **Warning:** Thundersqualls with wind speed reaching 50-60 kmph would occur at one or two places over Himachal Pradesh, Punjab, Haryana, Delhi, Rajasthan and west Uttar Pradesh during next 48 hours.
- **Advisory:**
 - As there was no significant rain over the region and no significant rain is likely to occur, farmers are advised to apply irrigation to the standing *rabi* crops. Thundersqualls with wind speed reaching to 50 – 60

kmph is likely at one or two places over Himachal Pradesh, Punjab, Haryana, Delhi, Rajasthan and west Uttar Pradesh during next 48 hours.

- Duststorms / thunderstorms would occur at one or two places over Punjab, Haryana, Delhi, Rajasthan and West Uttar Pradesh during next 48 hours with increase in thunderstorm activity thereafter. Farmers are advised to arrange to transport the harvested produce to safer places and also arrange for mechanical support for vegetables and young plants in orchards.
- In Delhi, optimum moisture level should be maintained in cucurbitaceous crops by light and frequent irrigation as dry conditions may lead to poor pollination and thus drop in yield of the crop. Stop irrigation in matured onion crop and harvest as earliest. Undertake sowing of pigeon-pea and cotton during this week. Protect citrus orchards and banana against hot winds and irrigate frequently.
- In Rajasthan, due to rise in temperature farmers are advised to irrigate summer vegetables, young fruit plants and other standing crops as per need. Undertake deep ploughing in hot summer to destroy soil borne pests. Prepare nursery for rice and citrus fruits. Continue land preparation and sowing of cotton (Desi kapas, B.T. kapas with Non-BT kapas (Refugiya) and Narma kapas). Also undertake sowing of jowar / bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder. Undertake sowing of mirch.
- In Sub Tropical Zone of Jammu and Kashmir, farmers are advised to complete transplanting of tomato, onion, brinjal, chilli crop and undertake new nursery sowing of brinjal, chillies. Continue sowing of maize and go for nursery sowing of rice. Also undertake sowing of dhaincha crop in fallow field for green manure in order to maintain the soil fertility. Continue sowing of summer fodder (maize + cowpea + jowar) in order to meet the fodder requirement in summer months. Farmers are also advised to go for deep ploughing with soil turning plough in order to expose the soil and killing of larvae of insects during these days.
- In Intermediate zone (Pahalgam) of Jammu & Kashmir, farmers are advised to sow ginger and knolkhol and harvest berseem raised for seed purpose.
- In Valley Temperate zone of Jammu & Kashmir, farmers are advised to undertake field preparation for sowing of rice, maize and *kharif* pulses. Continue transplanting of seedlings of solanaceous vegetables produced under open conditions and also seed sowing of cucurbits, kale, knol khol, bhindi and beans.
- Farmers in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh are advised to sow Chari, bajra and maize in low hills for green fodder. It is time for nursery transplanting and sowing of bhindi, shimla mirch, pepper, Khira, summer squash, bitter gourd, tori, and tomato in polyhouses, nursery of cucurbits having 2-4 leaf stage can be successfully transplanted in fields. In higher hill under dry and wet temperate climate region start sowing of wheat, red and white clover, and peas.
- In High Hill Temperate Dry Zone farmers are advised to go for nursery sowing of Cucumber, Summer squash, capsicum/tomato/ planting in polyhouse and cauliflower/ cabbage/ Lettuce in open field can be taken up.
- Farmers in Mid Hills Sub-Humid are advised to raise healthy nursery/ planting of tomato, brinjal and chilli etc. in nursery beds. Direct planting of cucumber, pumpkin, bitter guard and other cucurbitaceous vegetables may be undertaken. Sowing of bush type variety of French bean. Harvest peas and cauliflowers.
- In Mild Hills Sub Humid Zone farmers are advised to sow green fodder Chari, bajra and maize in low hills. It is also time for sowing of ageti, bhindi and French bean in the field and also sowing of nursery of Khira, summer squash, bitter gourd, tori, in polyhouses. The nursery of cucurbits having 2-4 leaf stage can be successfully transplanted in fields. Also transplant nursery of brinjal, Shimla mirch, pepper and tomato in polyhouses.
- In Uttarakhand, farmers are advised to continue sowing of Chaitee Dhan in nursery, French bean and also crops like sunhemp, maize, jowar and cowpea for green manuring. Farmers are advised to prepare land for sowing of maize under optimum soil moisture, okra, ginger and irrigated rice. Farmers (at 1500 m msl height) are advised to go for sowing of seeds of bottle gourd, bitter gourd, ginger and turmeric etc. during this week.
- In Bhabar and Tarai Zone of Uttarakhand, farmers are advised to go for sowing of maize and lobia in fields under optimum soil moisture. Litchi fruits are now partially turning to yellow in colour, hence in order to protect them from high temperature conditions, farmers are advised to spray cold

water during morning hours for better fruit development. Weather condition is favourable for sowing of Brinjal in nursery and also advised to go for land preparation for sowing of rice long duration (135-140 day) varieties during this week.

- Farmers in Punjab and Haryana are advised to complete sowing of recommended varieties / hybrid varieties of cotton / desi cotton including Bt cotton during this period as it ensures better yield. Farmers are also advised to prepare their field for sowing of paddy nursery, maize and also grow non-leguminous and leguminous crops in mixture i.e. maize + cowpeas to get more nutrients and undertake sowing of radish. Irrigate the standing vegetable crops once a week regularly. To avoid the adverse effect of hot weather on fruit trees apply whitewash on the trunk of trees, if not done earlier. Due to prevailing hot weather conditions, irrigate sugarcane crop at 8 to 10 days interval. As temperature is increasing, give need based irrigation to the pulses.
- Farmers in Uttar Pradesh are advised to irrigate moong crop sown before 25 to 30 days and also irrigate banana, sugarcane and cucurbits crops. Undertake sowing of urad, maize, soyabean, cotton, sunflower and vegetables like okra, cucumber, pumpkin etc. After harvesting of berseem and jai, start sowing of maize, lobia etc., Sanai and Dhaincha also for green fodder purpose. Spray superfix plant development hormone (ANAA) when fruits are of pea size to protect fruit dropping in mango orchards and to increase the size of fruits.
- Due to rise in temperature, fruit borer can damage the crops like tomato, capsicum etc. Therefore, farmers in Bhabar and Tarai Zone are advised to spray 50 EC Prophenophas @ 1 ml per liter of water on these crops.
- Late blight in potato is expected in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, spray Dithane M-45, 25 gram in 10litres of water and repeat the spray at 10-15 days interval. On Mango plant hopper may attack, for control spray Nuvan 1 ml per litres of water. In pomegranate fruit is in flowering stage and anar butter fly is the major problem in this weather, to control spray cypermethrin 10Ec@ 1 ml per litre of water at 15 days interval.
- In Central Plain Zone Ludhiana in Punjab, summer moong is severely attacked by thrips. Farmers are advised to spray the crop at flower bud initiation stage with 600 ml triazophos 40 EC or 100 ml Rogor 30 EC or Malathion 50 EC or 120 ml Metasystox 25 EC in 80-100 litres of water per acre.
- Farmers in Punjab, are advised to keep the ambient atmosphere of the fruits ie. Litchi, lemon, pomegranate humid as moisture has a good local effect on the fruit against splitting by spraying water.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Punjab and Haryana provide cool and fresh water to birds. Provide sufficient water to avoid excess movement of birds. Proper vaccination schedule must be followed. Vaccinate the chicks of 6-8 weeks with Ranikhet disease vaccine and fowl pox vaccine at 8-10 weeks of age. Gal Ghotu, Black Quarter (Pat Soja) can cause heavy loss of animal life in unvaccinated animals. If it is not already done, get your animals vaccinated immediately against the disease. Provide plenty of water to poultry birds to meet the increasing requirement of water. Change the water frequently to provide cool water. Sprinkling of water around the shed, more green area surrounding this shed is helpful in reduction of heat. White washing of poultry shed from outside will be helpful in reflecting the sun rays back from the shed. Increase protein, minerals and vitamins in feed as the feed intake is reduced during summer.
 - In Bhabar and Tarai Zone of Uttarakhand, due to expected dry weather and rise in temperature conditions, farmers are advised to feed Urea treated husk to animals of more than 6 month old age. Keep all types of animals under the shed & give them fresh and cold water. Vaccinate the animals for various diseases as they are more prone to diseases in this weather. For the control of cough use piperazine citrate @50-30 ml/animal.
 - In valley temperate zone of Srinagar in Jammu & Kashmir, allow livestock for grazing early in the morning and late evening. The animals should be fed with freshly cut grass during day time and fed with concentrates during night time. The sheds should be provided inflow of fresh air during day time. Poultry farms should be provided fresh air. Birds should be fed clean drinking water. During rainy seasons sheds should be properly insulated to avoid cold temperature.
- **Floriculture :**
 - In Flood Prone Eastern Plain Zone (Bharatpur) of Rajasthan, farmers are advised to raise nursery for summer marigold using 700-800g / ha seed in 15 cm raised beds at 6 cm spacing in rows at 2 cm depth. Irrigate the flowers on need basis.

- In Intermediate Zone of Pahalgam (Rajouri), farmers are advised to continue planting of tuberose bulbs and the seedlings of summer annuals can be transplanted in beds when they attain four-leaf stage. Continue harvesting of gladiolus spikes.
- In valley temperate zone of Srinagar in Jammu & Kashmir, farmers are advised to collect seeds from selected spring flowering annuals. Prepare the beds for transplanting of summer flowering annuals. Irrigate lawns, flowering beds and pot plants as and when required. Propagate chrysanthemum and sim carnation by stem cuttings. Continue desuckering of budded roses. Apply fertilizer around trees and shrub plants after ensuring that the soil is weed free and moist enough.
- It is time for raising nursery of summer flowers viz. China aster, glardia, rudevekia, Kochia, African marigold, French marigold, partulaca, Tithinia, Torinia and cleome in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh.

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

- **Realised Rainfall:** Almost all districts except Malappuram and Pathanamthitta in Kerala, Dharmapuri, Erode, Krishnagiri, Madurai, Nilgiri, Salem, Theni, Trichy and Vellore in Tamil Nadu, almost all districts in Rayalaseema, Khammam in Telangana, Dakshin Kannada and Udipi in Coastal Karnataka, Dharwad, Gadag and Haveri in North Interior Karnataka and almost all districts in South Interior Karnataka except Shimoga received sufficient rainfall last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over south peninsular India.
- **Advisories:**
 - As almost all districts in Kerala except Malappuram and Pathanamthitta, Dharmapuri, Erode, Krishnagiri, Madurai, Nilgiri, Salem, Theni, Trichy and Vellore in Tamil Nadu, almost all districts in Rayalaseema, Khammam in Telangana, Dakshin Kannada and Udipi in Coastal Karnataka, Dharwad, Gadag and Haveri in North Interior Karnataka and almost all districts in South Interior Karnataka except Shimoga received sufficient rainfall last week, postpone irrigation to the crops. Apply irrigation to the standing crops in the remaining parts of the region, since there was no significant rainfall during last week.
 - Farmers in the North East Transition Zone of Karnataka who wish to take transplanting of pigeon pea are advised to sow the seeds of BSMR -736 in a polythene bag filled with proper soil mixture. If sufficient rains have been received, dry land farmers may take up ploughing of land across the slope, as it improves infiltration and conserves the rain water and also avoids soil erosion.
 - Farmers in the Coastal Zone of Karnataka are advised to undertake summer ploughing to expose the soil to bright sunlight in order to absorb the moisture and procure good quality paddy seeds of MO-4 and Champaka variety for raising nursery.
 - During next five days, as rain is expected, the farmers in the North Transition Zone of Karnataka are advised to take up land preparation to harvest the rain water and not to take up any sprays during next five days.
 - Farmers in the Southern Dry Zone of Karnataka are advised to grow and incorporate green manure crop in the soil, whenever the farmers are intending to take up paddy and sugarcane in khairf season.
 - As per the forecast there is possibility of thunder showers at many places during the coming five days. Taking advantage of the rainfall, farmers in the Hill Zone of Karnataka are advised to plough the land and incorporate the crop residue in the soil for conservation of water and wherever the farmers wants to take up paddy in khairf season, a green manure crop can be grown in situ and incorporated in the soil.
 - Farmers in the Southern Zone of Tamil Nadu are advised to carry out summer ploughing, clean the drains/waterways using the rainfall depending upon the amount and soil condition at the field level, remove perennial weeds in rain fed fields such as hariyali/nuna either through manual methods or using chemicals and undertake careful planning of spraying and fertilizer application, since there is forecast of rainfall.
 - Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to undertake spraying of chemicals, undertake sowing of beans and ensure good field sanitation and drainage to prevent diseases. As there is forecast for light rainfall, spraying of chemicals may be scheduled accordingly and sprays may be given after the showers.

- Farmers in the Problem Area Zone of Kerala are advised to postpone irrigation of coconut, nutmeg, banana and vegetables and harvesting of paddy. Undertake land preparation and dry seeding of *virippu* and upland rice, plough the harvested field and inundate water to maintain soil property and prevent drying and apply fertilizers. They are also advised to undertake planting of ginger and turmeric cultivation after receipt of pre-monsoon showers (varieties of ginger and turmeric are given in Annexure I).
- Farmers in the Southern Zone of Kerala are advised to stop irrigation in coconut and banana and start tapping of rubber after few good showers of rain. In areas where harvesting has started, farmers should be cautious about the storage of grains, raise healthy seedlings in seed beds for transplanting and adopt wet or dry method for raising them. They are also advised to undertake new planting of tapioca, earthing up for already planted tapioca and planting of tissue culture banana only after rain. In areas where harvesting have started farmers should be cautious about the storage of grains. Prepare nursery for *virippu* crop. Plough the fields properly after the receipt of good rains. Since light rain is expected, open the basins after a few good showers and apply organic manures and chemical fertilizers in case of coconut. This helps to reduce the acidity and increase the uptake of nutrients. Preparations can be started to fit tapping shades and planting of brinjal and chilli.
- Farmers in the Southern Zone of Tamil Nadu are advised to undertake plant protection measures against mealy bug attack in sugar-cane and Ganoderma wilt incidence in coconut.
- Very light rainfall and moderate humidity expected during the coming days is conducive for the incidence of sucking pests. Hence, farmers in the South Zone of Tamil Nadu are advised to spray imidachloprid 100 ml/ha if incidence is noticed.
- Farmers in the Southern Transition Zone and Hill Zone of Karnataka are advised to take up spraying of Dimethoate 2 ml/lit of water to control mealy bug infestation in papaya plantations and undertake plant protection measures.
- High temperatures may prevail in the ensuing five days in the North Coastal Zone of Andhra Pradesh, which results in the incidence of sucking pests in summer vegetables. Farmers are advised to spray dimethoate @ 2 ml/l for control of sucking pests.
- Incidence of early shoot borer is noticed in sugarcane, tomato spotted wilt virus (TSWV) disease in tomato, aphids in cabbage and cauliflower, thrips, mites and chaenophora blight in chillies and downy mildew in gourds, thrips, mites and canker in sweet orange is noticed in the Southern Telangana Zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures.
- Prevailing dry conditions are favourable for incidence of bud worm and mite damage in jasmine and fruit fly in mango in the Scarce Rainfall Zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures. Application of Sulphur dust @ 8-10 kg per acre can control mite damage
- **Animal Husbandry**
 - Due to increase in day temperature (37° to 39°C) in poultry farm, there is probability of drop in feed intake. Hence, farmers in the North East Transition Zone of Karnataka are advised to maintain optimum temperature by applying 4-6 inch thick hay thatch as a roofing material, use water for spraying the floor and roof of shelter, periodically during peak hot hours to lower the temperature in poultry and make cool water available to the birds because of peak hot temperature. Dry fodder is to be fed after uniform mixing with 2% urea and 10% molasses or jaggery to improve palatability.
 - Farmers in the Southern Dry Zone of Karnataka are advised to vaccinate the animals (cow, buffalo, bullock) against Foot and mouth disease (FMD vaccination), BC vaccination against Black Quarter and also vaccinate cow, buffalo and bullock against Haemorrhagic Septicaemia (ET vaccine) sheep and goats against Enterotoxemia before onset of monsoon.
 - As the temperatures will start to rise slightly again due to reduced cloudiness and rains, it will be increasing heat stress and thereby chances of stress will be there in the birds. Farmers in the North Western Zone of Tamil Nadu are advised to continue operating foggers in order to reduce the shed temperature and add Vitamin C and electrolytes to reduce the incidences of heat stroke.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Dry weather prevailed over Gujarat State and mainly dry weather prevailed over Maharashtra during last week.
- **Rainfall Forecast:** Weather would be mainly dry over the States of the region.

- **Advisories:**

- As dry weather prevailed during last few weeks in the States of the region and mainly dry weather is likely to prevail during the period, farmers are advised to apply irrigation to the standing crops.
- Farmers of East Vidarbha are advised to plough the fields upto 20-22 cm depth for planting of turmeric.
- As mango fruits are at maturity stage, farmers of Konkan are advised to harvest Alphonso variety at 85% maturity stage for control of spongy tissue disorder. Store them in shed after harvesting. The mango harvesting may be done early in the morning or late in the evening to reduce spongy tissue.
- Taking the advantage of dry weather, farmers of North Madhya Maharashtra are advised to keep two seedlings of cotton at each place after thinning in late sown crop. They are also advised to undertake gap filling if germination is less. As prevailing day temperature is more, farmers are advised to mulch sugarcane with trash (5 tons / ha) and apply irrigation by alternate furrow method.
- As day temperature is high in Marathwada and Vidarbha, farmers are advised to apply mulches of trash in rows to minimize rate of evaporation. Reduce the duration between two irrigations.
- Farmers in Middle Gujarat Zone are advised to apply irrigation to summer crops. Harvest premature mangoes for pickles. Apply wheat or mustard straw mulch under mango tree to reduce impact of injury and spongy tissue.
- Farmers in Bhal and Coastal Zone of Gujarat are advised to irrigate vegetable and fodder crops at 7 to 9 days interval. Taking the advantage of dry weather, spray 1 liter of glyphosate or gramoxen in 500 liter of water per acre to control weeds in fallow land. Undertake deep ploughing of fields to control weeds and soil borne pathogens.
- Farmers in North West Zone of Gujarat are advised to irrigate bajra and vegetable crops. Undertake intercultural operation in summer bajra.
- Farmers in South Saurashtra Zone of Gujarat are advised to apply irrigation in sugarcane, bajra and fruit crops. Apply third dose of Nitrogen 87.5 kg/ha in the form of Urea in sugarcane.
- Due to high temperature, farmers in South Gujarat Heavy Rainfall Zone are advised to irrigate fruits, vegetables and groundnut during morning hours. Dig out dried castor plants at the earliest and deep plough the field for soil solarization to kill fungal spores and other pathogens. Cover papaya fruits using gunny bags to avoid scorching. Apply wheat or mustard straw mulch under mango tree to reduce impact injury and spongy tissue.
- In view of high temperature, farmers in South Gujarat Zone are advised to irrigate vegetables regularly. To control evapotranspiration from sugarcane field, mulching with dry leaves of sugarcane in between two rows of sugarcane may be done. In mango, spray 10 ppm Gibberellic acid and 2% urea solution for good vegetative growth.
- Due to prevailing high temperature, farmers in North Saurashtra Zone are advised to apply irrigation to onion, garlic, sesame and groundnut at 8-10 days interval and keep the groundnut and sesamum fields free of weeds.
- Due to high temperature and high intensity of solar radiation, farmers in North Gujarat Zone are advised to apply regular irrigation in summer crops. Carry out deep ploughing in harvested fields for destruction of soil pests and fungus in high intensity of solar radiation. Protect grains of bajra against bird's damage. Regularly pluck matured fruits and vegetables. Cover papaya fruits using gunny bags and provide support to heavy fruiting plants. Irrigate pomegranate, sapota, lemon and papaya orchards. Prepare land for sowing of irrigated hybrid cotton and B.T. cotton. Picking of matured pods of green gram be carried out.
- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Due to high temperature, there may be attack of aphids, jassids and white fly in brinjal in Western Maharashtra Scarcity Zone; spray Imidachloprid @ 4 ml in 10 litres of water. For control of white fly, spray 4% Neem extract or Methyl Dimeton @ 10 ml in 10 litres water.
- There may be incidence of powdery mildew in water melon and mask melon in Central Vidarbha zone, spray Carathane @ 10 ml in 10 litres water.
- Due to partly cloudy conditions in the current week, there may be infestation of mango fruit fly on mango in South Konkan, install Rakshak traps @ 4 traps per ha. To avoid further spread of the pest, collect and destruct fallen infested fruits of mango in the orchard.
- Under prevailing weather condition, protect newly born shoots of grapes after April pruning from blight disease by spraying Blytox 2 g per litre of water or spray 1% Bordeaux mixture. Also apply 1%

Bordeaux paste on stem. There is also sign of infestation of black blight disease of tomato, chilli etc. in Pune division; spray Copper oxychloride 50 WP @ 2.5 g per litre of water.

- Due to high maximum temperature, there is a possibility of incidence of thrips on new flush of various grafts of fruit crops in North Konkan; spray Acephate @ 1.5 g / litre of water.
- Due to variable sky likely to prevail during next week in North Gujarat Zone, there are chances of sucking pest infestation in vegetables. Farmers are advised to spray 0.1% solution of Dimethoate 35 EC to manage the pest. Also there is a possibility of occurrence of pod borer in green gram. Spray 20 ml solution of Quinalphos 25 EC in 10 litres of water to manage it.
- There is chance of infestation of fruit fly in mango in South Gujarat Zone. Farmers are advised to destroy affected fruits, arrange Methyl Usanol trap, one for 10-12 trees and spray Fenthion @ 10 ml + 150 g Jaggery / 10 liters of water on stem.
- Stages of major crops are mentioned in Annexure-I.

- **Floriculture:**

- Due to high temperature in South Gujarat Heavy Rainfall Zone, farmers are advised to irrigate floral crops during morning hours to meet evaporative demand. Provide support to tall marigold plants. Due to variable sky conditions prevailed during last week, there are chances of sucking pest infestation in flowers. Farmers are advised to spray 0.1% solution of Dimethoate 35 EC to manage the pest.

- **Animal Husbandry:**

- Due to high temperature forecast in South Gujarat Heavy Rainfall Zone, North Gujarat Zone and Middle Gujarat Zone, keep animals under shade during daytime and provide clean drinking water. Put curtains on south-west side of poultry house and sprinkle water on curtains during noon time.
- Give Anthrax vaccination and tablets for controlling Karamia in cattle in North Saurashtra Zone.
- In Konkan and Madhya Maharashtra, provide clothing from outside the poultry shed and sprinkle it with water and apply layer of grass or gunny bags on the roof of poultry shed and sprinkle water on it for protection of poultry birds from heat. Provide fresh and cool drinking water for the poultry birds and chicks.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Rainfall Forecast:** Mainly clear sky and no rainfall expected over the region.
- **Advisories:**
 - As mainly dry weather prevailed during last week in Chhattisgarh and Madhya Pradesh and no significant rainfall is likely, farmers in these regions are advised to provide irrigation to the standing crops.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised at present the evaporation rate is around 10 mm/day. Hence, farmers are advised for proper water management in summer vegetables, rice, groundnut as well as sunflower and provide irrigation as per the requirement. The farmers who have drip irrigation system for vegetables and plantation crops should regulate the water discharge rate accordingly to maintain proper soil moisture around root zone.
 - Farmers in Gird Zone of Madhya Pradesh are advised to give irrigation during evening to urad, moong, chilli, okhra, tomato and fodder crop as per requirement.
 - Farmers in Nimar valley Zone of Madhya Pradesh are advised to irrigate moong, urad and vegetables. Farmers are also advised to sow maize for green fodder and also irrigate summer fodder crop after an interval of 10-12 days.
 - Farmers in Bundelkhand region of Madhya Pradesh are advised to start summer deep ploughing (20-25cm) in their bare field. Summer ploughing is very beneficial to destroy the seeds of weeds, spores of diseases and eggs of insect and also modifies the physical properties of soils. Looking to the forecast of possibility of increased temperature farmers are advised to irrigate the vegetable crops within 3-4 day's interval.
 - Farmers in Satpura Plateau and Vindhyan Plateau zones of Madhya Pradesh are advised to store grain and farm machinery properly at safe place. Summer crops like moong, urad, groundnut, maize and fodder crops needs timely irrigation, weeding and intercultural operations. They are also advised to do field operation like weeding, earthing, plant protection and irrigation in sugarcane crop.
 - Farmers in Chhattisgarh Plain Zone are advised that at present the evaporation rate is about 13 mm/day. Hence, do proper water management in summer vegetables, groundnut and sunflower as per

the requirement. Farmers having drip irrigation system for vegetables and plantation crops should regulate the water discharge rate accordingly to maintain proper soil moisture around root zone. At present Groundnut is at pod filling stage which is crucial for moisture. Hence it is advised to irrigate the crop as per requirement to avoid moisture stress condition. Also, where the crop is at harvesting stage, light irrigation before uprooting the crop is advised.

- Farmers in Bastar Plateau Zone of Chhattisgarh are advised that summer crops like okra, ridge gourd, watermelon etc. should be irrigated at an interval of 12-15 days. Summer ploughing should be done in the fields and left open so that seeds of weeds, spores of diseases and eggs of insects are destroyed.
- **Animal Husbandry & Poultry**
 - Farmers in Kymore Plateau and Satpura Hills region, Satpura plateau region, Nimar Valley Zone, Central Narmada Zone, Malwa Plateau Zone, Jhabua Hills and Gird Zone of Madhya Pradesh are advised that as temperatures are high provide enough potable water to the cattle. Create smoke in the cattle shed to prevent mosquitoes and arrange for vaccination for foot and mouth disease in cattle.

Annexure I

Major Crops

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

- Sugarcane (early vegetative / vegetative), *boro* rice (maturity / harvesting), *ahu* rice (direct seeded) (tillering), *ahu* rice (transplanted) (tillering), tomato, pumpkin, bottle gourd (vegetative / flowering / fruiting / harvesting), okra (sowing / vegetative / fruiting / maturity), black gram, green gram (branching / flowering / pod formation), maize (vegetative / tasseling / silking / cob formation), *Capsularis* / *Olitorius* jute (sowing / seedling / vegetative), summer vegetables (vegetative / flowering / fruiting), cow pea (sowing / early vegetative / vegetative), cucurbits (sowing / vegetative / flowering), banana (planting), ginger / turmeric (planting / vegetative) in Assam.
- *Jhum* and WRC rice (sowing), maize (sowing / vegetative), black gram, green gram (early vegetative / vegetative), okra, beans, cucurbitaceous vegetables (sowing / early vegetative / vegetative) in Arunachal Pradesh.
- Pre-*kharif* rice (late transplanted) (tillering), pre-*kharif* rice (tillering / panicle initiation), *kharif* maize (sowing / early vegetative), cucurbits (sowing / transplanting / vegetative / flowering / fruiting), tomato, chilli (flowering / fruiting / harvesting), chilli (new) (transplanting), okra, cow pea, French bean (sowing / vegetative), ginger, turmeric (planting / vegetative) in Manipur.
- Okra (sowing / vegetative / flowering), pumpkin, French bean (sowing / vegetative / flowering / fruiting / maturity), maize, jute and vegetables like bottle gourd, ash gourd, cauliflower, cabbage etc. (sowing) in Meghalaya.
- Rice (nursery preparation), groundnut, soyabean (sowing), *Khasi* mandarin (vegetative / flowering / fruiting), banana (vegetative / fruiting / maturity / harvesting), *kharif* maize (sowing), okra, cucurbits (flowering / fruiting / harvesting), *kharif* okra, cucurbits (sowing), ginger / turmeric (planting) and urad, moong (sowing) in Mizoram.
- Rice (nursery sowing / germination), maize (flowering / cob formation), tomato (vegetative / flowering / fruiting / harvesting), ginger, turmeric (vegetative), rajma (vegetative / flowering) and banana (vegetative / fruiting / harvesting) in Nagaland.
- *Aus* rice (sowing / transplanting / vegetative), sesame, arhar (sowing), maize (vegetative / tasseling / silking), cucurbits (sowing / seedling), okra (flowering / fruiting) in Tripura.

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

- Sugarcane (vegetative), lobia for green fodder (vegetative), mishrikand (vegetative), vegetables (flowering / fruiting / harvesting), *boro* rice (grain formation / maturity / harvesting), moong (pod formation / pod maturity), summer maize (vegetative / tasseling / silking) in Bihar.
- Turmeric, ginger and elephant foot yam (planting), okra (sowing), summer moong (pod formation / maturity), summer rice (grain filling / maturity / harvesting), summer vegetables (flowering / fruiting / harvesting), summer maize (vegetative / tasseling / silking) in Jharkhand.
- Summer rice (grain filling / maturity), summer groundnut (seed formation / early maturity), sunflower (head formation / early maturity), sugarcane (new) (tillering), banana (vegetative), tomato (flowering / fruiting / harvesting), jute (sowing), yam and ginger (planting), okra, pulses, oilseeds, cotton, sunflower, maize and vegetables (sowing) in Orissa.
- *Boro* rice (grain filling / maturity / harvesting), summer vegetables (flowering / fruiting / harvesting), sesame (flowering / capsule formation / early maturity), groundnut (seed formation / maturity), chilli (flowering / fruiting / harvesting), mango (fruiting / maturity / harvesting), green gram (pod formation / pod maturity), jute (sowing) in West Bengal.
- *Rabi* vegetables (harvesting), orange (harvesting), large cardamom (vegetative), vegetables (sowing / nursery sowing) in Sikkim.

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

- Vegetables (bhindi, cucurbits), potato (sowing / germination), mirch, brinjal (nursery sowing/transplanting in polyhouses), cucurbits viz. cucumber, summer squash, bitter gourd, bottle gourd (nursery sowing/transplanting in polytubes inside polyhouse), bushy French bean (Contender),

bhindi, surajmukhi (sowing / germination), tur, brinjal, Shimla mirch, and tomato (transplanting / seedling), apple and other temperate fruits (vegetative), arbi, amaranthus, turmeric, rice, maize, barley, radish, onion, pea, garlic, coriander, cabbage, knolkhol, parsley, lettuce, fennel, cauliflower, broccoli (sowing / planting / germination), in Himachal Pradesh.

- Late onion (vegetative), Chilli, tomato, brinjal and cucurbits (Vegetative and fruiting Stage), French bean, cluster bean, summer radish, summer green gram (Vegetative and fruiting Stage), Ladies finger (Vegetative and fruiting Stage), guwar, maize, Bajra, cluster bean as fodder crops (sowing), pigeon pea, cotton (sowing) in Delhi.
- Cole crops viz. early cauliflower, cabbage, knoll khol, broccoli (vegetative/flowering), onion (transplanting), bhindi, radish, turmeric, ginger, knolkhol (sowing), berseem (harvesting), jowar, summer moong, mash, dhaincha (green manuring), berseem (fodder), summer fodder (maize + cowpea + jowar) (land preparation / sowing), maize (sowing / emergence), turnip, cruciferous crop (viz. cabbage, cauliflower, knolkhol, kale, broccoli), solanaceous crops (tomato, brinjal and chilli, capsicum), (nursery sowing/transplanting), [cruciferous crops, onion, tomato, capsicum, chilli, rare vegetables viz. celery, parsley, leek (transplanting in the main field), cucurbits under greenhouses, trenches, low tunnels, spinach, carrot, beet root, coriander, fenugreek]] (direct sowing), Horticultural crops (various stages) viz. [peach, plum & mango (flowering), ber, orange & guava (fruiting)] in Jammu & Kashmir.
- Chilli, capsicum, cauliflower, broccoli (germination/vegetative), sugarcane (planting), litchi, loquat, peach, citrus (fruiting / maturity), mango (early varieties) (flowering/ fruiting), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric (vegetative/ flowering), papaya (planting), urd and moong (flowering / pod formation/pod maturity), pearl millets (early vegetative/vegetative), onion, garlic (transplanting/ germination), brinjal, potato (vegetative), sunflower (germination), Chaitee dhan, maize, lobia, sunhemp, cowpea, jowar for green fodder (sowing/germination), French bean, ginger, okra, maize (sowing), irrigated rice (land preparation / nursery sowing) in Uttarakhand.
- Winter sugarcane (vegetative growth), sunflower, summer moong, urad (germination/ vegetative), vegetables [tomato, brinjal, lady's finger, cucurbits like bottle gourd, bitter gourd, cucumber] (sowing / germination / vegetative / flowering / fruiting), coriander (vegetative/ flowering/maturity), onion (vegetative growth), maize (grain formation), fodder maize, lobia, jowar (sowing), Sanai, Dhaincha (sowing / early vegetative), sugarcane (planting/ initial growth (tillering)), mango (flowering / fruiting), cotton, soyabean (sowing) in Uttar Pradesh.
- Spring sugarcane (sprouting / tillering), berseem (vegetative / harvesting), barley (harvesting), radish (sowing), carrot, turnip, cauliflower (transplanting / vegetative), onion (harvesting), tomato, cucurbits, sunflower (sowing), cotton (sowing), okra, chilli, brinjal (sowing / transplanting) in Punjab.
- Paddy (land preparation), Sugarcane (spring season) (early vegetative), barseem (vegetative / last cut), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), barley (heading/pre heading) and radish, cotton (sowing), turnip (sowing) in Haryana.
- Sweet potato, chilli and cluster bean (vegetative / pod formation), oats, lucerne, taramira, opium poppy, vegetables (potato, brinjal, radish, chilli, carrot, palak, berseem, isabgol, ajwain, garlic (vegetative growth / flowering), summer tomato (germination / vegetative), cauliflower, cabbage, onion (transplanting / germination), summer cucurbits, summer green fodder (sowing / germination), okra, *zaid* pearl millet fodder, *zaid* sorghum fodder, *zaid* green gram, groundnut, sweet corn (sowing / seedling), sugarcane (new planting), cotton (Desi kapas, B.T. kapas, Narma kapas, American Cotton) (land preparation / sowing), jowar and bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder (land preparation / sowing), mirch (sowing) in Rajasthan.

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

- Sugarcane (ratooning / vegetative), summer groundnut (pegging / harvesting), maize (harvesting), late planted paddy (harvesting), wheat (harvesting), black gram / green gram (harvest), mango (fruiting/harvesting), cotton (boll development/picking), vegetables (fruiting) and horticultural crops (fruiting) in Karnataka.
- Rabi groundnut (harvesting), rabi paddy (maturity/harvest), rabi maize (harvesting), rice fallow maize (grain filling), rice fallow jowar (grain maturity), rice fallow pulses (pod maturity), sunflower (seed formation), sugarcane (tillering / ratooning), jowar (grain maturity), vegetables (fruiting), chilli (fruiting), green gram & black gram (harvest), tomato (fruiting) and bhindi (fruiting), mango (fruiting), fruit crops (flowering to fruiting), water melon (fruiting) and sesasum (harvest) in Andhra Pradesh.

- Pepper & ginger (harvesting/planting), rubber (tapping), irrigated banana (bunching), cardamom (nursery), nutmeg (maturity/harvest), sugarcane (grand growth/ elongation), vegetables (nursery/planting), summer vegetables (fruiting/harvesting) bearing), puncha paddy (tillering), virippu paddy (nursery sowing), coconut (seed nut collection) in Kerala.
- Rice - Samba (harvest/ nursery sowing/ transplanting), Thaladi (harvest/ nursery sowing/ transplanting), rice fallow black gram (maturity), rice fallow black pulses (pod maturity/harvesting), sugarcane (formative growth stage), gingelly (vegetative / flowering), tomato (fruiting), summer irrigated cotton (flowering), pulses (vegetative), cotton (flowering/boll formation), vegetables (harvest), maize (vegetative/ tasseling/harvesting), pearl millet (vegetative), sorghum (harvesting), irrigated groundnut (flowering/harvesting), chilli (fruiting), ginger, sunflower (vegetative) and turmeric (harvesting) in Tamil Nadu.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane new *adsali* (active tillering), sugarcane new pre-seasonal (early tillering / tillering), sugarcane new *suru* (early vegetative in Madhya Maharashtra and Marathwada), summer rice (grain maturity / harvesting in South Konkan, grain formation in North Konkan and East Vidarbha), summer groundnut (pod maturity / harvesting in South Konkan and pod formation / maturity in Madhya Maharashtra, Marathwada and West Vidarbha), bajra (grain formation / grain maturity in Pune and Nashik Division) in Maharashtra.
- Summer groundnut (pod formation / seed formation / maturity), sesame (flowering / capsule formation), summer rice (grain formation / early maturity), summer bajra (grain formation / maturity), summer moong, urad, cowpea (vegetative / flowering / pod formation), sugarcane (early vegetative / vegetative), vegetables (flowering / fruiting / harvesting) and cluster bean (sowing / seedling), green gram (maturity) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Sugarcane (knee high stage), vegetables (fruiting), moong (early vegetative / vegetative), tomato, brinjal (transplanting/seedling), fodder crops (sowing) in Madhya Pradesh.
- Sugarcane (planting), groundnut (pod formation), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), pigeon pea (pod filling / maturity), cauliflower, tomato, brinjal, chilli (maturity / plucking), onion (planting), summer rice (tillering), summer vegetables (land preparation / sowing / vegetative), moong, urad and maize (sowing/ early vegetative) in Chhattisgarh.

Annexure II

List of Varieties

Assam

Okra: Pusa Sawani, Arka Anamika, Parbhani Kranti, Panchasira.

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

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

Cow pea: Pusa Barsati.

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

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

Cucumber: Chinese Green, Pusa Sanyog, Japanese long, Straight 8.

Bitter gourd: Long Green, Extra Long.

Snake gourd: Long Green, Long White and Extra Long.

Ridge gourd: Pusa Nasdar, AAUJ-1, AAUJ-2, Satputia.

Banana: Chenichampa, Malbhog, Barjahaji.

Pumpkin: Arke Suryamukhi, Arka Chandan and selected Local cultivars.

Meghalaya

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

Okra: Arka Anamika, Pusa Sawani, Parbhani Kranti.

Brinjal: Umroi, Mutakesh, Narrow.

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

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

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

Mizoram

Okra: Pusa Sawani, Pusa Makhmali, Punjab Padmini, Arka Anamika, Arka Abhay.

Moong: Jawahr, Pusa Baishakhi, KM.

Urad: PDU 1, Barkha, Type 1ND U 99-2.

Manipur

Cow pea: Rainy Royal, Long Green.

Tripura

Okra: Arka Anamika, Parbhani Kranti.

Ridge gourd: Pusa Nasdar, Satputia.

Cucumber: Japanese Long, Straight 8.

Orissa

Okra: Utkal Gourav, Arka Anamika, Varsha Uphar, Parvani Kranti and all available hybrid varieties.

Jute: JRO-524 (Naveen).

Ginger: Suprava, Suruchi and Suravi.

Kharif rice: Medium varieties – Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Lalata, Kharavela, Naveen, Surendra, MTU-1001, MTU1010, Abhisek.

Late varieties – CR-1009, CR-1018, Ranidhan, Mrinalini, Swarna, RGL-2837, Ketakijoha, Moti, Padmini, Kanchana, Mahanadi, Jagabandhu.

Maize: Navjot, Shakti, Decan-107.

West Bengal

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

Jharkhand

Ginger: Vardhaman or Nadia.

Turmeric: Rajendra, Sonia.

Okra: Pusa A - 4, Prabhani Kranti, Arka Anamika, Versha Uphar & Hybrid varieties - Sonal and Sarika.

Elephant foot yam: Gajendera, Shree Padma, Santragachhi.

Himachal Pradesh :

Brinjal: ArkaNidhi, PPC

Shimla mirch: California wonder
Agetibhindi: P-8, Prabhnikranti, Arkaanamika,
Frenchbean: Contender
Pepper : Surjmukhi,
Rajmash: Triloki, Jwala, baspa Kailash
Raddish: japani white and early mino white,
Turnip: PTWG-1.
Cabbage: Himsona Cabbage Varun, Bahar, Bajrang, Green challenge.
Knolkhol : White Bina,
Cauliflower: Pride of India, Shweta, Madhuri, Himrani.
Peas: Angoori, PS1100/Azad1.
Cucumber : Kiyani seedless/243, Matgaura, Maliniseeded
Tomato : Naveen2000plus, Avtar, Solan hybrid 1 and 2,
Redcapsicum : Natasha, Tanvi
Yellow capsicum : California wonder, bharat, solan sankar 1, Indira, Orivelle
Summersquash : Pusa Alankar Jacuni types.
Sarson : KBS3
Bhindi: P-8, Prabhini kranti, Arka anamika.

Jammu & Kashmir

Vegetable crop like **radish** (var. Pusachetki, Japanese white & Pusareshmi), **carrot** (var.Pusakesar), **turnip** (var PTWG), **garlic** (var. local, large segmented), **spinach** (prickly seeded) and **methi** (P.E.B.K methi), **Cauliflower** (var. PusaDipali), **knoll khol** (White Vienna), **Broccoli** (Early green),
Bottle gourd (Pusa Summer Prolific Long, Punjab Komal, Punjab Round, Pusa Summer Prolific Round), **Sponge gourd** (Pusa Chikni, Pusa Supriya), **Ridge gourd** (Pusa Nasadar, Swaran Manjari, Pant Tori-I), **Bitter gourd** (Pusa Domousmi, Pusa Vishesh, Coimbatore Long, Pusa Hybrid- Kalyanpur Baramasi), **Cucumber** (Japanese Long, Straight Eight Poinsette), **Pumpkin** (Arka Suryamukhi, Arka Chandan), ginger (Local), **Knolkhol** (W. Vienna).
Brinjal : PPL, PPC, PPPR, **Chillies :** NP-46A, Pusa jawala
Jowar : Ujjain, Swarna-413, M.P.chari & PoineerJowar ,
Beans : Contender, Pusa Parvati, Arka Komal
Maize (unirrigated) : Super Composite (Mansar), C-6, Vijay, Him-123, Local Tall, [GS-2, Vijay, Mansar, C-5 and C-8 in mid to high altitude area (intermediate region)).
Rice (Irrigated) : Var. of dhaincha seed K-84, K-39 having southern aspects, Giza-14 IET-1410, K-39, Ratna, PC-19, Jaya RR-8585, Basmati 370 and Ranbir Basmati

Punjab

Paddy : PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.
Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), CoJ-88, CoS-8436 for mid season and CoJ-89 and Co-1148 (late maturing variety).
Summer moong: SML-668, SML 832
Summer mash: Sathi mash, Mash 1008 , Mash-414 ,Mash-218.
Onion: Agri Found Dark Red, N 53
Okra: PusaSawani , PunjabPadmini ,Punjab 7 or 8.
Groundnut: SG 99 or M 522/SG 84
Radish: Pusa, chetki , Punjab Ageti

Haryana

Paddy : PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.
Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), CoJ-88, CoS-8436 for mid season and CoJ-89 and Co-1148 (late maturing variety).
Summer moong: SML-668, SML 832
Summer mash: Sathi mash, Mash 1008 , Mash-414 ,Mash-218.
Onion: Agri Found Dark Red, N 53
Okra: PusaSawani , PunjabPadmini ,Punjab 7 or 8.
Groundnut: SG 99 or M 522/SG 84
Radish: Pusa, chetki , Punjab Ageti

Delhi

Green gram: Pusa-9531, PusaVisal, PusaVaisakhi, PDM-11, SML-32, Pusa Ratna, Samrat

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

Maize: African Tall

Cluster bean: PusaKomal, PusaSukomal.

Baby corn : HM-4

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

Radish: Pusa Chetki and R.R.W.T

Pigeon-pea: Pusa-2001, Pusa-991 and Pusa-992.

Uttarakhand

Sunflower: KBSH-44, PAC-36, PAC-1091, PAC-3776, PAC-6457, DRS-1.

Okra: Pusa Savani, Punjab Padmini, Selection -1, HissarUnnat, Vaishali, Madhu, Parbhani Kranti, VL Bhindi-1 etc.

Sugarcane :Co Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148 etc.

Urd : PU-19, PU-30, Pant Urd-31, Pant Urd-35, Pant Urd-40, Narendra Urd-1 etc.

Moong : Pant Moong-2, Pant Moong-4, Narendra Moong-1

Cucurbits: Pant Kheera-1 of cucumber, Pant Kakari-1 of Long melon, Pant Karela-1 of Bitter Gourd, Pant Summer Lokee-1,2 of Bottle Gourd and of Water Melon and Musk Melo

ChiateeDhan : VL-dhan-206, VL-Dhan-207, VL-Dhan 208, VL - Dhan 209, Pant Majdera-7

For green manuring : Pant Dhincha-1.

Irrigated rice : Vivek Dhan 85, B.L. Dhan 65, B.L. Dhan 66, Pant Dhan 11

Jhangore : P.R.J.-1, V.L.-172

Green fodder (Maize) : Ganga-2, Ganga-7, African Tall

Green fodder (Lobia) : Russian Joint, EC-4216, UPC-5286

Maize (for green cob) : Sweta or Surya

Maize : hybrid var. Him.-129, VL-42, Vivek-5, Vivek Sankar Makka-9, **composite var.** V.L. Makka-88, V.L. Makka-41, Navin, Sartaj, V.L. Makka 16.

Uttar Pradesh

Sugarcane : KS-8436, KS-88230, KS-95255

Sunflower : K.P.S.H. 1, Divyamukhi, Jwalamukhi

Moong : Type-44, Pant Moong-1,2, Narendra Moong-1, PDM-11, MUM-2, MalviyaJagruti, Samrat, PusaVaishakhi K. , K-851, JM-721 etc.

Urad : Azad Urd-1,2, Bhokhar-1,2, Type-9, Uttara etc. JT-9, pant u-19, Narendra ;, pant U-35

Arhar : U.P.A.S.-120 and T 21.

Vegetables : Bitter gourd: KalyanSona, Arka, Harit, Bottle gourd: KalyanpuriHari, Lambi Azad, Nootan, Pusa, Navin, Narendra, NarendraDharidar, NarendraBhankar, Lowki-4, Pumpkin: PusaVishwas, Coimbatore-1,2, Kalyanpur Pumpkin-1, NarendraAgrim, NarendraAmrut, Cucumber: Fine set, China, Japani, Langreen, Taroi: Pusachikani, PusaNasdar, Satputiya, Punjab, Sadabahar, Lady's Finger: Azad Bhindi-1,2, ParmaniKranti, P-7, Varsha, Uphar, Hissar, Unnat, P-Kanti.

Rajasthan

Cotton : (Narma kapas): **improved varieties**: R.S.T.-9, R.S.-810, R.S.-2013, (**B.T. kapas**) : M.R.C.H. 6304, M.R.C.H. 6025, R.C.H. 134, R.C.H. 314, J.K.C.H. 1947, M.R.C. 7017 (BG-11), N.E.C.H. 6, **Improved varieties of B.T. Cotton (for Jaipur)**: Bikaneri Nerma (190-200 days), Ganganagar Ageti (170-180 days), RST-9 (185-200 days), RG-8 (Desi, 170-180 days), MRC-7017, Tulsi-4-BG & Rasi-314, **American Cotton** : Bikaneri Nerma, RST-9, R.S.T. 810 and Hybrid-4.

For Green fodder (Jawar) : Raj Chari-1, Raj Chari -2, MP Chari, SSG 59-3, MSFH-3, MSFH-4 and Hara Sona,

For Green fodder (Bajra) : Raj Bajra Chari-2, Co -8, Avika Bajra Chari-19 and Jiant bajra

For Green fodder (Guar) : RGC-986, Bundel guar-1, Bundel Guar-2 and Bundel Guar-3

Mirch : Pusa Jwala, Mathaniya, long, Pant C-1, G-3, G-5, Pusa Sadabahar, Pant C-2 and Jawahar.

Kerala

Ginger: Wayanad local, Rio-De Janero, Varada, Mahima

Turmeric: Suguna, Sobha, Suvarna, Kanthi, Sona

Tamil Nadu

Rice: ADT 36, ADT 43, ADT 45 and ADT 47

Gujarat:

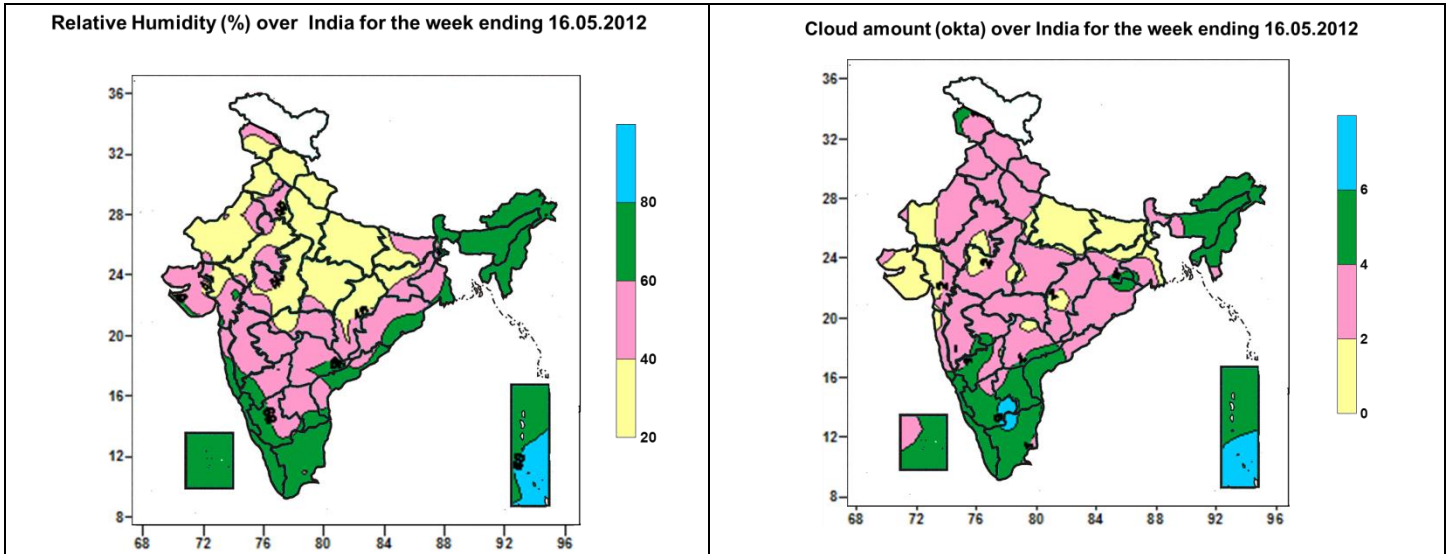
Hybrid cotton: G. Cot. 6, 8, 10.

Madhya Pradesh

Sugarcane- Co 86032, Co 86141

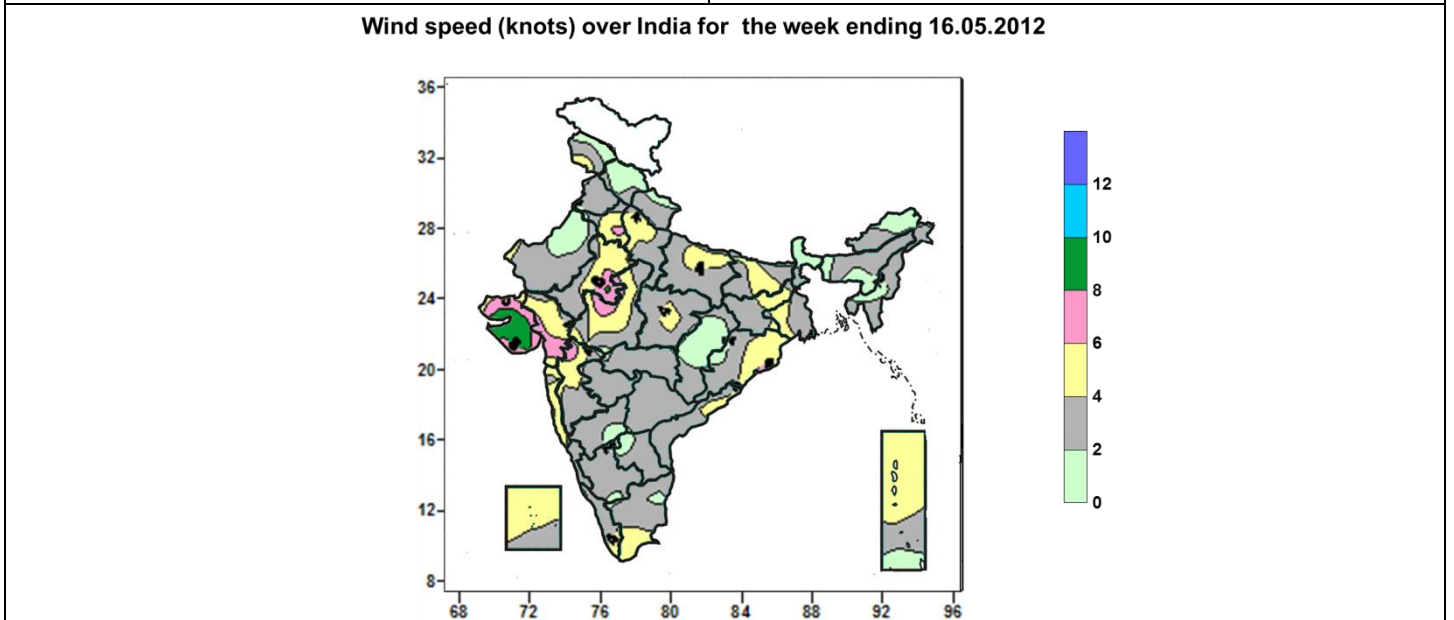
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 16.05.2012



Relative humidity ranged between 80% and above over many parts of Andaman & Nicobar Islands, 60 to 80% over most parts of Northeast India, Sub-Himalayan West Bengal, Sikkim, Coastal Orissa, Konkan & Goa, Coastal Andhra Pradesh, Kerala, Coastal Karnataka, South Interior Karnataka, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Gangetic West Bengal, Gujarat, Madhya Maharashtra, North Interior Karnataka, Telengana, Rayalaseema and 20 to 60 % over remaining parts of the country.

Cloud amount 6 okta and above over many parts of Andaman & Nicobar Islands, 4 to 6 okta over most parts of Northeast India, Karnataka, Kerala, Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Jharkhand, Orissa, Madhya Maharashtra, Marathwada, Telengana and 0 to 4 okta over remaining parts of the country.



Wind speed ranged between 8 to 10 knots and above over most parts of Saurashtra & Kutch, 6 to 8 knots over some parts of Haryana, East Rajasthan, West Madhya Pradesh, Gujarat, Madhya Maharashtra, below 6 over remaining parts of country.