

National Agromet Advisory Bulletin

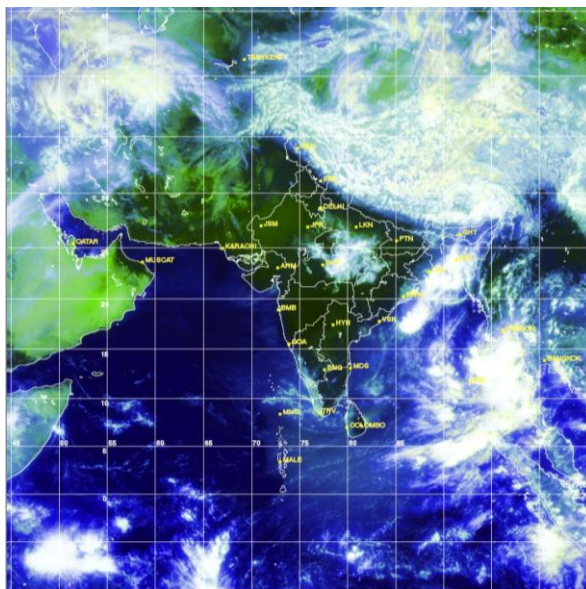
Thursday, 3rd May, 2012
(For the period 3rd to 7th May, 2012)



There are some reports of crop damage due to hailstorm, unseasonal rainfall and high wind in the country. Mango and banana crops suffered damage due to gusty winds and hailstorm in different parts of the Kolar district in Karnataka. In Kupwara, Badgam and Baramulla districts in Kashmir, hailstorm during last week caused damages to fruit buds, vegetables and other horticulture crops including flowers of walnut, pear, apple and extensive damage to rice seedlings. Farmers in these regions are advised to arrange for mechanical support for young plants in orchards. In Jammu, due to continuous rains and low temperatures, the harvesting of wheat has been delayed and also due to hailstorm damage during earlier weeks, quality of grains are likely to be affected in smaller scale.

Significant rainfall occurred over most of the districts in Arunachal Pradesh and Assam and over a few districts in Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Orissa, West Bengal, Sikkim, Karnataka, Tamil Nadu, Rayalaseema and Kerala during last week. Realised rainfall in these districts is beneficial for the standing summer crops. Farmers in these districts are advised to postpone irrigation.

As rain / thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim, at a few places over Gangetic West Bengal during next 24 hours and at many places thereafter, farmers are advised to postpone irrigation to the crops in these regions. Large scale severe thunderstorm activity would occur over Bihar, Jharkhand, West Bengal and Orissa on 4th and 5th May with the wind speed reaching 70 – 80 kmph. Thundersqualls would also occur at one or two places over east Rajasthan, west Madhya Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours. Farmers in these States are advised to arrange for mechanical support for vegetables and young plants in orchards.



Satellite image 0600 UTC dated 4th 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

Maximum temperatures were 4-6⁰C below normal over parts of West Rajasthan, Jammu & Kashmir, Punjab, Haryana, West Uttar Pradesh, Kerala and South Interior Karnataka, 2-4⁰C below normal over parts of Himachal Pradesh, East Rajasthan, parts of Punjab, Uttarakhand, Jammu & Kashmir, West Uttar Pradesh, West Rajasthan, West Madhya Pradesh, East Madhya Pradesh, Chhattisgarh, Orissa, Andhra Pradesh, North and South Interior Karnataka, Tamil Nadu, Kerala and North Eastern States. Maximum temperatures were near normal over rest parts of the country. Large scale severe thunderstorm activity would occur over Bihar, Jharkhand, West Bengal and Orissa on 4th and 5th May with the wind speed reaching 70 – 80 kmph. Thundersqualls would also occur at one or two places over east Rajasthan, west Madhya Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours. Farmers in these States are advised to arrange for mechanical support for vegetables and young plants in orchards.

There are sporadic reports of crop damage due to unseasonal rainfall and hailstorm in the country. Mango and banana crops suffered damage due to gusty winds and hailstorm in different parts of the Kolar district in Karnataka. Mango crops which are at harvesting stage were damaged due to hailstorms and falling of fruits caused losses to the farmers. Utilising the rainfall, farmers are advised to undertake summer ploughing.

In Jammu, due to continuous rains and low temperatures, the harvesting of wheat has been delayed and also due to hailstorm damage during earlier weeks, quality of grains are likely to be affected in smaller scale. In Kupwara, Badgam and Baramulla districts in Kashmir, hailstorm during last week caused damages to fruit buds, vegetables and other horticulture crops including flowers of walnut, pear, apple and extensive damage to rice seedlings. The villages of Diver, Chandigam, Dorsa, Sogam, Khrihama, Warnow, Kuligam, Cheepora, Kalaroos, Hiaham, Halmatpora, Manigah, Batpora, Trumbnaad and Shatpora were the worst hit. Farmers in these regions are advised to arrange for mechanical support for young plants in orchards.

Significant rainfall occurred over most of the districts in Arunachal Pradesh and Assam and over a few districts in Himachal Pradesh, Jammu & Kashmir, Uttarakhand, Orissa, West Bengal, Sikkim, Karnataka, Tamil Nadu, Rayalaseema and Kerala during last week. Realised rainfall in these districts is beneficial for the standing summer crops. Farmers in these districts are advised to postpone irrigation. Rain / thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim, at a few places over Gangetic West Bengal during next 24 hours and at many places thereafter, farmers are advised to postpone irrigation to the 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 and undertake harvesting of matured *rabi* crops.

Due to favourable weather conditions, incidences of cut worm in summer pulses, rust, white ant, white grub and aphids in groundnut in Orissa, blast in rice in Nagaland, jassids and pod borer in ladies finger in West Bengal, leaf roller in rice in Jharkhand, stem borer in summer rice in Chhattisgarh, leaf curl and mosaic in chilli in Rajasthan and thrips, mite, hoppers and white flies in cotton in Tamil Nadu are noticed below economic threshold level (ETL). Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases, if their population goes beyond ETL.

Due to favourable weather, farmers are advised to undertake sowing of summer crops with assured irrigation. Sowing of the crops in different States of the country is mentioned below:

Assam: sowing of cowpea, planting of turmeric, sugarcane and ginger and transplanting of *ahu* rice.

West Bengal: sowing of jute and marigold.

Punjab: sowing of groundnut.

Delhi: sowing of summer moong.

Rajasthan: sowing of cotton.

Uttarakhand: sowing of French bean.

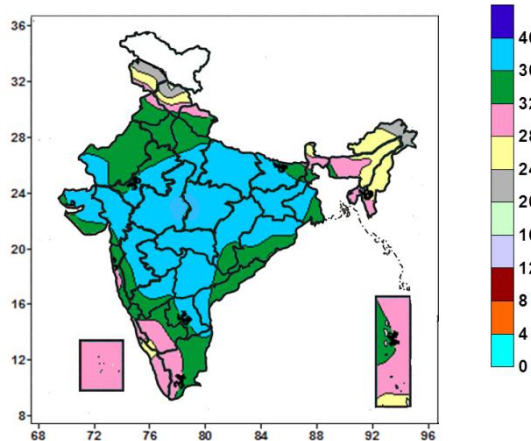
Jammu & Kashmir: sowing of rice, ginger and knol khol

Orissa: sowing of jute and okra.

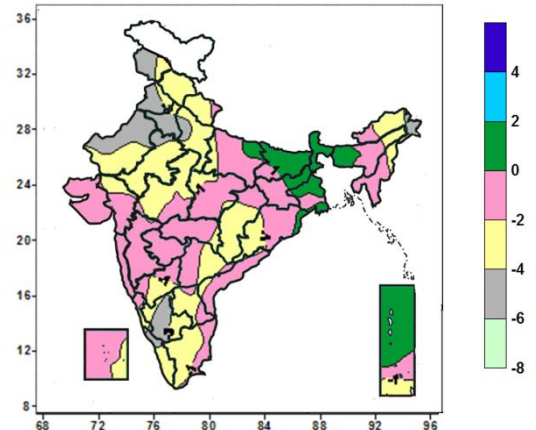
Maharashtra: sowing of cotton.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 02.05.2012

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 02.05.2012



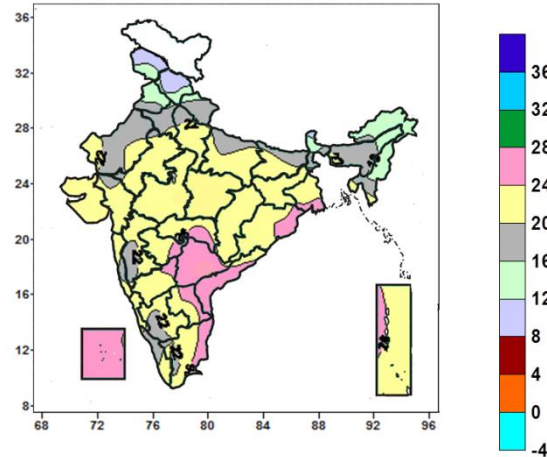
Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 02.05.2012



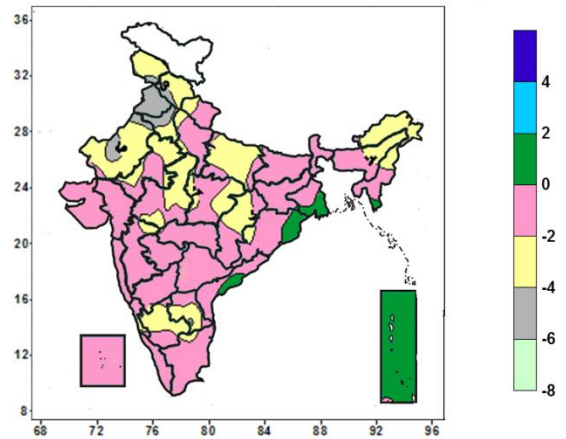
Actual Mean Maximum temperature ranged between 20°C to 24°C over some parts of Jammu & Kashmir, Himachal Pradesh, 24 to 28°C over most parts of Sikkim, Arunachal Pradesh, Nagaland, Manipur, 28 to 32°C over many parts of Sub-Himalayan West Bengal, Assam & Meghalaya, Mizoram, Tripura, South Interior Karnataka, Kerala, adjoining part of Tamil Nadu, Lakshdweep, Andaman & Nicobar Islands and between 32 to 40°C over remaining parts of the country

Actual Mean Maximum temperature anomaly ranged between 0 to 2°C and above over most parts Bihar, northeast Jharkhand, West Bengal, Sikkim, Andaman & Nicobar Islands, some parts of northeastern part of East Uttar Pradesh, Orissa and Assam & Meghalaya, below 0°C upto -6°C over rest of the country.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 02.05.2012



Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 02.05.2012



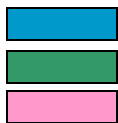
Actual Mean Minimum Temperature ranged between 8 to 12°C over many parts Jammu & Kashmir, Himachal Pradesh, 12 to 16°C over most parts of Punjab, Arunachal Pradesh, Nagaland, Manipur, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Assam, between 16 to 28°C over remaining parts of the country.

Minimum Temperature anomaly ranged between 0 to 2°C and above over most parts of Andaman & Nicobar Islands, some parts of Mizoram, Gangetic West Bengal, Orissa, Coastal Andhra Pradesh, -6 to -4°C over most parts of parts of Punjab, Haryana, some parts of Jammu & Kashmir, Himachal Pradesh, West Rajasthan, -4 to 0°C over remaining parts of the country.

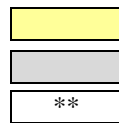
Distribution of rainfall of the country during week ending on 02.05.2012

State/Districts	Actual (mm)	02.05.12 (% Dep.)						
Arunachal Pradesh			Bhatinda	1.4	17	Bilaspur	1.5	-58
East Kameng	3.8	-90	Faridkot	3.3	39	Dantewara	8.0	196
East Siang	112.6	47	Fatehgarh Saheb	3	0	Dhamtari	17.8	536
Kurung Kumey			Ferozpur	9.9	519	Durg	5.8	222
Lohit	195.2	158	Gurdaspur	9.7	120	Janjgir	0.0	-100
Lower Dibang Valley			Hoshiarpur	9.2	178	Jashpurnagar	0.0	-100
Lower Subansiri	19	-65	Jalandhar	5.7	72	Kanker	0.0	-100
Papumpara	117.6	111	Kapurthala	19.8	1311	Korba	0.0	-100
Tawang	166	226	Ludhiana	15.1	528	Koriya	0.0	-100
Tirap	165.8	89	Mansa	1.5	-21	Kawardha	9.0	429
Upper Dibang Valley	112	9	Moga	11	378	Mahasumund	2.0	54
Upper Siang	261.3	129	Muktesar	0.7	-5	Narayanpur	2.0	-37
Upper Subansiri	81.2	172	Nawashahar	11.3	254	Raigarh	2.0	-100
West Kameng	18.5	-64	Patiala	3.6	28	Raipur	0.6	-79
West Siang	55	8	Ropar	11.1	381	Rajandgaon	0.0	-100
Assam			Sangrur	0.4	-86	Surguja	0.0	-100
Baksa	104.8	53	Mohali	2.7	-5	Uttarakhand		
Barpeta	107.5	57	Tarn Taran	10.1	140	Almora	3	-59
Bongaigaon	104.9	48	Haryana			Bageshwar	13.1	77
Cachar	231.9	215	Ambala	5.5	206	Chamoli	14.1	10
Chirang	136.4	92	Bhiwani	3.2	170	Champawat	9.5	16
Darrang			Chandigarh	23.4	874	Dehradun	11.2	67
Dhemaji	33	-41	Faridabad	7.5	1150	Garhwal Pauri	2.1	-63
Dhubri	37.4	-40	Fatehabad	10	1329	Garhwal Tehri	3.2	-56
Dibrugarh	107.7	78	Gurgaon	0.3	-94	Haridwar	6	100
East Garo Hills	45	-55	Hissar	2.8	88	Nainital	9.4	45
East Khasi Hills	150.8	16	Jhajar	4.5	55	Pithorgarh	15.1	-1
Goalpara	46	-37	Jind	0.8	-54	Rudraprayag	7.6	-65
Golghat	98.3	135	Katihah	2.5	127	Udham Sing Nagar	0	-100
Hailakandi	122.2	40	Karnal	3.1	107	Uttarkashi	27	125
Jaintia Hills	12	-88	Kurukshetra	0.8	-35	Orissa		
Jorhat	93.7	50	Mahendragarh	0	-100	Angul	0	-100
Kamrup(Metro)	75.3	24	Mewat	0	-100	Balasore	11.4	-34
Kamrup	104.5	73	Palwal	0	-100	Bargarh	0	-100
Karbi Analog	73.4	125	Panchkkula	11.3	189	Bhadrak	10.8	-35
Karimganj	91.2	-19	Panipat	2.3	52	Bolangir	6.6	31
Kokrajhar	50.8	-27	Rewari	1.3	-11	Boudh	5	-62
Lakhimpur	82.4	46	Rohtak	3.6	91	Cuttack	12.7	-43
Morigaon	53.6	24	Sirsa	0	-100	Deogarh	0	-100
N.C.Hills	23.6	-34	Sonepat	6.6	313	Dhenkanal	5.6	-57
Nowgong	34.6	-26	Yamunanagar	1	-76	Gajapati	72.8	198
Nalbari	105.5	-6	New Delhi	2.8	-7	Ganjam	41.4	327
Ribhoi	30	-40	Jammu & Kashmir			Jagatsingpur	2.1	-90
Sonitpur	121.9	125	Anantnag	23.3	-11	Jajpur	0	-100
Sibsagar	157.5	265	Badgam	12	-45	Jharsuguda	0	-100
South Garo Hills	6	-93	Bandipore	**	**	Kalahandi	15	105
Tinsukia	113.7	122	Baramula	56.5	33	Kandhamal	40.2	202
Udalgiri	122.2	81	Doda	45	69	Kendrapara	5.3	-59
West Garo Hills	9.7	-88	Ganderwal	65.2	196	Keonjhar	8.2	-62
West Khasi Hills	21	-76	Jammu	14.2	121	Khurda	34.8	195
Himachal Pradesh			Kargil	0	-100	Koraput	31.9	149
Bilaspur	7.4	-8	Kathua	10.3	140	Malkangiri	53.3	359
Chamba	12.5	-31	Kistwar	**	**	Mayurbhanj	24.3	19
Hamirpur	8.4	99	Kulgam	20.7	-21	Nawapara	0	-100
Kangra	19.2	80	Kupwara	52.3	39	Nawarangpur	67.5	569
Kinnaur	13.4	-26	Ladakh(Leh)	2.7	125	Nayagarh	15	-1
Kullu	29.9	240	Poonch	87.5	741	Puri	2.5	-72
Lahaul and Spiti	12.1	-58	Pulwama	11	-52	Rayagada	49.9	380
Mandi	26.3	141	Rajouri	5.2	**	Sambalpur	1.4	-76
Shimla	32.5	228	Ramban	53.6	101	Sonepur	17.3	277
Sirmaur	4.1	48	Reasi	29	100	Sundargarh	1.5	-70
Solan	11.1	71	Samba	3.5	-45	West Bengal		
Una	41.9	1253	Shopian	**	**	GWB		
Punjab			Srinagar	12.3	-44	Bankura	19.3	19
Amritsar	10	137	Udhampur	19.2	32	Birbhum	11.8	-10
Barnala	7.8	200	Chattisgarh			Burdwan	20.4	25
			Bastar	54.4	511	East Midnapore	3.7	-79
			Bijapur	0.0	-100	Hooghly	17	1

Howrah	4.6	-74	Hassan	98.7	449	Sivaganga	47.4	352
Kolkata	1.4	-93	Kodagu	66.1	143	Thanjavur	4.5	-54
Murshidabad	8	-19	Kolar	91.0	934	Theni	33.9	70
Nadia	12.2	-35	Mandya	75.4	354	Tirunelveli	20.6	44
24 Pargana (N)	19.5	-17	Mysore	50.3	150	Tirupur	42	188
Purulia	9.2	-21	Ramnagara	52.9	157	Tiruvallur	9.4	74
24 Pargana (S)	0.1	-99	Shimoga	64.7	349	Tiruvannamalai	19.9	166
West Midnapore	8.8	-30	Tumkur	62.0	396	Tiruvarur	8.4	-7
SHWB			Kerala			Toothukudi	5.3	-38
Cooch Behar	46.8	-27	Alappuzha	72.2	78	Trichy	27.4	100
Darjeeling	13.4	-72	Kannur	13.8	-40	Vellore	12.8	45
East Sikkim	77.1	60	Ernakulam	214.9	441	Villupuram	0.8	-90
Jalpaiguri	30.7	-44	Idukki	109.3	179	Virudhunagar	39.5	184
Malda	0	-100	Kasaragod	32.2	87	Andhra Pradesh		
North Dinajpur	0	-100	Kollam	22.5	-49	Coastal Andhra Pradesh		
North Sikkim	51.7	-10	Kottayam	102.8	160	East Godavari	12.1	78
South Dinajpur	11.3	-66	Kozhikode	30.8	41	Guntur	9.2	163
South Sikkim	48.2	0	Malappuram	64.6	123	Krishna	13	116
West Sikkim	30	-48	Palakkad	54.6	77	Nellore	20.2	197
Karnataka			Pathanamthitta	52.4	-1	Prakasam	24.7	415
Coastal Karnataka			Thiruvananthapuram	78.3	125	Sirkakulam	24.9	272
Dakshin Kannada	31.8	118	Thrissur	119.9	397	Visakhapatnam	12.7	-6
Udupi	35.1	162	Wyanad	33.4	44	Vizianagram	23	135
Uttar Kannada	13.9	44	Tamil Nadu			West Godavari	1.7	-74
North Interior Karnataka			Ariyalur	6.3	-25	Telangana		
Bagalkote	2.3	-65	Chennai	0	-99	Adilabad	1.6	-52
Belgaum	0.3	-97	Coimbatore	31.2	96	Hyderabad	0	-100
Bidar	0.0	-100	Cuddalore	13.6	68	Karimnagar	2.2	-49
Bijapur	0.0	-99	Dharmapuri	59.7	356	Khammam	21	184
Dharwad	2.2	-87	Dindigul	38	121	Mehabubnagar	13.5	193
Gadag	25.1	85	Erode	37	155	Medak	1.3	-62
Gulbarga	4.0	-22	Kanchipuram	2.1	-64	Nalgonda	9.4	260
Haveri	54.8	190	Kanyakumari	34.3	15	Nizamabad	0	-100
Koppal	14.5	93	Karikal	1.5	-60	Rangareddy	1.8	-70
Raichur	12.4	227	Karur	75.5	476	Warangal	1.5	-50
Yadgir	13.8	171	Krishnagiri	74.4	346	Rayalaseema		
South Interior Karnataka			Madurai	35.3	189	Anantapur	47.1	545
Bangalore Rural	65.7	353	Nagapattinam	2.1	-71	Chittoor	65.9	534
Bangalore Urban	42.8	208	Namakkal	20	34	Cuddapah	36.2	433
Bellary	48.4	438	Nilgiris	26.6	35	Kurnool	15.3	213
Chamarajnagar	56.1	125	Perambalur	17	150			
Chichballapur	72.9	622	Puducherry	7.4	335			
Chickmagalur	81.1	290	Pudukottai	26.3	148			
Chitradurga	67.6	509	Ramanathapuram	12.9	27			
Davangere	59.0	364	Salem	18.7	5			

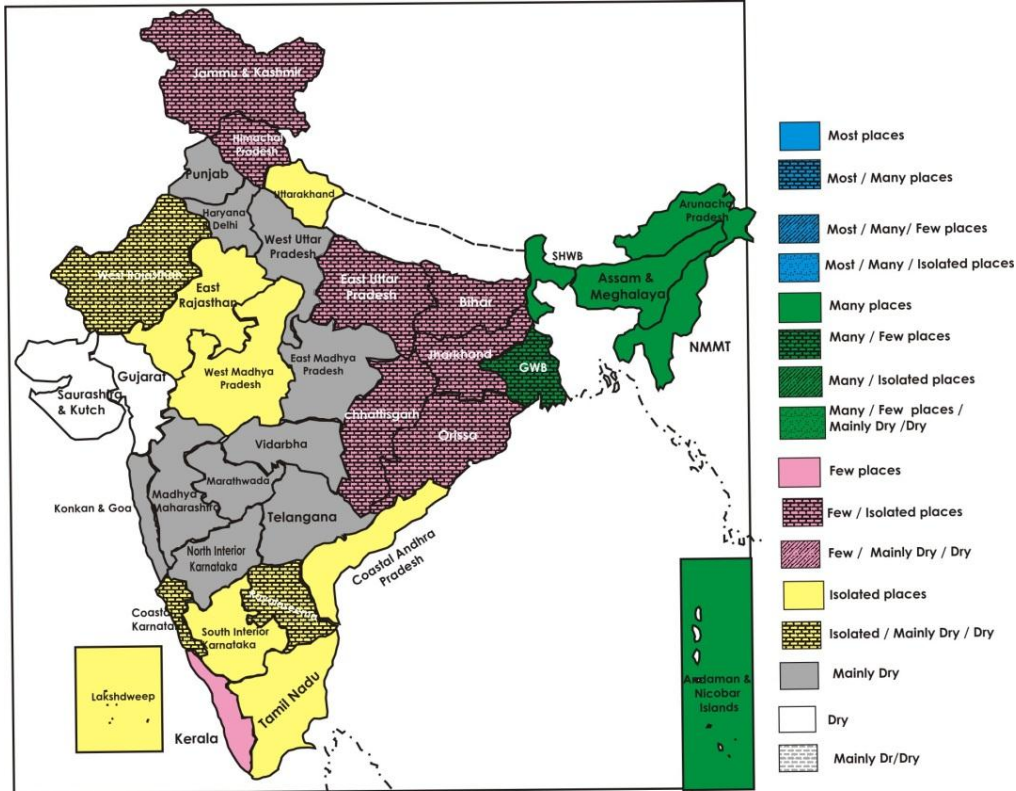


(20% or more) excess rainfall
(-19 to +19%) normal rainfall
(-20 to -59%) deficient rainfall



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

Weather Forecast (Valid upto 0830 hours of 6th May, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 6th May, 2012

- Large scale severe thunderstorm activity would occur over Bihar, Jharkhand, West Bengal and Orissa on 4th and 5th May.
- Rain/thundershowers would occur at one or two places over Jammu & Kashmir, Himachal Pradesh and Uttarakhand during next 48 hours and increase thereafter.
- Duststorms/thunderstorms would occur at one or two places over Rajasthan and west Madhya Pradesh during next 48 hours.
- Rain/thundershowers would occur at many places over northeastern states and Sub-Himalayan West Bengal & Sikkim.
- Rain/thundershowers would occur at a few places over Gangetic West Bengal and at one or two places over Bihar, Jharkhand, Orissa and Chhattisgarh during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands; at a few places over Kerala and at one or two places over north coastal Andhra Pradesh, south interior Karnataka, Tamilnadu and Lakshdweep.
- Weather would be mainly dry over remaining parts of the country.
- Rise in maximum temperatures by 2-3°C would occur over northwest & central India during next 48 hours.

Weather Warning

- Thundersqualls would occur at one or two places over east Rajasthan, west Madhya Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours.
- Thundersqualls with wind speed reaching 50 – 60 kmph would occur at one or two places over West Bengal and Orissa during next 24 hours.
- Thundersqualls with wind speed reaching 70 – 80 kmph would occur at a few places over Bihar, Jharkhand, West Bengal and Orissa on 4th and 5th May.

Weather Outlook up to 0830 hours IST of 8th May, 2012

- Rain/thundershowers would occur at many places over northeastern states, West Bengal & Sikkim and Andaman & Nicobar Islands.
- Rain/thundershowers would occur at a few places over western Himalayan region and at one or two places over adjoining plains.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Arunachal Pradesh and Assam.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over the region.
- **Warning:** Thundersqualls would occur at one or two places over Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 48 hours.
- **Advisories:**
 - As thunder squalls would occur at one or two places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 48 hours, farmers in these States are advised to undertake harvesting of matured crops immediately and also arrange for mechanical support for vegetables and 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 the region during next three days, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the standing crops in the region.
 - Farmers in the Hill Zone of Assam are advised to prepare land and undertake transplanting of *ahu* rice and continue sowing of okra, ginger and cucurbitaceous crops. Continue land preparation and sowing of black gram and green gram.
 - Farmers in Central Brahmaputra Valley Zone of Assam are advised to continue land preparation and sowing of *Bao* rice, *Capsularis* jute, summer vegetables, summer pulses and planting of sugarcane, ginger and turmeric and complete sowing of regular direct seeded *ahu* rice.
 - Farmers of Lower Brahmaputra Valley Zone of Assam are advised to continue sowing of cow pea and transplanting of *ahu* rice and planting of banana. Undertake land preparation and planting of ginger and turmeric.
 - Farmers in the Upper Brahmaputra Valley Zone of Assam are advised to continue sowing of summer green gram, black gram, jute, summer vegetables and planting of banana, sugarcane, ginger and turmeric. Farmers are also advised to complete sowing of direct seeded *ahu* rice.
 - 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* crop 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 complete sowing of direct seeded *ahu* rice. Farmers are advised to undertake planting of banana, sugarcane, 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. Farmers are also advised to undertake sowing of maize and summer vegetables.
 - Farmers in Mild Tropical Plain Zone of Tripura are advised to continue land preparation and sowing of *aus* rice, maize, sesame, arhar, summer vegetables like ridge gourd, cucumber, ash gourd etc.
 - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to continue sowing of maize, jute and vegetables like ladies finger, pumpkin, French bean, bottle gourd, ash gourd etc. Prepare nursery for brinjal. Also undertake sowing of cauliflower and cabbage.
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue land preparation and sowing of *kharif* maize, cow pea, ginger, turmeric, French bean and bhindi and transplanting of chilli. Farmers are also advised to undertake and harvesting of onion.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to continue land preparation and sowing of ginger, turmeric, maize, urad and moong. Avoid water logging in low land area / terrace cultivation. With the help of received rainfall, farmers are suggested to sow maize with treated seed to prevent any seed borne infestation.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to continue land preparation and planting of turmeric and ginger. Continue nursery preparation for rice. Provide mechanical support with bamboo to banana to prevent the breaking of heavy bunches.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - Blast disease starts appearing in the nursery of rice and continues to cause damage till the maturity of the crop. In Mild Tropical Hill Zone of Nagaland, farmers are advised to spray Zineb 75 WP @ 1.25 kg / ha before the appearance of the disease.
 - Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**

- Farmers in Lower Brahmaputra Valley Zone of Assam are advised to vaccinate cattle, goat and pigs against the Foot and mouth disease.
- Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to deworm and vaccinate cattle for FMD. Deworm pig and apply preventive measures to goat against diarrhea and provide dry bedding.
- The farmers in Nagaland are advised to vaccinate poultry against bird flu and pigs / piglets against swine flu. Control flies, mosquitoes and external parasites by regularly applying bleaching powder and insecticides like Butox or copper sulphate solution.
- Farmers in Manipur are advised to vaccinate poultry against Ranikhet, IBD / Gumboro disease. Vaccinate and deworm cattle and buffalo against Black Quarter (BQ) & *Haemorrhagic Septicaemia* and pig and goat against swine fever and *Haemorrhagic Septicaemia* (H.S.). Deworm cattle and buffalo against *Fasciola* spp. using Oxyclozide.
- Farmers in Mild Tropical Plain Zone of Tripura are advised to deworm calves with consultation with veterinary practitioner. Farmers are also advised to vaccinate poultry against Ranikhet disease with R2B @ 0.50 ml through eye drop route. Vaccinate cattle against Anthrax, Black Quarter (BQ) & *Haemorrhagic Septicaemia*.
- In Mild Tropical Hill Zone of Mizoram, farmers are advised to vaccinate poultry against FMD, Brucellosis, *Haemorrhagic Septicaemia* and Anthrax. To prevent tick infestation in cattle, spray the sheds / barn and animal regularly with Butox liquid @ 2 ml per liter of water.
- **Pishiculture**
 - The farmers in Nagaland are advised to raise ducks in fish ponds so that much of their manure will go into the water. This will help the fish to grow. At the same time, the ducks will feed on the unwanted plants that grow in the ponds and help to keep the ponds free of plants, weeds and snails. Chickens or pigs can be raised near the ponds. Build the chicken houses and pig pens on the banks or over the ponds, to sweep the manure into the ponds. If farmers have built fish ponds side by side, they are advised to build a chicken house or pig pen on top of the bank between two ponds and sweep the manure into both ponds.

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

- **Realised Rainfall:** Significant rainfall occurred in Gajapati, Ganjam, Kandhamal, Khurda, Koraput, Malkangiri, Nawarangpur and Rayagada districts in Orissa and most of the districts of Sub-Himalayan West Bengal & Sikkim. No significant rainfall occurred in remaining districts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim. Rain / thundershowers would occur at a few places over Gangetic West Bengal and at one or two places over Bihar, Jharkhand and Orissa during next 24 hours and increase thereafter.
- **Warning:** Large scale severe thunderstorm activity would occur over Bihar, Jharkhand, West Bengal and Orissa on 4th and 5th May with the wind speed reaching 70 – 80 kmph.
- **Advisories:**
 - Large scale severe thunderstorm activity would occur over Bihar, Jharkhand, West Bengal and Orissa on 4th and 5th May with the wind speed reaching 70 – 80 kmph. Farmers in these States are advised to arrange for mechanical support for vegetables and young plants in orchards.
 - As significant rainfall occurred in Gajapati, Ganjam, Kandhamal, Khurda, Koraput, Malkangiri, Nawarangpur, Rayagada districts in Orissa and most of the districts of Sub-Himalayan West Bengal & Sikkim, farmers in these districts are advised to postpone irrigation to the crops. Rain / thundershowers would occur at a few places over Gangetic West Bengal during next 24 hours and at many places thereafter, farmers are advised to postpone irrigation to the 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 and okra.
 - Farmers in North Western Plateau Zone of Orissa are advised to undertake planting of ginger and provide irrigation to sunflower.
 - In South Bihar Alluvial Zone, undertake harvesting, threshing and drying of wheat and keep it in safe place and irrigate summer maize and in North Bihar Alluvial Zone; continue sowing of elephant foot yam.
 - In South Bihar Alluvial Zone, farmers are advised to undertake sowing of fodder crops such as maize, lobia, sorghum and bajra.

- Prepare the field and arrange the seeds for sowing of ginger and turmeric in Western Plateau Zone of Jharkhand.
- As severe thunderstorms are likely to occur, farmers in New Alluvial Zone of West Bengal are advised to undertake harvesting of early sown *boro* crops immediately, if more than 80% grains ripened. After harvesting, dry the crop properly. Farmers are also advised to irrigate sesame and vegetable crops.
- Farmers in Terai Zone of West Bengal are advised to transplant the seedling of marigold for rainy season flowering if it reaches the age at 25 days utilizing recent rain. Drain out excess water.
- As there is chance of thunderstorm, immediately complete harvesting of *boro* rice and keep under safe place. Farmers in Coastal Saline Zone of West Bengal are also advised to start harvesting of green gram by picking the pods.
- Farmers in Laterite and Red Soil Zone of West Bengal are advised to harvest matured groundnut crop as early as possible.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In East and South Eastern Coastal Plane Zone of Orissa in Kendrapara district, cutworm infestation has been found in summer pulses. Apply Chloropyrifos or Triozophos dust around the bunds to prevent the entry of pests from the affected field to unaffected field. Spray 2 ml Chloropyrifos / litre of water during afternoon hours.
- In East and South Eastern Coastal Plane Zone of Orissa, infestation of thrips, bud necrosis and rust occurred in groundnut. Spray 2 ml Endosulphan in 1 litre water to control thrips. Spray 2 ml Endosulphan / litre of water to control the bud necrosis. Spray 25 g Mancozeb or 30 g Blitox-50 in 10 litres of water to control the rust.
- Due to prevailing weather condition in Laterite and Red soil zone of West Bengal, gundhi bug may attack the *boro* crop during the grain filling stage; apply Carbaril 50% or Dichlorovos 76% to protect the crop.
- In the prevailing weather condition, in Alluvial Zone of West Bengal, white fly may be observed in lady's finger. To control it, apply Imidachloprid @ 5 ml per 10 litres of water at an interval of 15 days.
- Aphids may infest mustard and chilli in hill zone of West Bengal. For the management of aphids, spraying the crop either with Imidachloprid @ 1 ml / litre of water or Acetamiprid @ 1 g / litre of water may be done. The seedlings of cucurbits may be infested by whitefly; spraying the crop with Monocrotophos @ 1.5 ml / litre or Acephate @ 1 g / litre of water may be done.
- In some pockets of Western Plateau Zone of Jharkhand, rice crops are attacked by leaf roller in rice; spray the insecticides like Monocrotophos or Trizophos during evening @ 2.5 ml per litre of water to control them.
- 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 Western Plateau Zone of Jharkhand. Hence, animals should be protected against intense heat and do not allow animals to expose in sunlight during noon and give plenty of water for drinking.
- **Pisciculture**
 - In North Eastern Coastal Plain Zone and North Central Plateau Zone of Orissa, now as the temperature is high, which may reduce the oxygen content of water in the fish ponds, stir the pond water early in the morning from a corner for better oxygen supply. For proper growth of fish, feeds like rice bran and groundnut oil cake (each of 5 kg per day per acre area of pond) may be given.

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

- **Realised Rainfall:** Significant rainfall occurred in Kullu, Mandi, Shimla and Una districts of Himachal Pradesh, Chandigarh district in Haryana, Many districts of Jammu & Kashmir, Uttarkashi district of Uttarakhand. Mainly dry weather prevailed over the rest region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Jammu & Kashmir and Himachal Pradesh during next 48 hours and increase thereafter. Isolated rainfall is likely over Uttarakhand during next three days. Mainly dry weather is likely over East Uttar Pradesh during next 24 hours, at isolated places thereafter and at a few places after 48 hours. Weather would be dry in remaining parts of the region.
- **Warning:** Thundersqualls with wind speed reaching to 50 – 60 kmph is likely at one or two places in East Rajasthan during next 48 hours.

● **Advisory:**

- As significant rainfall occurred in Kullu, Mandi, Shimla and Una districts of Himachal Pradesh, Chandigarh district in Haryana, many districts of Jammu & Kashmir, Uttarkashi district of Uttarakhand, farmers are advised to postpone irrigation to the crops. 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 in East Rajasthan during next 48 hours. Farmers are advised to undertake harvesting of matured crops immediately and also arrange for mechanical support for vegetables and young plants in orchards.
- Farmers in Delhi are advised to undertake sowing of guar, maize, bajra, cluster bean as fodder crops during this week. Sowing of green gram, cluster bean, senai, guar etc. may be done for green manure during this week. For adequate germination proper moisture should be maintained. Farmers are advised to give light irrigation in the matured onion and garlic crops once in week before digging. Sowing of summer green gram is advised where harvesting of *rabi* crop is over. Optimum moisture level may 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.
- 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 after harvesting of matured wheat, barley, gram, mustard, cumin, fenugreek, coriander. Continue land preparation and sowing of cotton (Desi kapas, B.T. kapas and Narma kapas). Also undertake (jowar / bajra mixed with guar, Sudan grass, oats, maize, sorghum etc.) for green fodder. Increase in temperature may cause damage to horticultural crop. Give frequent and light irrigations. Cover the tree sapling with thatching material to protect against heat and ensure proper aeration.
- In Sub Tropical Zone of Jammu and Kashmir, farmers are advised to complete transplanting of tomato, onion, brinjal, chilli crop and sowing of bhindi, beans and cucurbits without any further delay. Continue sowing of maize and go for nursery sowing of rice. Also undertake sowing of dhaincha crop in fallow field for green manuring in order to maintain the soil fertility. Suspend the cutting of berseem crop in order to take quality production of berseem seeds. Continue the sowing of summer fodder (maize + cowpea + jowar) in order to meet the fodder requirement in summer months.
- In Intermediate zone (Pahalgam) of Jammu & Kashmir, farmers are advised to sow ginger and knolkhol.
- In Valley Temperate zone of Jammu & Kashmir, farmers are advised to undertake field preparation for sowing of rice and maize. Continue harvesting of winter fodder and drain out rain water from oilseed and pulse crops till maturity. Continue transplanting of seedlings of solanaceous vegetables produced under open conditions and also seed sowing of cucurbits, kale, knol khol, bhindi and beans. Grow chillies on raised beds or on ridges.
- Farmers in Mid Hills Sub-Humid Zone of Himachal Pradesh farmers are advised to undertake new planting of apple and stone fruits plants. In Polyhouse soil treatment with formalin (1.5-2.0%) may be done. If fumigation done then go for sowing of capsicum, tomato, cabbage, cauliflower, Red capsicum, yellow capsicum, Cucumber and Summer squash.
- Farmers in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh are advised to apply irrigation to potato in higher hills. Earthing up can be done in the potato crop if sown earlier. Harvest peas and cauliflowers. In high hills on apple plants use anti hail nets to protect from hail.
- In Uttarakhand, farmers are advised to undertake harvesting of matured crops viz. wheat, barley, gram, pea, lentil etc. during this week. Farmers are advised to continue for sowing of Chaitee Dhan in nursery 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, irrigated rice. Also undertake sowing of Frenchbean. Farmers (at 1500 m msl height) are advised to go for sowing of seeds of bottle gourd, bitter gourd, ginger, turmeric etc. during this week.
- As clear weather is expected in coming days in Punjab and Haryana, farmers are advised to undertake sowing of groundnut upto the first week of May, after applying rauni irrigation. Irrigate the sugarcane, sunflower and tomato crop at 7-12 days interval. Take last cutting of Berseem. Stop irrigation to lucerne after full blossom to arrest vegetative growth for better seed production. Complete sowing of recommended varieties / hybrids of cotton / desi cotton including Bt cotton during upto 15th May as it ensures better yield.
- In Bhabar and Tarai Zone of Uttarakhand, due to rise in temperature conditions, there are chances of fruit borer to damage fruits of litchi, hence if these insects are seen on fruits, then farmers are advised to spray Endosulphan @ 1.5 ml per liter of water.
- Farmers in Uttar Pradesh are advised to irrigate moong crop sown before 25 to 30 days and cucurbits crops at an interval of 4 to 5 days. Undertake sowing of urad, maize, 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.

- In Flood Prone Eastern Plain Zone (Bharatpur), chilli crop is affected by leaf curl and mosaic disease. Farmers are advised to uproot and burn affected plants to check the spread of disease and spray Dimethoate 30EC @ 1.0 ml per litre water.
- In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan (Udaipur), farmers are advised to spray of 0.5 % ferrous sulphate or 0.1 % Sulphuric acid for the control of iron chlorosis in summer groundnut.
- Prevailing weather in Delhi is favourable for attack of red pumpkin beetle on cucurbitaceous crops, spray Carbaryl (Sevin) @ 1 gram per litre of water when sky is clear. Also there may be attack of mite, jassid and hopper on lady finger crop. Spray Phosmite @ 1.5 - 2 ml/ litre of water to control mite.
- 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.
 - 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.
 - In valley temperate zone of Srinagar in Jammu & Kashmir, allow to out during day time for grazing. They should be balanced feeds during night time. The sheds should cover properly during the days when winds will be blowing. Proper arrangements should be made poultry shed with respect to providing warmth during cold days. Avoid cold draught within the brooding sheds.
- **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.
- **Apiculture**
 - In Intermediate Zone (Pahalgam / Rajouri), it is advised to provide adequate space to the colonies for brood rearing and storage of nectar. Maximum number of comb foundation sheets be got raised by inserting newly fixed sheets in between the two drawn frames. Provide supers well in time to avoid congestion and proper storage of honey. Keep colonies in shade or cover with wet gunny bags. Division of bees can be taken during the month.
 - Shift the bee colonies near citrus, litchi, shisham, Eucalyptus, vegetables and berseem crop in order to availability of pollen and nectors. Artificial feeding of the bee colonies with sugar: water solution 1:1 ratio may be done. Provide ample space for newly mated queen for egg laying is advised in sub tropical zone (Chatha / Jammu) of Jammu & Kashmir. Prevent swarming by providing ample space and drawn combs.

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

- **Realised Rainfall:** Most of the districts in Kerala except Kannur, Coimbatore, Dharmapuri, Dindigul, Erode, Kanyakumari, Karur, Krishnagiri, Madurai, Nilgiri, Pudukottai, Sivaganga, Theni, Tirunelveli, Tirupur and Trichy in Tamil Nadu, Dakshin Kannada and Udipi in Coastal Karnataka, Gadag and Haveri in North Interior Karnataka, all districts in South Interior Karnataka, Nellore, Prakasam and Srikakulam in Coastal Andhra Pradesh, most of the districts in Rayalaseema except Kurnool and Khammam in Telangana received sufficient rainfall last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at few places over Kerala and at one or two places over South Interior Karnataka, Tamil Nadu. Weather would be mainly dry during next 24 hours over Coastal Andhra Pradesh and at isolated places thereafter. Weather would be mainly dry over remaining parts of the region.
- **Advisories:**
 - Most of the districts in Kerala, Coimbatore, Dharmapuri, Dindigul, Erode, Kanyakumari, Karur, Krishnagiri, Madurai, Nilgiri, Pudukottai, Sivaganga, Theni, Tirunelveli, Tirupur and Trichy in Tamil

Nadu, Dakshin Kannada and Udipi in Coastal Karnataka, Gadag and Haveri in North Interior Karnataka, all districts in South Interior Karnataka, Nellore, Prakasam and Srikakulam in Coastal Andhra Pradesh, most of the districts in Rayalaseema and Khammam in Telangana 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 Coastal Zone of Andhra Pradesh are advised to complete threshing operation of *rabi* pulses and sesamum before 6.5.12.
- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to prepare field for sowing of gingelly.
- Farmers in the Eastern Dry Zone of Karnataka are advised to plough the land across the slope, as it not only improves infiltration and conservation of rain water but also avoids soil erosion and checks weeds, since there is possibility of showers after two days.
- Farmers in the North East Transition Zone of Karnataka are advised to take up ploughing of land across the slope, as it improves infiltration and helps to conserve the rain water and avoid soil erosion, if sufficient rains have been received, maintain sufficient moisture in the vermi-compost pits, take up the repairs of bunds and check dams, so as to reduce the run off for avoiding soil erosion.
- Farmers in the North Dry Zone of Karnataka are advised to continue summer pruning in grapes. Light rainfall has been received at many places in the district during the previous week. Taking advantage of the rainfall, farmers are advised to add adhesive gum to the plant protection solution before taking up plant protection measures in horticultural crops, take up summer ploughing and remove the roots of *Hariyali* and *Cyperus* to facilitate not only conservation of water during summer rains but also to expose the pupa of insects present in the soil to the sun and get destroyed, control the weed, practice soil and water conservation and maintain sufficient moisture in the vermi-compost pits.
- 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.
- Farmers in the North Transition Zone of Karnataka are advised to take up the land preparation for harvesting the rainwater.
- 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 utilising the pre-monsoon rains and to conserve the soil.
- Farmers in the Southern Dry Zone of Karnataka are advised to incorporate and grow a green manure crop in the soil to take up paddy and sugarcane in the *kharif* season.
- Farmers in the North East Dry Zone of Karnataka are advised to take proper care for storage of dry sorghum fodder by covering with paddy straw etc. Build moisture conservation structures across the slope, remove the perennial weed shrubs which are on the bunds to avoid further spread of weeds and take up summer ploughing to keep the fields free from weeds and insect pest's pupa.
- Farmers in the Central Dry Zone of Karnataka are advised to clean all drainage channels before the commencement of monsoon and utilize the last week rain to sow the green manure seeds like dhaincha, sunhemp etc. in fallow paddy fields.
- Farmers in the Cauvery Delta Zone of Tamil Nadu are advised to undertake summer ploughing to control weeds and larva of insects and raise of green manure crops like daincha, sunhemp and kolingi utilizing the rainfall received during the last week.
- Farmers in the Southern Zone of Tamil Nadu are advised to carry out summer ploughing and clean the drains/waterways using the rainfall and depending upon the amount and soil condition at the field level, remove perennial weeds in rainfed fields such as hariyali / nuna either through manual methods or using chemicals and spraying and fertilizer application as and when required.
- Farmers in the South Zone of Tamil Nadu are advised to avoid operations like spraying, irrigation etc., as moderate rainfall is expected during coming days.
- Farmers in the Northwestern Zone of Tamil Nadu are advised to remove weeds from tapioca and cotton, since the soil continues to have moisture due to recent spell of rains and it increases the availability of nutrients to the main crops resulting in good growth and yield.
- Farmers in the High Rainfall Zone of Tamil Nadu are advised to undertake planting of ginger.
- Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to undertake spraying of chemicals, undertake sowing of vegetables like potato, beans, radish, beetroot, turnip, knol khol and exotic vegetables and ensure good field sanitation and drainage to prevent diseases.
- Farmers in the High Altitude Zone of Kerala are advised to harvest the matured paddy crops as early as possible.

- 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.
- 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.
- Incidences of thrips, mite, hoppers and white flies are being noticed in summer irrigated cotton and in rice fallow cotton in the Cauvery Delta Zone of Tamil Nadu due to the prevailing hot weather. Farmers are advised to use yellow trap smeared with castor oil or white grease and spray Azadirachtin 0.03% (3 ml/L) along with sticking agent in the morning or evening using hand sprayer to control them.
- Ganoderma wilt incidence is noticed in coconut in the Southern Zone of Tamil Nadu. Farmers are advised to root feed the tree with the combination of 2g aureofungin solution and 1g copper sulphate in 100ml of water to control it.
- Incidence of 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.
- **Animal Husbandry**
 - Farmers in the Eastern Dry Zone of Karnataka are advised to take up silkworm and poultry rearing houses to maintain optimum room temperature and take care against the rapid increase in air temperature and decrease in relative humidity.
 - 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.
 - Farmers in the North Dry Zone of Karnataka are advised to vaccinate (ET vaccine) sheep and goats against enterotoxemia before onset of monsoon.
 - Rainfall last week may bring about increase in relative humidity and temperature which will affect the broiler birds adversely and lead to heat stroke and mortality. Farmers in the North Eastern Zone of Tamil Nadu are advised to provide adequate ventilation by providing fans, allow cross ventilation and other cooling systems.
 - Farmers in the North Western Zone of Tamil Nadu are advised to vaccinate all the desi birds with RD vaccine immediately, since there is a chance of outbreak of Rainkhet disease due to reduced resistance and summer regains its hotness after a spells of rain.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rain occurred in some pockets of Kolhapur district in Maharashtra whereas mainly dry / dry weather prevailed over rest region of Maharashtra and Gujarat State during last week.
- **Rainfall Forecast:** Weather would be dry in Gujarat State and mainly dry in Maharashtra during the period.
- **Advisories:**
 - As mainly dry weather prevailed during last few weeks in most parts of 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 Sindhudurg district in Maharashtra are advised to continue harvesting of already matured summer rice, groundnut and sunflower in the morning hours. Harvest the mature mango fruits at 80 to 85% maturity. Keep the harvested fruits in shade and cover them to prevent incidence of spongy tissue disease. As maximum temperature is high in Konkan, mango fruits may become scalded, black and dropping may occur. To avoid this, apply water @ 150 to 200 litres per mango tree and mulch with grass near basin of tree to avoid loss of water by evaporation.
 - Prevailing minimum temperature is favourable for sowing of irrigated cotton in North Madhya Maharashtra; farmers are advised to complete sowing in first fortnight of this month.
 - As day temperature is high in Marathwada and Vidarbha, more evaporation is likely in the region; farmers are advised to apply mulches in rows to minimize rate of evaporation. They are also advised to reduce the duration between two irrigations.

- Farmers in East Vidarbha region are advised to maintain proper water level in rice field. Undertake sowing of jowar for fodder to animals.
- Farmers in Middle Gujarat Zone are advised to harvest mature pods of green gram. Apply irrigation to summer crops. Harvest premature mangoes for pickles.
- Due to prevailing high temperature, farmers in Bhal and Coastal Zone of Gujarat are advised to irrigate vegetable crops at evening time. Regularly harvest the matured vegetables. Irrigate bajra and green gram in the morning hours.
- Farmers in South Saurashtra Zone of Gujarat are advised to apply irrigation in peanut and fruit crops.
- Due to high temperature, farmers in South Gujarat Heavy Rainfall Zone are advised to irrigate vegetables during morning hours. Cover papaya fruits using gunny bags to avoid scorching. Apply irrigation to fruit crops.
- To control evapotranspiration from sugarcane field, farmers in South Gujarat Zone are advised to spread dry leaves of sugarcane in between two rows of sugarcane.
- Due to prevailing weather conditions, farmers in North Saurashtra Zone are advised to apply irrigation to groundnut and sesame at 8-10 days interval and keep the fields free of weeds.
- Farmers in North Gujarat Zone are advised to irrigate summer pearl millet, green gram, groundnut and vegetable crops. Under the prevailing weather conditions complete harvesting of *rabi* crops followed by threshing.
- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Rain occurred due to thunderstorm activities in some parts of Kolhapur district in Maharashtra during last week. There may be incidence of thrips in mango; farmers are advised to collect and destroy the pest affected branches in the orchards and apply plant protection measures. There may also be incidence of brown rust and blight disease in summer groundnut; spray Dithane M-45 @ 25 g in 10 litres of water.
- Due to cloudy weather in Western Maharashtra Scarcity zone, there may be attack of thrips and white fly in tomato; spray Dimethoate @ 10 ml or Methyl Dimetone @ 10 ml in 10 litres of water.
- High temperature is favourable for the incidence of thrips and mites in summer chilli in North Madhya Maharashtra; spray Methyl Dimetone 25 EC @ 15 ml or Dimethoate 30 EC @ 16 ml + Sulphur 80 % @ 20 g in 10 litres of water.
- Due to high temperature in South Gujarat Heavy Rainfall Zone, there are chances of infestation of powdery mildew disease in mango, which leads to fruit drop in mango. Farmers are advised to spray 0.1% Karathane 48 EC to manage the disease.
- Stages of major crops are mentioned in Annexure-I.
- **Animal Husbandry:**
 - Make arrangement of shade and fresh drinking water for cattle. Put curtain on west direction in poultry to protect against hot wind and spray water on them during noon hours to avoid heat stress in Middle Gujarat Zone.
 - Due to high temperature forecast in South Gujarat Heavy Rainfall Zone, keep animals under shade during daytime and provide adlib clean drinking water. Vaccinate animals against FMD and BQ to avoid disease outbreak during ensuing monsoon season. Avoid transportation of poultry birds during noon time. Put curtains on 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.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in Bastar district of Chattisgarh. Mainly dry weather prevailed in rest of the region.
- **Rainfall Forecast:** Rain/thundershowers would occur at one or two places over Chhattisgarh during next 24 hours and increase thereafter. Duststorms / thunderstorms would occur at one or two places over West Madhya Pradesh during next 48 hours. Weather would be mainly dry over remaining parts of the region.
- **Warning:** Thundersqualls would occur at one or two places over West Madhya Pradesh during next 48 hours.
- **Advisories:**
 - As thunder squalls would occur at one or two places over West Madhya Pradesh after 24 hours along with duststorms from tomorrow onwards, farmers in these States are advised to undertake harvesting of matured crops immediately and transport the harvested produce to safer places and also arrange for mechanical support for vegetables and young plants in orchards.
 - 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.

- As transpiration rate and temperatures are higher, farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to provide frequent irrigation to summer crops like moong, urad, sunflower, cucurbitaceous, lady's finger, cowpea and other vegetable crops as per requirement. Weeding, intercultural operations and top dressing of urea should be carried out in summer vegetables. Undertake sowing of maize, sorghum, cowpea etc. as summer fodder crops.
- Farmers in Kymore Plateau and Satpura Hills region and Gird Zone of Madhya Pradesh are advised to complete harvesting and threshing of wheat crop.
- Farmers of Gird Zone of Madhya Pradesh are advised to give irrigation to okra, chilli, tomato, melon and mango crops.
- Farmers in Nimar valley Zone of Madhya Pradesh are advised to undertake planting of sugarcane, also irrigate moong, urad and vegetables. Farmers are also advised to give irrigation and undertake intercultural operation in early planted sugarcane.
- Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised for the weeding and irrigation of lobia, cowpea, jawar and maize for the summer green fodder. They are also advised to undertake weeding in mung and urad crop.
- Farmers in Malwa Plateau Zone of Madhya Pradesh are advised to give irrigation to summer crops like moong, urad, fodder crops and other vegetable crops such as chilli, tomato, brinjal and ladies finger as per requirement.
- Farmers in Bundelkhand region of Madhya Pradesh are advised as dry weather conditions will prevail they may start summer deep ploughing (20-25cm) in their bare field. Those farmers have good irrigation facility they are advised to start sowing of maize or Sesbania for green manure during the week. In view of prevailing maximum temperatures, irrigate vegetable crops, including orchards in the evening or in early morning.
- In Chhattisgarh Plain Zone, groundnut and sunflower are at flowering/pod formation/grain filling stage. This stage is crucial for moisture; hence it is advised to irrigate the crops frequently.
- In Chhattisgarh Plain Zone, 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.
- Infestation of stem borer in summer rice is observed in traces. Hence, farmers are advised to keep watch over the crop and if the damage is above ETL and the crop is at panicle emergence stage apply granular insecticides Cartep or Fipronil @ 25 kg/ha in the fields.
- **Animal Husbandry & Poultry**
 - Farmers in Kymore Plateau and Satpura Hills region and Central Narmada Zone and Gird zone of Madhya Pradesh are advised to provide cold water to cattle three times daily and keep them in airy and shady place as temperature is high during day time. Arrange for vaccination for Foot and Mouth disease in cattle.
 - Farmers in Vindhya Plateau Zone of Madhya Pradesh are advised to vaccinate cattle against FMD.

Annexure I Major Crops

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

- Sugarcane (planting), *boro* rice (milk / dough), *ahu* rice (direct seeded) (sowing / tillering), *ahu* rice (transplanted) (transplanting / early tillering), tomato, pumpkin, bottle gourd (vegetative / flowering / fruiting), okra, pointed gourd, musk melon, water melon, ridge gourd, sponge gourd (flowering / fruiting), black gram, green gram (vegetative / branching / flowering), maize (sowing / vegetative), summer pulses, *Capsularis* / *Olitorius* jute (sowing / seedling / vegetative), summer vegetables (vegetative / fruiting), cow pea (sowing / seedling), cucurbits (sowing / vegetative), banana, ginger / turmeric (planting) in Assam.
- *Jhum* and WRC rice (sowing), maize, black gram, green gram (sowing / early vegetative / vegetative), okra, beans, cucurbitaceous vegetables (sowing / early vegetative / vegetative) in Arunachal Pradesh.
- Summer rice (grain formation), cucurbits (sowing / transplanting / vegetative), tomato, brinjal, chilli (transplanting / vegetative / flowering), cow pea (sowing), cauliflower and cabbage (new) (transplanting), onion (bulb formation / harvesting), okra, French bean, ginger, turmeric (sowing / planting) in Manipur.
- *Boro* rice (grain formation), cabbage and knol-khol (head maturity / harvesting), okra (sowing / vegetative / flowering), pumpkin, French bean (vegetative / flowering / fruiting / maturity), maize, jute, bottle gourd, ash gourd (sowing) in Meghalaya.
- *Khasi* mandarin (vegetative / flowering), banana (vegetative / fruiting / maturity / harvesting), *kharif* maize (sowing), bean, cucurbits (early vegetative / vegetative), okra, cucurbits (flowering / fruiting), ginger / turmeric (planting) and urad, moong (flowering / pod formation) in Mizoram.
- Rice (nursery preparation), pea (pod maturity / harvesting), maize (cob formation), tomato (vegetative), ginger, turmeric (planting), rajma (sowing / germination / vegetative), banana (vegetative / fruiting) in Nagaland.
- *Aus* rice (sowing / transplanting), *boro* rice (grain formation / early maturity), cucurbits (sowing / seedling) in Tripura.

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

- Sugarcane (vegetative), lobia for green fodder (vegetative), mishrikand (vegetative), fruit trees (transplanting / early vegetative), vegetables (flowering / fruiting / harvesting), maize (grain formation / maturity), sugarcane, onion (planting), *boro* rice (grain formation), moong (pod formation), summer maize (vegetative / flowering) in Bihar.
- Turmeric and ginger (planting / vegetative / rhizome formation), elephant foot yam (tuber elongation), papaya (transplanting), summer moong (flowering), summer vegetables (transplanting / vegetative / flowering / fruiting), okra, summer maize (vegetative), onion (transplanting) in Jharkhand.
- Summer rice (grain filling), summer groundnut (pod formation / seed formation), sunflower (head formation), sugarcane (new) (tillering), banana (vegetative), tomato (flowering / fruiting / maturity), jute (sowing) in Orissa.
- *Boro* rice (grain filling), groundnut (pod formation / seed formation), chilli (flowering / fruiting), mango (fruiting), 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 in polyhouses), cucurbits viz. cucumber, summer squash, bitter gourd, bottle gourd (nursery sowing in polutubes inside polyhouse), bush type 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.
- Wheat/ barley: Normal sown wheat, late sown wheat (maturity), normal sown barley (harvesting), very late sown barley (dough), cole crops viz. early cauliflower, cabbage, knoll khol, broccoli (vegetative/flowering), onion (transplanting), bhindi, radish, turmeric, ginger, knolkhol (sowing), berseem

(reproductive), 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), paprika, onion, cucurbits in polybags (Leh region) (nursery sowing/transplanting), 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 (flowering / fruiting / maturity), mango (early varieties) (flowering/fruiting), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric (germination / vegetative/flowering), papaya (planting), sorghum, pigeon pea, chick pea (pod maturity/harvesting), urd and moong (flowering / pod formation), pearl millets (early vegetative/vegetative), onion, garlic (transplanting/germination), brinjal, potato (germination/vegetative), sunflower(germination), Chaitee dhan, maize, lobia, sunhemp, cowpea, jowar for green fodder (sowing), 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), sugarcane (planting/ initial growth(tillering)), mango (flowering / fruiting) in Uttar Pradesh.
- Spring sugarcane (sprouting / tillering), berseem (vegetative / harvesting), barley (harvesting) radish, carrot, turnip, onion, cauliflower (transplanting / vegetative), tomato, cucurbits, sunflower(sowing), okra, chilli, brinjal (sowing / transplanting) in Punjab.
- 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, 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, *rabi* 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 (land preparation / sowing), jowar and bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder (land preparation / sowing) in Rajasthan.

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

- Sugarcane (vegetative), summer groundnut (pegging), maize (harvesting), late planted paddy (harvesting), wheat (harvesting), black gram / green gram (harvest), mango (fruiting), cotton (picking), vegetables (fruiting) and horticultural crops (fruiting) in Karnataka
- *Rabi* groundnut (harvesting), *rabi* paddy (maturity), *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 (planting), rubber (tapping), irrigated banana (planting/harvesting), cardamom (nursery), nutmeg (maturity), sugarcane (grand growth/elongation), vegetables (harvest), summer vegetables (fruit bearing), *puncha* paddy (tillering), virippu paddy (nursery sowing), coconut (seednut collection) in Kerala.
- Rice - *Samba* (harvest), *Thaladi* (harvest), rice fallow black gram (maturity), rice fallow black pulses (pod maturity), sugarcane (formative stage), gingelly (vegetative / flowering), tomato (fruiting), summer irrigated cotton (flowering), pulses (vegetative), cotton (vegetative/flowering), vegetables (harvest), maize (grain formation), pearl millet (vegetative), sorghum (harvesting), irrigated groundnut (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 in Madhya Maharashtra, Marathwada and West Vidarbha), bajra (grain formation in Pune and Nashik Division) in Maharashtra.

- Summer groundnut (pegging / pod formation / seed formation), sesame (vegetative / flowering / capsule formation), summer rice (grain formation) and summer bajra (grain formation), summer moong, urad, cowpea (vegetative / flowering / pod formation), sugarcane (early vegetative), vegetables (flowering / fruiting / harvesting) and cluster bean (sowing / seedling) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

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

Annexure II

List of Varieties

Assam

Sugarcane: Kolong, Luhit, Dhansiri, Doris, Co 1148.

Ahu rice: Luit, Kopilee, Rasi, Cauvery, Culture-1, Chilarai, Gopinath, Krishne, Kushal, Puthichapali, Nilajee, Hasakumra, Gobind, IR-36, IR 50.

Tall varieties: Banglami, Dubaichenga, Rangadaria (115-120 days), Ahujoha (110-120 days).

Short duration variety: Dogaranga (85-95days).

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.

Green gram : T44, AAU 34, AAU 39, Pratap.

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

Cucumber : Chinese Green, Pusa Sanyog.

Bitter gourd: Long Green , Extra Long.

Banana :Chenichampa, Malbhog, Barjahaji.

Meghalaya

Kharif maize: Vijay, RCM-76, Local white and yellow, DA-61-A and QPM.

Okra: Arka Anamika, Pusa Sawani, ParbhaniKranti.

Brinjal: Umroi, Mutakesh, Narrow.

Bottle gourd: PusaSummer, Prolific Long, Prolific Round, PusaMeghdoot.

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

Cabbage: Rare ball & Golden Acre

Cauliflower: Pusa Snow Ball 1, Pusa Snow Ball 2 & Snow Ball

Cow pea:Rainy Royal, Long green

Tripura

Okra: Arka Anamika, Parbhani, Kranti

Ridge gourd: Pusa Nasdar, Satputia.

Cucumber: Japanese long, Straight 8

Sweet Gourd: Indigenous

Orissa

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

Jute: JRO-524 (Naveen).

Ginger: Suprava, Suruchi and Suravi.

West Bengal

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

Water melon: Sugar Baby, Ashi Yeamoto.

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

Jharkhand

Ginger: Bardhwan

Turmeric: Rajendra Sonia

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

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).
Bhindi (Hissar Unnat, A-4,Varsha – Uphar, Parbhani Kranti), **Radish** (Pusa Chetki) and **turmeric** (local),
Jowar : Ujjain, Swarna-413, M.P.chari & PoineerJowar ,**Summer mash:** Mash Pant, U-19, T-9) and **moong:** PDM-54, PS-16, PS-17, ML-131
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

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

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

Uttarakhand

Sunflower: KBSH-44, PAC-36, PAC-1091, PAC-3776, PAC-6457, DRSH-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, Japanese, Langreen, Taroi: Pusachikani, PusaNasdar, Satputiya, Punjab, Sadabahar, Lady's Finger: Azad Bhindi-1,2, ParmaniKranti, P-7, Varsha, Uphar, Hissar, Unnat, P-Kanti.

Rajasthan

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

Zaid green gram : improved varieties K-851 (60-70 days), PDM-11 (60-65 DAYS), PusaBaisakhi (60-80 days), RMG-268 (65-70 days)

Cotton : (Desi kapas) R.G. -8, R.G.-18, H.D. 123, hybrid Var. : Raj D.H.-9, **(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

Sugarcane : C.O. 6617, C.O. 7717, C.O.S. 95255, C.O.S. 767

Cucurbits : Bottle guard : Pusa Naveen, ArkaBahar, **Pumpkin :**Pusa Vishwas, ArkaChandan, PusaAlankar, ArkaSuryamukhi, **Bitter guard :**Arka Harit Pusa Vishesh, Priya, **Round gourd :** Arkatinda, Bikaneri green, Punjab-48.

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

Maharashtra

Fodder (Madhya Maharashtra)

Jowar: Ruchira, Phule Amruta, Maldandi 35-1, M.P. Chari,

Bajra: Giant,

Maize: African Tall.

Fodder (East Vidarbha)

Jowar: Pusa Chari, M.P. Chari and SSG 898.

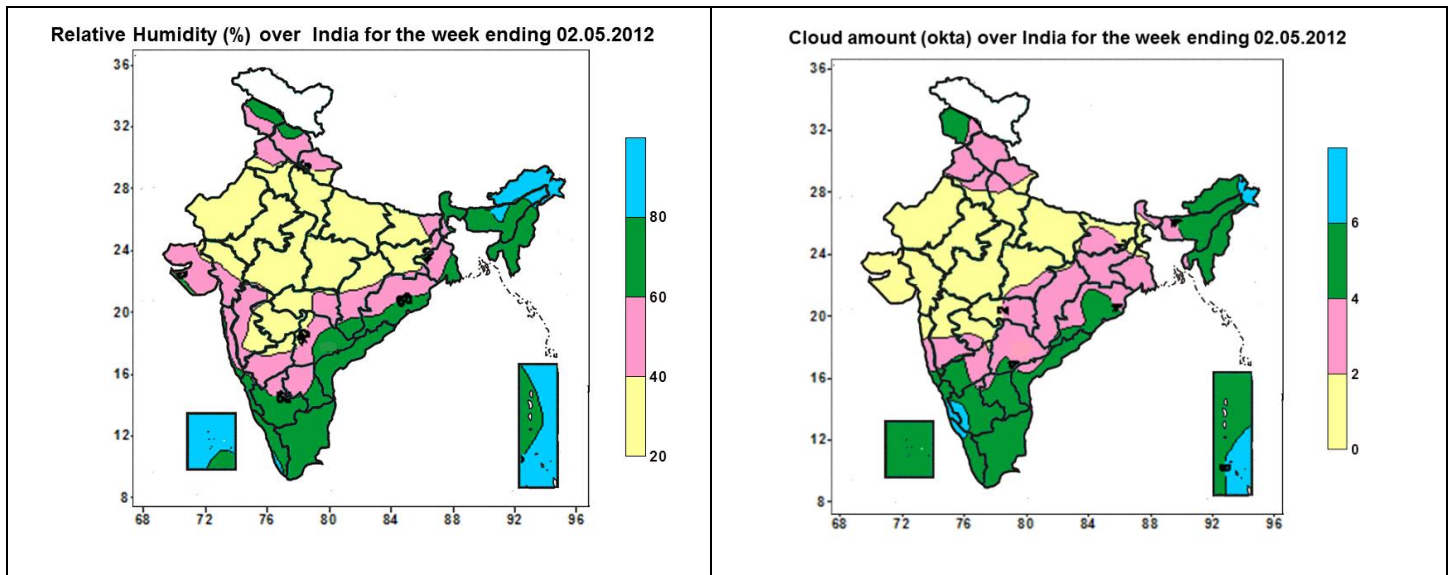
Irrigated cotton: Phule-492, NHH-44 (Nanded-44) (Hybrid).

Madhya Pradesh

Sugarcane- Co 86032, Co 86141

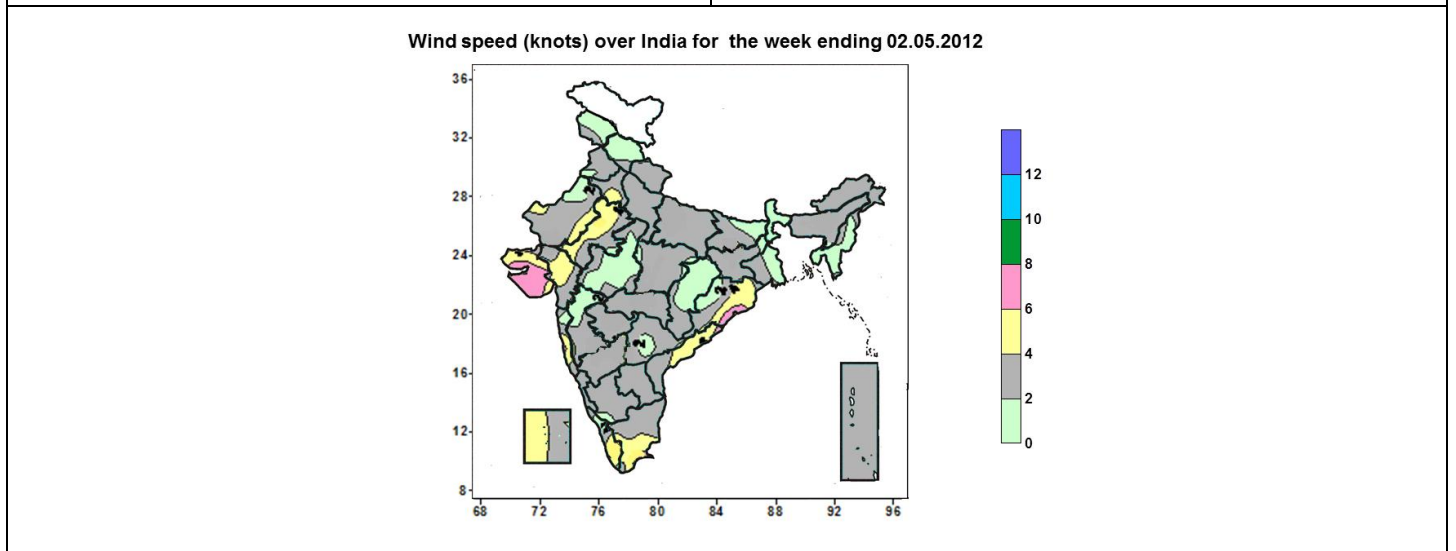
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 02.05.2012



Relative humidity ranged between 80% and above over most parts of Arunachal Pradesh, Lakshdweep, Andaman & Nicobar Islands, some parts of Assam & Meghalaya, 60 to 80% over most parts of Northeast India except (Arunachal Pradesh), Sub-Himalayan West Bengal, Sikkim, Coastal Orissa, Andhra Pradesh, Tamil Nadu, Kerala, Coastal Karnataka, South Interior Karnataka, some parts of Jammu & Kashmir, Himachal Pradesh, Gangetic West Bengal, Chhattisgarh, Lakshdweep, Andaman & Nicobar Islands and 20 to 60 % over remaining parts of the country.

Cloud amount 6 okta and above over some parts of Arunachal Pradesh, Kerala, Coastal & South Interior Karnataka, Andaman & Nicobar Islands, 4 to 6 okta over most parts of Jammu & Kashmir, Northeast India, Orissa, Goa, Coastal Andhra Pradesh, Rayalaseema, Karnataka, Tamil Nadu, Kerala, Lakshdweep, Andaman & Nicobar Islands and 0 to 4 okta over remaining parts of the country.



Wind speed ranged between 6 to 8 knots over many parts of Saurashtra & Kutch, 4 to 6 knots over some parts of Haryana, Rajasthan, Orissa, Gujarat, Saurashtra & Kutch, Konkan, Coastal Andhra Pradesh, Tamil Nadu, Kerala, Lakshdweep and 0 to 4 knots over remaining parts of country.