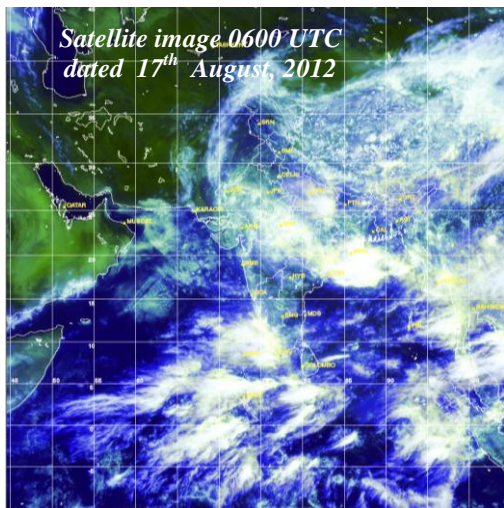


The southwest monsoon has been vigorous over west Rajasthan during past 24 hours ending at 0830 hours IST of today.



Due to subdued rainfall activities in Interior Karnataka, West Haryana, Delhi, West Rajasthan, Gujarat, Saurashtra & Kutch, parts of Madhya Maharashtra, parts of Marathwada and Bihar during the season, contingent plan for these regions has been prepared for the farming community which is mentioned below:

South Interior Karnataka: During last couple of weeks, as there was good rainfall in Davangere and Hassan districts, conditions are suitable for resowing of crops. Direct sowing of ragi may be done till 18th August and after that transplanting of ragi and sowing of minor millets may be done till 1st fortnight of September. As subdued rainfall is continued in the districts like Bangalore Rural, Bangalore Urban, Bellary, Kolar, Chamarajnar, Chichballapur, Chitradurga, Mandya, Mysore, Ramnagara and Tumkur, farmers are advised to undertake sowing or resowing of above mentioned contingent crops after receiving sufficient rain.

North Interior Karnataka: Only Belgaum, Dharwad, Gadag and Haveri districts received rain during last week. Undertake transplanting of tobacco and chilli, sowing of sunflower, Desi Cotton and planting of onion in these districts. Also take intercrops like cotton + onion, cotton + chilli. In Belgaum district, sowing / transplanting of vegetables is advised. In remaining districts, farmers may undertake sowing of above mentioned contingent crops after receiving sufficient rain.

- **Haryana:** Sowing of short duration bajra, urd, moth and lobia and short duration vegetables and fodder bajra may be undertaken after receiving sufficient rain.
- **Delhi:** Continue transplanting of tomato, chilli, brinjal and cauliflower. Sowing of cucurbits is completed. Sowing of coriander, spinach and radish may be continued under irrigated condition as well as utilizing the rainfall during last week.
- **West Rajasthan:** Good rainfall occurred during last 6 to 7 days. As per contingent plan, continue sowing of fodder bajra, fodder sorghum, short duration varieties of moth (RMO-40) and guar (RGS-936).
- **Gujarat:** All the districts of Gujarat Region received significant rainfall during last week. Carry out sowing of castor varieties GAUCH-1, GCH-2, GCH-4 and GCH-5 in South Gujarat Zone. Farmers in North Gujarat zone are advised to carry out sowing of castor, fodder sorghum, maize, sesame and cluster bean. As moderate to heavy rainfall occurred during last week in Ahmedabad district of Bhal and Coastal Zone, farmers are advised to carry out sowing of castor by selecting varieties GAUCH-1, GCH-5, 6 or 7 for dry land, fodder sorghum, sesame and cluster bean.
- **Saurashtra & Kutch:** As no significant rainfall occurred in Bhavnagar district in Bhal and Coastal Zone, farmers are advised to carry out sowing of castor by selecting varieties GAUCH-1, GCH-5, 6 or 7 for dry land, fodder sorghum, sesame and cluster bean after receipt of rainfall. In Kutch region, farmers are advised to grow castor (GAUCH-1, GCH-4 and GCH-7) varieties in the areas that have 2-3 irrigation facilities. Carry out sowing of maize, sorghum, lucern, bajra, cowpea etc. for green fodder. Increase the area under fodder crop. In South Saurashtra Zone, carry out intercultural operation and weeding for conservation of moisture. Intercropping with short duration crops i.e. sesamum (GT-3), green gram (GM-3, GM-4), black gram (T-9, GU-1) and cowpea (Pusa Falguni, GCH-1, GCH-2, GCH-4) may be carried out. Undertake sowing of these crops after receipt of rainfall.
- **Madhya Maharashtra:** Farmers of Pune and Sangli districts are advised to sow crops like sunflower, red gram and intercrop sunflower + red gram, fodder sorghum, fodder bajra and fodder maize. Solapur district received deficient rain during last few weeks and isolated rain is expected during next 2-3 days; farmers are advised to wait for adequate rain and sowing of sole crops like sunflower (Bhanu), red gram (vipula) and castor (VR-9) may be done in August after receipt of rain.
- **Marathwada:** All districts of the region received insignificant rain during last few weeks; farmers are advised to undertake moisture conservation practices like mulching, intercultural operation and weeding in the crop field and apply supplementary irrigation, if possible.
- **Bihar:** Where rainfall is highly deficient, sowing of contingent crops like urd (T-9), arhar (Bahar, Narendra Arhar 1, Malviya 13), bajra, toria is advised in upland and medium land areas after receipt of good rainfall.



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

Executive Summary

Significant rainfall occurred over all the districts of West Madhya Pradesh, Gujarat region, Konkan, Gangetic West Bengal, Coastal Karnataka and Kerala, most of the districts in Himachal Pradesh, East Madhya Pradesh, Chhattisgarh, Uttarakhand, Rajasthan, Jharkhand, Orissa and Sub Himalayan West Bengal and Sikkim, many districts in Assam, West Uttar Pradesh, Bihar, Madhya Maharashtra, Coastal Andhra Pradesh and Telangana and over a few districts in Arunachal Pradesh, Punjab, Haryana, Jammu & Kashmir, East Uttar Pradesh, Vidarbha, Tamil Nadu and Telangana. Rainfall for the above mentioned States during last week is given in Annexure – I.

Rainfall is likely to occur at many places over West Bengal, Bihar, Jharkhand, Orissa, Chhattisgarh, East Madhya Pradesh, East Uttar Pradesh, Kerala, Coastal Karnataka and Konkan during next three days, over West Rajasthan during next 24 hours and at a few places over West Madhya Pradesh and Vidarbha during next 24 hours and increase thereafter. Farmers are advised to postpone irrigation, intercultural operation and application of fertilizers and plant protection measures in these regions. Heavy rainfall would occur at one or two places over Orissa, Chhattisgarh and Kerala during next 48 hours and over West Rajasthan during next 24 hours. Farmers in these regions are advised to arrange for adequate drainage in standing crops.

Due to subdued rainfall activities in Interior Karnataka, West Haryana, Delhi, West Rajasthan, Gujarat, Saurashtra & Kutch, parts of Madhya Maharashtra, parts of Marathwada and Bihar during the season, contingent plan for these regions has been prepared for the farming community which is mentioned in Page No.1.

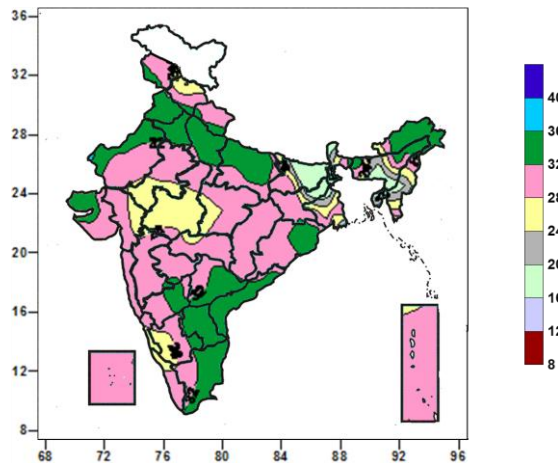
In remaining parts of the country, due to receipt of adequate rainfall in terms of quantity and distribution in relation to agricultural operations as well as water requirements of the crops, sowing of *kharif* crops continued normally and state of the crops are normal, which is stated below:

- 1. Rayalaseema:** Continue sowing of groundnut, castor, cotton, bajra and red gram.
- 2. West Uttar Pradesh:** Complete sowing of black gram and sesame. Continue transplanting of rice and sowing of sorghum.
- 3. East Uttar Pradesh:** Continue transplanting of medium duration rice and sowing of *kharif* crops like jowar, bajra, urad, moong, soybean, groundnut and til.
- 4. Nagaland, Manipur, Mizoram & Tripura:** Farmers in Manipur are advised for sowing of late variety of rice RC Maniphou 7 and short duration variety RC Maniphou-6 in upland area. Complete transplanting of *aman* rice in Tripura and *sali* rice in other States.
- 5. Arunachal Pradesh:** Nursery preparation for early cruciferous crops may be done in raised bed.
- 6. Assam & Meghalaya:** Undertake transplanting of short duration varieties of rice in the flood affected area, complete transplanting of semi dwarf *sali* rice and sowing of early cauliflower, raddish, green gram, black gram and sesame etc.
- 7. Sub Himalayan West Bengal:** Complete transplanting of rice.
- 8. Sikkim:** Undertake transplanting of large cardamom in low and medium hills.
- 9. Gangetic West Bengal:** Complete transplanting of *aman* rice.
- 10. Orissa:** Farmers are advised to undertake transplanting of *kharif* rice. Complete sowing of green gram, black gram, sesame and vegetables such as cowpea, okra and cucurbitaceous crops in rain fed fallow uplands.
- 11. Punjab:** As 97-98% area of the State is irrigated, transplanting of rice and basmati rice has been completed with irrigation facilities along with sowing of cotton. Undertake sowing of mid season varieties of cauliflower and short duration maize hybrids.
- 12. Himachal Pradesh:** Undertake sowing of French bean and nursery sowing / transplanting of cabbage and cauliflower.
- 13. Jharkhand:** Sowing of *kharif* crops have been carried out satisfactorily. Farmers who have not sown *kharif* crops till now, may sow kulthi or safflower in upland. In areas, where rain is not sufficient for transplanting operation and seedlings are over aged, farmers may sow the seeds directly in medium land with short duration varieties like Vandana, Birsa Dhan-108, Birsa Vikas Dhan 109, 110 and Lalat etc.
- 14. Uttarakhand:** Transplanting of rice completed.
- 15. Jammu & Kashmir:** Undertake sowing of vegetable crops.

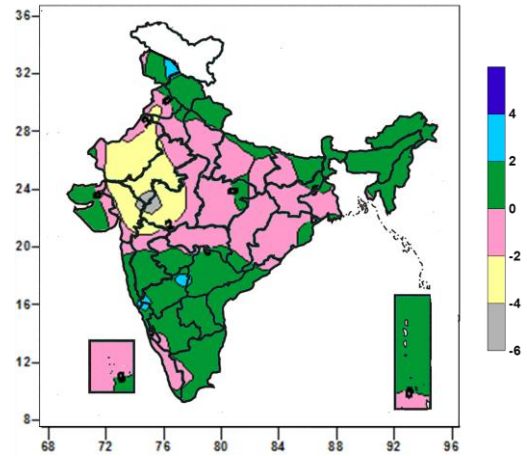
16. **East Rajasthan:** Undertake sowing of early radish (Pusa Chetki), okra, spinach and transplanting of onion.
17. **East Madhya Pradesh and West Madhya Pradesh:** Sowing of *kharif* crops completed.
18. **Vidarbha:** Complete transplanting of rice in East Vidarbha.
19. **Chhattisgarh:** Sowing of *kharif* crops completed in most parts of the State.
20. **Konkan:** Transplanting of rice completed.
21. **South Coastal Andhra Pradesh:** In view of receipt of rainfall, farmers are advised to undertake sowing of medium duration varieties of rice, like Swarna, Chatanya, Krishnaveni, Samba Masuri, Bapatla Sannalu and Amara and for salt-affected areas the rice varieties are Deepthi, Vikal, Vedagiri and Somaseela and varieties for red gram are LRG-41, 38 and Laksmi (ICPL-85063).
22. **Telangana and remaining parts of Coastal Andhra Pradesh:** In Telangana region, farmers may undertake direct seeding of rice under puddled conditions using drum seeder or broadcasting using sprouted seeds of short duration varieties after receipt of sufficient water from the reservoirs. In coastal Andhra Pradesh, continue transplanting of rice.
23. **Tamil Nadu:** Complete transplanting of *Kuruvai* rice.
24. **Coastal Karnataka:** Complete transplanting of rice.
25. **Kerala:** Transplanting of *viruppu* rice completed.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 15.08.2012

Actual Mean Maximum Temperature (°C) in India for the week ending 15.8.2012



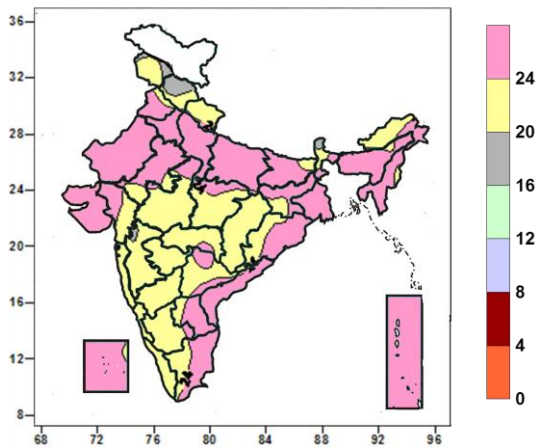
Maximum Temperature (°C) Anomaly in India for the week ending 15.8.2012



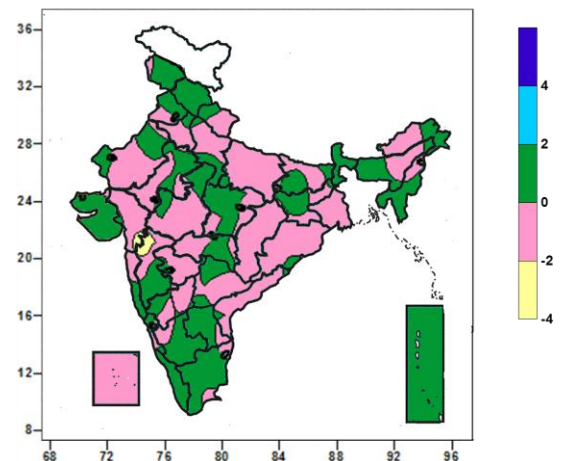
Actual Mean Maximum temperature ranged between 32 to 36°C and above over most parts of Punjab, Haryana, Delhi, Uttar Pradesh, Arunachal Pradesh, Saurashtra, Andhra Pradesh, Tamil Nadu, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Rajasthan, Assam & Meghalaya, Orissa, Kutch, Madhya Maharashtra, Marathwada, North & South Interior Karnataka, 16 to 20°C over most parts of Bihar and 16 to 24°C over some parts of Jharkhand, West Bengal, Sikkim, Assam & Meghalaya, Manipur, Mizoram, Tripura and between 24 to 32°C over remaining parts of the country.

Actual Mean Maximum temperature anomaly ranged between 2 to 4°C and above over some parts of Jammu & Kashmir, Coastal & North Interior Karnataka, -4 to -2°C over most parts of Rajasthan, West Madhya Pradesh, Gujarat, some parts of Punjab, Haryana, North Madhya Maharashtra, -6 to -4°C over some parts of East Rajasthan, West Madhya Pradesh, Gujarat, -2 to 2°C over rest of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 15.8.2012



Minimum Temperature (°C) Anomaly in India for the week ending 15.8.2012



Actual Mean Minimum Temperature ranged between 24°C and above over many parts of Northwest India (except Jammu & Kashmir, Himachal Pradesh, Uttarakhand), East and Northeast India, North Gujarat, Saurashtra & Kutch, Coastal Andhra Pradesh, Rayalaseema, Lakshdweep, Andaman & Nicobar Islands, some parts of Madhya Pradesh, Vidarbha, Telengana, 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh and between 20 to 24°C over remaining parts of the country.

Minimum Temperature anomaly ranged 0 to 2°C over most parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal, Sikkim, Manipur, Mizoram, Tripura, East Madhya Pradesh, Saurashtra & Kutch, South Konkan & Goa, South Madhya Maharashtra, Rayalaseema, South Interior Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar Islands, some parts of Uttarakhand, Punjab, Haryana, Rajasthan, Uttar Pradesh, Arunachal Pradesh, Assam & Meghalaya, Rajasthan, West Madhya Pradesh, Orissa, West Madhya Pradesh, Marathwada, Vidarbha, Telengana, Coastal Andhra Pradesh, Coastal & North Interior Karnataka, below 0°C over remaining parts of the country.

Distribution of rainfall of the country during week ending on 15.08.2012

State/Districts	Actual (mm)	% Dep.
Arunachal Pradesh		
Anjaw	**	**
Changlang	37.2	-59
East Kameng	7.0	-83
East Siang	0.0	-100
Kurung Kumey	20.1	-86
Lohit	**	**
Lower Dibang Valley	9.4	-91
Lower Subansiri	**	**
Papumpara	24.0	-39
Tawang	20.6	-82
Tirap	55.0	-66
Upper Dibang Valley	64.6	-44
Upper Siang	20.7	-82
Upper Subansiri	8.8	-83
West Kameng	32.2	-80
West Siang	12.0	-75
Assam		
Baksa	16.8	-89
Barpeta	7.2	-95
Bongaigaon	12.6	-90
Cachar	69.6	-36
Chirang	11.0	-91
Darrang	8.0	-88
Dhemaji	99.0	-26
Dhubri	15.3	-79
Dibrugarh	76.1	-18
East Garo Hills	30.0	-59
East Khasi Hills	105.0	-51
Goalpara	3.5	-96
Golghat	94.1	41
Hailakandi	65.7	-38
Jaintia Hills	55.0	-77
Jorhat	58.2	-25
Kamrup(Metro)	4.0	-94
Kamrup	14.4	-79
Karbi Analog	69.1	49
Karimganj	30.3	-73
Kokrajhar	37.1	-82
Lakhimpur	32.4	-76
Morigaon	45.2	-37
N.C.Hills	26.2	-46
Nowgong	51.8	-20
Nalbari	25.2	-67
Ribhoi	26.0	-77
Sonitpur	30.7	-66
Sibsagar	80.4	1
South Garo Hills	39.0	-50
Tinsukia	33.1	-68
Udalgiri	48.8	-24
West Garo Hills	5.0	-94
West Khasi Hills	26.0	-81
Himachal Pradesh		
Bilaspur	36.7	-50
Chamba	48.0	-41
Hamirpur	39.6	-66
Kangra	159.1	-12
Kinnaur	9.5	-29
Kullu	66.9	47
Lahaul and Spiti	11.3	-66
Mandi	75.1	-23
Shimla	73.2	30
Sirmaur	91.9	-35
Solan	75.9	-20
Una	65.7	-13
Punjab		
Amritsar	51.3	-1

Barnala	37.8	2
Bhatinda	18.9	-44
Faridkot	0.0	-100
Fatehgarh Saheb	0.3	-99
Ferozpur	0.9	-96
Gurdaspur	95.6	17
Hoshiarpur	9.6	-86
Jalandhar	10.7	-80
Kapurthala	18.7	-44
Ludhiana	34.5	-29
Mansa	5.5	-86
Moga	1.0	-97
Muktesar	19.3	-27
Nawashahar	41.6	-27
Patiala	15.3	-68
Ropar	44.1	-18
Sangrur	15.0	-60
Mohali	22.5	-53
TarnTaran	7.6	-85
Haryana		
Ambala	28.1	-58
Bhiwani	63.2	74
Chandigarh	65.2	-12
Faridabad	18.8	-51
Fatehabad	21.8	-5
Gurgaon	63.0	11
Hissar	45.9	47
Jhajar	18.7	-53
Jind	41.4	42
Katihah	4.6	-90
Karnal	12.4	-80
Kurukshetra	15.7	-71
Mahendragarh	17.3	-66
Mewat	19.5	-63
Palwal	66.6	72
Panchkkula	38.0	-56
Panipat	26.9	-49
Rewari	22.3	-60
Rohtak	33.6	-20
Sirsa	2.1	-92
Sonepat	47.4	-7
Yamunanagar	19.1	-76
New Delhi	34.1	-48
Jammu & Kashmir		
Anantnag	27.5	64
Badgam	6.6	-30
Bandipore	**	**
Baramula	27.5	35
Doda	33.0	44
Ganderwal	13.8	2
Jammu	97.1	1
Kargil	0.0	-100
Kathua	99.7	-13
Kistwar	**	**
Kulgam	21.4	27
Kupwara	2.4	-82
Ladakh(Leh)	0.5	-89
Poonch	70.0	-10
Pulwama	7.3	-54
Rajouri	32.2	-52
Ramban	41.2	80
Reasi	137.1	16
Samba	103.8	8
Shopian	0.0	-100
Srinagar	4.0	-71
Udhampur	27.2	-77
East Madhya Pradesh		
Anuppur	92.0	4
Balaghat	38.4	-64

Chhatarpur	86.6	0
Chindwara	54.3	-15
Damoh	55.8	-32
Dindori	98.7	10
Jabalpur	156.6	65
Katni	160.8	80
Mandla	104.0	-7
Narsingpur	69.4	-17
Panna	130.3	35
Rewa	29.0	-64
Sagar	69.0	-25
Satna	127.3	42
Seoni	48.8	-38
Shahdol	63.0	-22
Sidhi	91.4	24
Singrauli	144.2	149
Tikamgarh	72.5	-2
Umaria	31.8	-65
West Madhya Pradesh		
Alirajpur	285.6	583
Asoknagar	84.0	27
Badwani	47.0	32
Betul	76.6	21
Bhind	53.3	-26
Bhopal	64.2	-15
Burhanpur	101.0	107
Datia	72.9	7
Dewas	33.2	-51
Dhar	106.9	121
Guna	97.8	35
Gwalior	105.9	54
Harda	47.3	-45
Hosangabad	102.1	0
Indore	80.6	48
Jhabua	245.6	454
Khandwa	44.3	-32
Khargone	44.2	-4
Mandsaur	235.6	318
Morena	132.5	87
Neemuch	266.0	343
Raisen	77.7	-6
Rajgarh	102.0	58
Ratlam	216.8	297
Sehore	59.8	-23
Shajapur	98.4	56
Sheopur Kalani	85.4	12
Shivpuri	73.3	14
Ujjain	107.3	125
Vidisha	89.6	15
Chhattisgarh		
Bastar	70.8	-20
Bijapur	68.2	-46
Bilaspur	53.7	-38
Dantewara	76.0	-19
Dhamtari	15.8	-79
Durg	23.2	-71
Janjgir	104.0	-7
Jashpurnagar	96.0	-5
Kanker	31.1	-68
Korba	111.7	-1
Koriya	110.8	11
Kawardha	11.0	-82
Mahasumund	124.0	53
Narayanpur	37.0	-67
Raigarh	142.4	62
Raipur	82.0	7
Rajandgaon	50.5	-36
Surguja	77.8	-12
East Uttar Pradesh		

Allahabad	59.2	-19
Ambedkar Nagar	78.5	11
Azamgarh	32.0	-56
Bahraich	2.7	-96
Ballia	49.9	-24
Balrampur	3.2	-96
Banda	56.1	-36
Barabanki	42.6	-41
Basti	5.8	-92
Chandauli	47.3	-36
Deoria	12.8	-85
Faizabad	22.4	-72
Farrukhabad	27.0	-70
Fatehpur	12.8	-84
Gazipur	27.8	-62
Gonda	13.6	-82
Gorakhpur	39.6	-62
Hardoi	23.3	-67
Jaunpur	42.7	-33
Kannauj	36.4	-60
Kanpur City	11.5	-84
Kanpur Dehat	56.3	-22
Kaushambi	29.0	-63
Kheri	4.3	-93
Kushi nagar	25.5	-75
Lucknow	13.7	-80
Maharajganj	18.8	-82
Mau	15.5	-82
Mirzapur	40.4	-45
Pratapgarh	41.0	-44
RaiBareilly	11.4	-83
Sahuji Maharajnagar	63.0	-14
Sant Kabirnagar	10.0	-86
Sant Ravidas Nagar	35.0	-53
Shrawasti	1.8	-97
Sidharthnagar	11.6	-86
Sitapur	10.7	-85
Sonbhadra	38.4	-44
Sultanpur	60.0	-5
Unnao	15.6	-80
Varanasi	51.2	-19
West Uttar Pradesh		
Agra	92.7	29
Aligarh	37.5	-42
Auraiya	38.5	-46
Badaun	40.5	-40
Baghpat	15.7	-73
Bareilly	51.8	-20
Bijnor	29.6	-63
Bulandsahar	37.7	-40
Etah	56.7	-15
Etawah	38.2	-46
Firozabad	58.9	-16
GBNagar	0.0	-100
Ghaziabad	17.3	-70
Hamirpur	60.0	-31
Jalaun	45.7	-49
Jhansi	56.8	-38
Jotirba Phule Nagar	12.0	-85
Kanshiramnagar	19.7	-71
Lalitpur	43.0	-51
Mahamaya Nagar	37.2	-50
Mahoba	17.2	-80
Mainpuri	15.6	-79
Mathura	54.5	-6
Meerut	25.2	-67
Moradabad	81.9	6
Muzaffarnagar	19.3	-72
Pilibhit	45.2	-36
Rampur	9.9	-86
Saharanpur	8.0	-87

Shahjahanpur	14.3	-79
Uttarakhand		
Almora	25.5	-64
Bageshwar	110.5	57
Chamoli	89.1	-3
Chempawat	64.5	-35
Dehradun	164.5	1
Garhwal Pauri	72.1	-29
Garhwal Tehri	65.3	-26
Haridwar	51.3	-42
Nainital	104.0	13
Pithoragarh	69.3	-46
Rudraprayag	73.6	-53
Udham Sing Nagar	48.9	-42
Uttarkashi	71.8	-37
Bihar		
Araria	16.9	-79
Arwal	100.3	31
Aurangabad	95.6	43
Banka	26.4	-55
Begusarai	55.5	-30
Bhabua	92.1	22
Bhagalpur	24.7	-57
Bhojpur	87.0	44
Buxar	8.2	-87
Darbhanga	55.8	-9
East Champaran	53.3	-18
Gaya	57.8	-25
Gopalganj	43.9	-32
Jahanabad	65.8	4
Jamui	6.4	-90
Kathihar	34.2	-50
Khagadia	59.3	-16
Kishanganj	28.2	-75
Lakhisarai	36.5	-40
Madhepura	23.5	-63
Madhubani	27.4	-54
Monghyar	39.6	-35
Muzaffarpur	67.0	10
Nalanda	124.6	107
Nawada	116.5	79
Patna	77.4	27
Purnea	33.6	-52
Rohtas	48.2	-37
Saharsha	21.0	-60
Samstipur	31.6	-46
Saran	57.4	-14
Sheikpura	52.5	5
Sheohar	18.0	-73
Sitamarhi	11.3	-83
Siwan	22.4	-68
Supaul	32.3	-38
Vaishali	85.7	31
West Champaran	45.7	-45
Jharkhand		
Bokaro	99.0	48
Chatra	37.1	-61
Deoghar	39.7	-41
Dhanbad	76.7	10
Dumka	25.9	-63
East Singbhum	95.9	28
Garhwa	146.0	60
Giridih	73.6	18
Godda	46.7	-15
Gumla	94.1	-1
Hazaribagh	52.6	-28
Jamtara	52.5	-38
Khunti	94.3	47
Koderna	86.6	19
Latehar	114.1	42
Lohardagga	60.8	-15

Pakur	114.7	31
Palamau	76.7	-4
Ramgarh	134.4	84
Ranchi	229.0	258
Sahebganj	21.8	-71
Saraikela	70.1	9
Simdega	115.4	35
West Singbhum	91.3	22
East Rajasthan		
Ajmer	252.7	499
Alwar	79.8	43
Banswara	319.2	436
Baran	99.0	32
Bharatpur	62.8	19
Bhilwara	232.4	336
Bundi	167.5	178
Chittorgarh	243.6	306
Dausa	115.0	83
Dholpur	114.3	64
Dungarpur	230.2	443
Jaipur	90.0	88
Jhalawar	101.1	36
Jhunjhunu	46.1	35
Karauli	126.5	45
Kota	124.3	78
Pratapgarh	334.6	476
Rajsamand	181.4	329
Sawai Madhopur	109.9	48
Sikar	50.6	53
Sirohi	196.4	186
Tonk	161.6	196
daipur	130.0	195
West Rajasthan		
Barmer	43.9	142
Bikaner	64.8	293
Churu	51.4	114
Hanumangarh	26.9	21
Jaisalmer	56.3	268
Jalore	63.0	114
Jodhpur	114.2	388
Nagaur	129.3	382
Pali	161.6	380
Sri Ganganagar	6.8	-59
Gujarat Region		
Ahmedabad	76.0	57
Anand	133.1	118
Banaskantha	102.6	169
Baroda	180.4	159
Broach	60.5	24
DNH	106.7	-38
Dahod	232.0	323
Daman	48.0	-72
Dangs	315.2	143
Gandhinagar	137.0	204
Kheda	145.6	142
Mehsana	80.0	80
Narmada	158.7	91
Navsari	141.9	17
Panchmahal	200.8	183
Patan	86.1	130
Sabarkantha	94.0	62
Surat	95.2	17
Tapi	130.3	26
Valsad	138.8	6
Saurashtra, Kutch & Diu region		
Amreli	4.5	-83
Bhavnagar	20.9	-33
Diu	0.9	-98
Jamnagar	2.2	-94
Junagarh	1.8	-96
Kutch	0.4	-99

Porbandar	0.4	-99
Rajkot	4.8	-86
Surendranagar	17.4	-46
Maharashtra		
Konkan & Goa		
Goa	234.4	23
Mumbai	114.5	-13
Raigad	172.8	-22
Ratnagiri	158.5	-27
Sindhudurg	152.6	-15
Thane	102.8	-42
Madhya Maharashtra		
Ahmednagar	2	-89
Dhule	68.7	179
Jalgaon	40.1	-6
Kolhapur	85.8	-31
Nandurbar	149.7	194
Nasik	85.3	45
Pune	35.8	-38
Sangli	17.2	-32
Satara	84	84
Solapur	7.3	-64
Vidarbha		
Akola	22.0	-48
Amraoti	49.9	-8
Bhandara	26.0	-72
Buldhana	13.1	-66
Chandrapur	27.9	-66
Gadchiroli	54.9	-48
Gondia	28.9	-70
Nagpur	20.4	-63
Wardha	32.7	-46
Washim	6.9	-89
Yeotmal	11.2	-81
Orissa		
Angul	104.5	49
Balasore	90.0	32
Bargarh	82.8	2
Bhadrak	90.3	22
Bolangir	45.0	-46
Boudh	94.4	10
Cuttack	123.6	71
Deogarh	177.1	50
Dhenkanal	90.6	14
Gajapati	19.0	-71
Ganjam	44.4	-20
Jagatsingpur	70.3	15
Jajpur	100.8	57
Jharsuguda	92.0	-11
Kalahandi	37.7	-61
Kandhamal	45.9	-47
Kendrapara	65.5	-23
Keonjhar	99.3	40
Khurda	86.5	18
Koraput	72.1	-30
Malkangiri	36.0	-69
Mayurbhanj	75.3	-9
Nawapara	14.7	-79
Nawarangpur	73.9	-35
Nayagarh	126.3	57
Puri	89.0	34
Rayagada	41.2	-31
Sambalpur	178.5	51
Sonepur	73.5	-30
Sundargarh	132.7	49
West Bengal		
GWB		
Bankura	128.8	82
Birbhum	123.7	60
Burdwan	140.7	103
East Midnapore	79.9	17

Hooghly	62.9	6
Howrah	60.6	-13
Kolkata	69.2	-2
Murshidabad	57.2	-6
Nadia	80.8	45
24 Pargana (N)	66.7	7
Purulia	109.7	50
24 Pargana (S)	73.4	-18
West Midnapore	95.9	30
SHWB		
Cooch Behar	23.0	-90
Darjeeling	53.9	-66
East Sikkim	88.2	-4
Jalpaiguri	52.2	-69
Malda	38.1	-39
North Dinajpur	30.5	-62
North Sikkim	70.7	-29
South Dinajpur	26.2	-51
South Sikkim	52.0	-43
West Sikkim	20.0	-80
Karnataka		
Coastal Karnataka		
Dakshin Kannada	356.9	70
Udupi	475.8	99
Uttar Kannada	268.2	45
North Interior Karnataka		
Bagalkote	7.7	-53
Belgaum	35.7	13
Bidar	13.2	-69
Bijapur	4.7	-77
Dharwad	28.0	6
Gadag	25.5	45
Gulbarga	19.1	-50
Haveri	36.0	22
Koppal	13.7	-40
Raichur	3.9	-87
Yadgir	10.6	-73
South Interior Karnataka		
Bangalore Rural	10.0	-59
Bangalore Urban	10.0	-68
Bellary	11.5	-45
Chamarajnar	8.6	-22
Chichballapur	13.2	-40
Chickmagalur	132.7	20
Chitradurga	8.7	-30
Davangere	15.8	-30
Hassan	27.9	-2
Kodagu	128.3	-2
Kolar	7.7	-61
Mandya	5.8	-38
Mysore	14.4	18
Ramnagara	21.5	8
Shimoga	175.2	69
Tumkur	7.5	-55
Kerala		
Alappuzha	100.6	34
Kannur	230.2	73
Ernakulam	143.8	46
Idukki	103.2	-18
Kasaragod	401.0	157
Kollam	76.5	57
Kottayam	150.1	72
Kozhikode	122.8	0
Malappuram	82.4	-8
Palakkad	64.3	-23
Pathanamthitta	131.5	63
Thiruvananthapuram	38.4	31
Thrissur	135.1	32
Wyanad	117.5	-13
Tamil Nadu		
Ariyalur	36.0	44

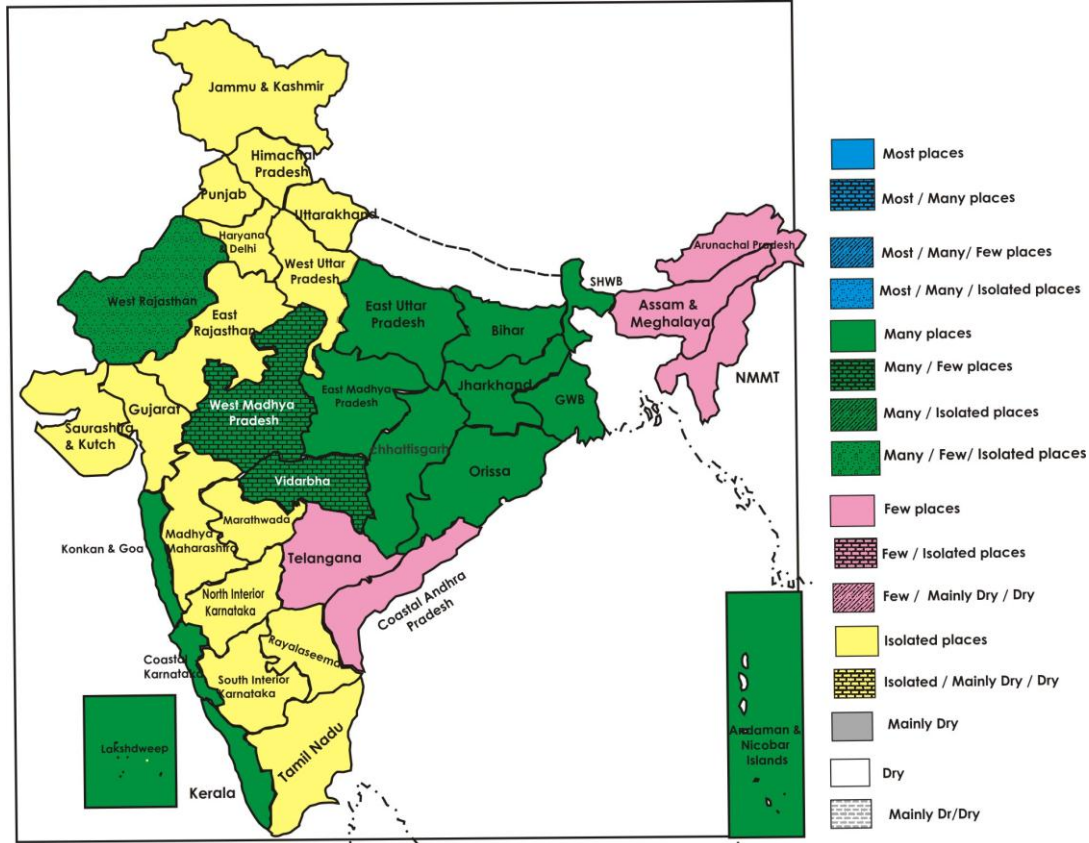
Chennai	45.8	53
Coimbatore	11.7	52
Cuddalore	27.4	0
Dharmapuri	19.2	13
Dindigul	27.9	129
Erode	7.9	-20
Kanchipuram	44.0	26
Kanyakumari	15.7	-1
Karikal	24.7	145
Karur	4.0	-56
Krishnagiri	16.7	-7
Madurai	14.9	-12
Nagapattinam	18.7	-5
Namakkal	21.7	-2
Nilgiris	78.8	78
Perambalur	6.0	-51
Puducherry	23.8	4
Pudukottai	52.7	135
Ramanathapuram	14.7	63
Salem	35.3	40
Sivaganga	29.3	74
Thanjavur	34.9	64
Theni	14.5	127
Tirunelveli	3.7	-21
Tirupur	1.1	-80
Tiruvallur	52.5	73
Tiruvannamalai	62.7	140
Tiruvarur	50.4	160
Toothukudi	0.0	-99
Trichy	10.4	-15
Vellore	40.7	65
Villupuram	24.5	5
Virudhunagar	9.0	-24
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	74.3	55
Guntur	42.7	9
Krishna	68.0	27
Nellore	15.7	-31
Prakasam	18.9	-1
Sirkakulam	34.1	-26
Visakhapatnam	29.6	-30
Vizianagram	28.4	-33
West Godavari	80.8	30
Telangana		
Adilabad	45.1	-37
Hyderabad	24.1	-50
Karimnagar	35.0	-36
Khammam	64.9	-9
Mehabubnagar	23.3	-40
Medak	17.7	-64
Nalgonda	9.7	-74
Nizamabad	27.5	-61
Rangareddy	24.3	-45
Warangal	53.7	-15
Royalaseema		
Anantapur	2.3	-85
Chittoor	33.0	38
Cuddapah	4.2	-84
Kurnool	11.9	-61

(20% or more) excess rainfall	(-60 to -99%) scanty rainfall
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(-19 to +19%) normal rainfall	(-100%) no rainfall
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(-20 to -59%) deficient rainfall	* *	Data not available
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Weather Forecast (Valid upto 0830 hours of 19th August, 2012)



Major Feature of Weather Forecast up to 0830 hours IST of 19th August, 2012

- Rain/thundershowers would occur at many places over east India, Chhattisgarh, east Madhya Pradesh and east Uttar Pradesh.
- Rain/thundershowers would occur at many places over west coast Lakshadweep and Andaman Nicobar Islands.
- Rain/thundershowers would occur at many places over west Rajasthan during next 24 hours and decrease thereafter.
- Rain/thundershowers would occur at a few places over west Madhya Pradesh and Vidarbha during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at one or two places over western Himalayan region and adjoining plains of northwest India.
- Rain/thundershowers would occur at a few places over north Andhra Pradesh and northeastern states and at one or two places over rest parts of the country.

Weather Warning during next 3 days

- Heavy rainfall would occur at one or two places over Odisha, Chhattisgarh, Kerala and Lakshadweep during next 48 hours and over west Rajasthan during next 24 hours.

Weather Outlook for subsequent 4 days up to 0830 hours IST of 23rd August, 2012

- Fairly widespread rainfall would occur over Jammu & Kashmir, Himachal Pradesh and Uttarakhand with intense activity on 20th & 21st August.
- Rainfall activity would occur at many places over northeastern states, central India and Indo Gangetic plains.
- Subdued rainfall activity would continue over southeast peninsula.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in Cachar, Dhemaji, Dibrugarh, East Garo Hills, East Khasi Hills, Golghat, Hailakandi, Jaintia Hills, Jorhat, Karbi Analog, Karimganj, Kokrajhar, Lakhimpur, Morigaon, Nowgong, Sonitpur, Sibsagar, South Garo Hills, Tinsukia and Udalgiri districts of Assam and Changlang, Tirap, Upper Dibang Valley and West Kameng districts of Arunachal Pradesh during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at a few places over the region.
- **Advisories:**
 - As rainfall occurred in Cachar, Dhemaji, Dibrugarh, East Garo Hills, East Khasi Hills, Golghat, Hailakandi, Jaintia Hills, Jorhat, Karbi Analog, Karimganj, Kokrajhar, Lakhimpur, Morigaon, Nowgong, Sonitpur, Sibsagar, South Garo Hills, Tinsukia and Udalgiri districts of Assam and Changlang, Tirap, Upper Dibang Valley and West Kameng districts of Arunachal Pradesh during last week, farmers are advised to postpone irrigation to the standing crops in these districts.
 - Farmers in the areas where flood water has been receded, are advised to raise community nursery for late transplanting with old seedlings of the varieties like Profulla and Gitesh (if more than 50% area damaged) or nursery raising of the photo insensitive short duration variety like Luit for re-transplanting (in case of total damage). Farmers may also sow traditional varieties of *sali* rice, which can be transplanted late up to the end of August. Adopt submergence tolerance varieties like Jalashree and Jalkuwari for repeatedly flood prone areas. In partially affected fields, drain out excess water and apply 1/3rd N + 50% K₂O as top dressing during the tillering stage of *sali* rice. Provide aeration in root zone by hoeing in between lines after flood for sugarcane and pulses.
 - In flood affected areas of Hill Zone of Assam, after receding of flood water, the short duration varieties of rice like Luit, Kapilee, Dichang etc. can be sown directly in puddled fields with sprouted seeds up to middle of September. Farmers can also sow sesamum in August or green gram and black gram up to mid-September in medium and upland situation. Farmers can also raise community nursery, if individual farmer does not have suitable land for nursery due to inundation by flood water.
 - Farmers in Hill Zone and lower Brahmaputra Valley Zone of Assam are advised to continue transplanting of *sali* rice and gap filling with seedlings of *sali* rice within 7-10 days of transplanting. Continue land preparation and sowing of sesame and nursery sowing of cauliflower. Farmers are also advised to continue planting of litchi, betelvine and seedbed preparation of vegetables and land preparation and sowing of black gram and green gram.
 - Farmers in Upper Brahmaputra Valley Zone of Assam are advised to continue sowing of *sali* rice. In medium lowland areas, farmers can select medium duration varieties which may facilitate to grow toria or mustard after harvest of *sali* rice. Farmers can also undertake transplanting of one year old seedlings of coconut.
 - Farmers in North Bank Plain Zone of Assam are advised to continue land preparation and sowing of early cauliflower, radish, green gram and black gram. Farmers are also advised to continue transplanting of short duration HYV rice in the main field of flood affected area.
 - Farmers in Central Brahmaputra Valley Zone are advised to undertake sowing of black gram and intercultural operation of *kharif* sesame and arhar on a non-rainy day. Harvesting of *Olitorius* jute may be continued.
 - Farmers in Barak Zone of Assam are advised to complete transplanting of semi dwarf *sali* rice. Select upland sandy loam soil for the cultivation of *Dolichos* bean (locally known as sheem). Continue land preparation and sowing of *Kharif* sesamum under upland situation.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to harvest matured early sown rice (jhum), black gram, green gram. Farmers are also advised to undertake nursery preparation of early cauliflower and cabbage.
 - In Mild Tropical Hill Zone of Mizoram, farmers are also advised to continue land preparation for nursery sowing of tomato and undertake nursery raising of cauliflower and land preparation and sowing black gram.
 - In Mild Tropical Hill Zone of Nagaland farmers are also advised to harvest of matured maize cob. Good drainage is important in papaya plant as water logging is harmful for the plant. Undertake sowing of soyabean.
 - Farmers in Sub Tropical Plain Zone of Manipur are advised to sow late varieties of rice i.e. RC Maniphou 7. Farmers are also advised to sow short duration variety of rice i.e. RC Maniphou-6 in upland area. Continue land preparation for nursery sowing of pea. Undertake land preparation and sowing of black gram, cole crops, French bean and rice bean.
 - In Temperate Sub Alpine Zone of Meghalaya, farmers are advised for sowing of *Dolichos* bean and French bean and planting of pineapple.
 - In Mild Tropical Plain Zone of Tripura, continue land preparation and sowing of sesame and planting of banana.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In Lower Brahmaputra Valley Zone of Assam, infestation of rice hispa in *sali* rice is observed in some parts of the district, which are in tillering stage. Spray Chloropyrifos 20 EC (0.02%), Quinolphos 25 EC (0.025%),

Monocrotophos 40 EC (0.04%), Phosphamidon 100 EC (0.025%), Phosalone-35 EC (0.025%), Dichlorvos 100 EC (0.035%), Carbofuran 3G (0.05%) to control the attack.

- In Hill Zone of Assam, there is chance of infestation of rice hispa in *sali* rice in tillering stage; farmers in this zone are advised to spray Quinolphos @ 2 teaspoonful / 5 litres of water.
- In Mild Tropical Plain Zone of Tripura, due to prevailing weather conditions, there is chance of attack of gandhi bug, sheath blight in upland rice and leaf blight in maize. To control gandhi bug, spray Imidaplopride @ 1.5 ml per litre of water; for the attack of sheath blight, spray Surf @ 1 g per litre of water and to control leaf blight in maize, spray Zineb @ 3 g per litre of water for leaf blight. Combined attack of Downy mildew and Mosaic may be seen in bitter gourd and pointed gourd. Spray Redomil–MZ @ 2 g per litre of water to manage the attack. Also there is chance of attack of yellow vein mosaic virus in ladies finger. To manage the attack, spray Prosper or Cypermethrin @ 1.5 ml per litre of water.
- In Sub Tropical Plain Zone of Manipur tikka disease may occur in groundnut. To control tikka disease, apply Carbendazim @ 0.5 g / litre of water.
- In Sub Tropical Hill zone of Arunachal Pradesh, stem borer may infest citrus plants; apply a paste made by mixing lime, water and 5% Malathion dust on the stems of the plants up to a height of about 1 m from the ground.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In North Bank Plain Zone of Assam and Sub Tropical Plain Zone of Manipur, farmers are advised to vaccinate cattle and buffaloes against FMD, HS and BQ, pigs against swine fever. Farmers are advised to vaccinate poultry against Ranikhet and Gamboro diseases. Deworm goat and sheep.
 - In Mild Tropical Hill Zone of Mizoram, farmers are advised to deworm cattle against Fascioliosis, vaccinate poultry against Ranikhet and Coccidiosis, deworm pig and vaccinate against swine fever.
 - In Mid Tropical Plain Zone of Tripura, due to congenial weather, farmers are advised to vaccinate and deworm cattle against FMD, poultry against Ranikhet, pigs against swine fever.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to vaccinate poultry against Ranikhet and apply ointment (like Himex-Tropical application) to goat and sheep against heal or wound infection.
 - In Mild Tropical Hill Zone of Nagaland, farmers are advised to take precaution against Japanese encephalitis, a mosquito borne disease in pigs / piglets. Avoid stagnant water in and around the sty, maintain proper hygienic condition. Provide ample quantity of clean drinking water for prevention of poultry diseases.
- **Pisciculture**
 - Farmers in Barak Valley Zone of Assam are advised to supply feed in adequate amount to help the fingerlings to grow well. Necessary precautionary measures should be adopted so that embankments of the ponds are not submerged during flood.
 - Farmers in Manipur, Mizoram are advised to keep pond free from unwanted vegetation and insects. During heavy shower, water should not drain directly into the pond. It should be passed through a bed of sand before draining. Well balanced feed fortified with vitamins and minerals should be provided as supplementary feed.

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Orissa (except Naupara, and Gajapati districts), Jharkhand (except Dumka and Sahebganj districts), Bihar (Araria, Banka, Bhagalpur, Buxa, Jamui, Kishanganj, Madhepura, Madhubani, Saharsha, Sheohar, Sitamarhi and Siwan districts) and in all districts of Gangetic West Bengal and Sub Himalayan West Bengal (except Cooch Behar, South Dinajpur and West Sikkim districts) during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over the States of the region.
- **Warning:** Heavy rainfall would occur at one or two places over Orissa during next 48 hours.
- **Advisories:**
 - As there was significant rainfall in most of the districts of Orissa, Jharkhand, Bihar, West Bengal and Sikkim during last week and rain is also likely at many places over these States, farmers are advised to postpone irrigation, intercultural operation and application of plant protection measures and fertilisers to the standing crops.
 - In view of poor rainfall situation in North West Alluvial Plain Zone of Bihar during earlier weeks, farmers are advised to sow contingent crops like maize, pigeon pea, sunflower, urd, arhar, castor and vegetable crops in the upland areas in place of rice. Intercultural operations are advised in pigeon pea, turmeric, yam bean and vegetable crops.
 - In view of likely occurrence of fairly widespread rainfall, farmers of Western Undulating Zone of Orissa are advised that necessary arrangement should be made to drain out excess water from the fields of maize, cotton and SRI transplanted rice.

- Farmers of East and South Eastern Coastal Plain Zone and North Eastern Ghat Zone of Orissa are advised to undertake sowing of non-rice crops like green gram, black gram, sesame and vegetables, such as cowpea, okra and cucurbitaceous crops in fallow upland. The farmers are also advised for puddling and transplanting of rice.
- The farmers of North Eastern Plateau Zone of Orissa are advised for sowing of rainy season vegetables like bhindi, bean, French bean, tomato, cauliflower, cabbage etc.
- In Central and North Eastern Plateau Zone of Jharkhand, farmers are advised to complete sowing of upland rice and undertake short duration varieties of arhar, groundnut, rice, urad, turmeric, jowar, soybean and okra for inter cropping. Farmers are also advised to grow African marigold or French marigold.
- In Western Plateau Zone of Jharkhand, farmers are advised to complete sowing of different *kharif* crops at an early date with early duration varieties; undertake sowing of short duration varieties of different *kharif* crops like rice, urad, groundnut, arhar, maize and rainy season vegetables like bhindi, bean, French bean, tomato, cauliflower, cabbage, brinjal, chilli etc. Farmers, who have not sown *kharif* crops in upland till now, may sow kulthi or safflower.
- Farmers in Coastal Saline Zone of West Bengal are advised to undertake transplanting of nursery bed for short duration rice. Farmers are also advised to start transplanting of water chestnut as waste land crop.
- Farmers in New Alluvial Zone of West Bengal are advised to complete transplanting operation of *aman* rice. Harvest already matured jute crop and place for proper retting. Farmers are also advised to start cultivation of mushroom.
- Utilising recent monsoon rainfall, farmers in Laterite and Red Soil Zone of West Bengal are advised to complete transplanting of *aman* rice. Farmers are advised to undertake sowing of monsoon vegetables like bhindi, beans, French bean, tomato etc.
- Farmers in Old Alluvial Zone of West Bengal are advised to complete the transplanting operation of *aman* rice and also harvest already matured jute crop and start retting. Farmers are also advised to sow short duration varieties of rice, if *aman* rice is not yet sown, after harvesting of jute.
- Farmers in Hill Zone of West Bengal are advised to start seedbed preparation of early cauliflower.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In Puri and Kendrapara districts in East and South Eastern Coastal Plain Zone of Orissa, fruit and shoot borer in brinjal has been found; install pheromone traps and spray 4 g Sevin WP or 2 ml Malathion in 1 litre water. Root rot in pointed gourd, thrips in chilli has also been found; spray 10 g Plantomycine along with 20 g Blitox 50 in 10 litres of water for pointed gourd and spray 300 ml Ethion or 400 ml Carbosulphan or Chloropyriphos in 200 litre water / acre for thrips in chilli.
- In Nayagarh district in East and South Eastern Coastal Plain Zone of Orissa, infestation of early shoot borer in sugarcane has been found. Release 50,000 *Trychogramma chilonis* parasite to control the borer. Otherwise install 4 to 5 pheromone traps per acre to attract the borer or spray 400 ml Monocrotophos or Quinalphos in 200 litres of water per acre.
- Incidence of *alternaria* blight and bacterial leaf spot on cotton crop has been reported in some places of Western Undulating Zone of Orissa. Farmers are advised to spray Mancozeb @ 2.5 g per litre of water for *alternaria* blight and Steptocycline @ 0.1 g with copper oxychloride @ 2.5 g per litre for bacterial leaf spot. Spray 500 litre of these sprays for one hectare area. There is incidence of root rot disease in some places. Drench the root zone with Bavistin @ 2 g / litre of water to control the disease.
- In Rayagada district of North Eastern Ghat Zone of Orissa, Fruit and Shoot borer in brinjal has been found. The farmers are advised to install Pheromone traps and spray 4 g Sevin WP or 2 ml Malathion in 1 litre water alternatively. Thrips in Chilli has been found. Spray 300 ml Ethion or 400 ml Carbosulphan or Chloropyriphos in 200 litres of water / acre.
- Under prevailing weather situation, in Laterite and Red Soil Zone and New Alluvial Zone of West Bengal, Gandhi bug may attack *aus* rice; apply Carbaril 50% or Dichlorovos 76% or Methyl parathion 2% per litre of water. Green leaf hopper may attack *aman* rice. Use Azadirectin 1% EC @ 3 ml, Chlorpyriphos 20% @ 2.5 ml or Acephate 75% @ 0.7 g.
- In Hill Zone of West Bengal, fruit and shoot borer may infest tomato, okra, chilli and brinjal. To manage fruit and shoot borer, spraying should be done with Malathion @ 1 ml / litre or Dichlorovos @ 1 ml / litre of water. Tea may be infested by mites. For protection, the crops may sprayed with Dicofol @ 1 ml / litre of water.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
- Chances of foot and mouth disease in the cattle remain high in North West Alluvial Plain Zone of Bihar during this time. If this disease is detected in the animals, washing of mouth of the animals with potash solution and foot with phenyl is advised. If vaccination has not been carried out, farmers are advised to do it immediately with the advice of the veterinary expert.
- **Pisciculture**

- The farmers of North Eastern Plateau Zone and North Eastern Coastal Plain Zone of Orissa are advised to purchase fish seeds from a reliable fish seed producer and stock 3000 nos. of advance fingerlings of more than 8 cm size per one acre. In case of three species combination, the stocking numbers should be for Catla-900, Rohu-1200 and Mrigal-900. In case of six species combination, the stocking numbers should be for Catla-800, Rohu-1200, Mrigal-500, Common carp-300, Grass carp-100 and Silver carp-100. In any situation, the average water depth of the pond should not be less than 5ft level.

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Himachal Pradesh (except Kinnaur, Lahaul and Spiti), Amritsar, Barnala, Gurdaspur, Ludhiana, Nawashahar and Ropar districts of Punjab, Bhiwani, Chandigarh, Gurgaon, Hissar, Jind, Palwal, Panchkkula, Rohtak, Sonapat districts of Haryana, Delhi, Doda, Jammu, Kathua, Poonch, Rajouri, Ramban, Reasi, Samba and Shopian districts of Jammu & Kashmir, many districts of Uttar Pradesh, most of the districts of Uttarakhand except (Almora district), Rajasthan (except Hanumangarh and Sri Ganganagar districts).
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over East Uttar Pradesh during next three days and over West Rajasthan during next 24 hours and decrease thereafter and at one or two places over remaining parts of the region.
- **Warning:** Heavy rainfall would occur at one or two places over West Rajasthan during next 24 hours.
- **Advisory:**
 - As significant rainfall occurred over most of the districts of Himachal Pradesh (except Kinnaur, Lahaul and Spiti), Amritsar, Barnala, Gurdaspur, Ludhiana, Nawashahar and Ropar districts of Punjab, Bhiwani, Chandigarh, Faridabad, Gurgaon, Hissar, Jhajar, Jind, Palwal, Panchkkula, Rohtak, Sonapat districts of Haryana, Delhi, Doda, Jammu, Kathua, Poonch, Rajouri, Ramban, Reasi, Samba and Shopian districts of Jammu & Kashmir, many districts of Uttar Pradesh, most of the districts of Uttarakhand except (Almora district), Rajasthan (except Hanumangarh and Sri Ganganagar districts), farmers are advised to postpone irrigation to the standing crops. As rain / thundershowers would occur at many places over East Uttar Pradesh during next three days and over West Uttar Pradesh during next 24 hours, farmers in are advised to postpone weeding, intercultural operation and application of fertilisers to the standing crops in East Uttar Pradesh. In view of occurrence of heavy rainfall in one or two places over West Rajasthan during next 24 hours, arrange for adequate drainage in standing crops to avoid stagnation of water.
 - Farmers in Flood prone Eastern plain zone (Bharatpur) in East Rajasthan are advised to undertake transplanting of marigold, balsom, bougainvilla and xenia utilizing realized rainfall during last week. Sowing of dhaincha (sesbania) in fallow land may be done for green manuring purpose. Transplanting of onion seedlings and raising of nursery of early cauliflower may be done. Spray 0.5 % solution of thiourea in pearl millets crop for more tillering. Harvest jowar before emergence of inflorescence for fodder and pick matured pods of cluster bean for vegetable purpose.
 - Farmers in Sub Humid Southern Plain and Aravali Hill Zone (Udaipur) in East Rajasthan, are advised to sow pulses (urd, red gram and green gram), groundnut and sesamum utilizing the realized rainfall. They are also advised to sow ashwagandha.
 - In Transitional plain zone of luni basin (Fatehpur) in East Rajasthan, farmers are advised to undertake sowing of hybrid pearl millet, urd and sesame.
 - Farmers in Semi Arid Eastern Plain Zone (Jaipur) in East Rajasthan are advised to undertake hoeing and weeding and top dressing in pearl millet, maize and sorghum and also in early sown irrigated groundnut. Continue sowing of short duration varieties of urd, red gram and moong and planting early radish, okra and spinach. Adopt proper drainage to remove stagnant water from standing crops.
 - In West Rajasthan, farmers are advised to sow urd and sesamum with improved varieties.
 - In Transitional Plain Zone of Inland drainage (Fatehpur) of West Rajasthan, farmers are advised for continue sowing of rainy season crops like bajra, guar, cowpea, moth etc. and cucurbits like khira, bottle gourd, ridge gourd, bitter gourd and cucumber utilizing the realized rainfall during last week.
 - In Arid Western Plain Zone (Jodhpur) in West Rajasthan, farmers are advised to undertake sowing of short duration varieties of moth bean, guar, bajra and jowar for fodder purpose and intercropping of fodder bajra with moth or guar instead of bajra.
 - Farmers in West Rajasthan are advised to undertake sowing of fodder bajra and short duration varieties of moth and guar.
 - In (Chatha (Jammu)) Sub Tropical Zone of Jammu and Kashmir, farmers are advised to go for application of urea as top dressing in late transplanted rice crop if not done earlier and 2nd dose of nitrogenous fertilizer as top

- dressing in maize utilising realised rainfall during last week. Farmers may go for plantation of evergreen fruit plants like mango, citrus, litchi, loquat, guava and papaya. Harvest the guava fruit when fruit is still hard.
- In Cold Arid Zone of Jammu & Kashmir, farmers are advised to undertake sowing of legumes as fodder or pea mixed with maize and millets to enrich the soil. Harvest seed crops of chinese cabbage, lettuce, turnip and cabbage before seed shattering.
 - In Intermediate zone of Jammu & Kashmir, farmers are advised to undertake nursery sowing / transplanting of knol-khol, cabbage and cauliflower and sowing of bhindi, radish, pumpkin, bittergourd, bottlegourd, sponge gourd, carrot, turnip. Also advised to undertake top dressing in rice, maize, bajra and pulses.
 - In Valley Temperate zone of Jammu & Kashmir, farmers are advised to undertake transplanting of seedlings of cole crops (cauliflower and cabbage).
 - Farmers in East Uttar Pradesh are advised complete transplanting of medium duration rice and undertake weeding in early sown direct seeded and transplanted rice. Continue sowing of *kharif* crops like jowar, bajra, urad, moong, soybean, groundnut and til. Earthing up and propping of sugarcane may be done.
 - Farmers in West Uttar Pradesh are advised to complete sowing of black gram and sesame. Complete transplanting of rice and sowing of sorghum. It is also advised to complete nursery sowing of brinjal, chilli, tomato, cauliflower, lady's finger and cucurbits (lobia, gourd, taroi, bitter gourd, cucumber). Weeding, hoeing top dressing of fertilizers in sugarcane, early sown *kharif* crops and vegetables may be done.
 - In Sub-Montane & Low Hills Sub-Tropical Zone and (Seobagh) Mild Hills Sub Humid Zone of Himachal Pradesh, farmers are advised to maintain 4-5 cm standing water. Improved grasses and legumes in high hill dry temperate zone, perennial grasses viz. setaria and napier grass in mid hill and clover fescue and orchards grass in sub-temperate region and high reaches may be planted. Intercultural operations in ojala, phafra and French bean may be carried out in temperate regions. Hybrid chari can also be planted in lower region. Skip irrigation to the crops. Ensure drainage in maize fields and impound water in rice field. Nursery sowing of cauliflower crop is advised so that same can be transplanted in September. In mid hill region transplanting of cauliflower can also be taken.
 - In Bhabar and Tarai Zone of Uttarakhand, due to sufficient rainfall received during last few days, farmers are advised not to go for any irrigation in rice crop during this week. Maintain proper drainage for avoiding land erosion on sloppy lands and major crops like soybean, groundnut, maize, pigeon pea, Gahat, Kutoo Mandua and Madira crops during this week.
 - In (Roorki) Sub humid sub tropic Zone of Uttarakhand, farmers are advised to provide proper drainage to prevent waterlogging in sugarcane, maize, bajra and jowar and vegetables like brinjal, chilli, lady's finger due to excess rainfall during last week.
 - Farmers in Delhi are advised to undertake transplanting of tomato, chilli, brinjal and cauliflower. Sowing of coriander, spinach and radish may be done under irrigated condition as well as utilizing the rainfall during last week.
 - Farmers in Punjab and Haryana are advised to drain out excess standing water from cotton fields if any. Irrigate rice crop two days after the ponded water has infiltrated into the soil but the rice fields should not be allowed to develop cracks. Last dose of nitrogen through (33 kg urea/acre) may be applied, if already not given. Sow leguminous and non-leguminous crops in mixture to improve the nutritive value of the fodder i.e. maize + cowpea, sorghum + guara. Start sowing of cauliflower using 250 g seed of mid season varieties like Punjab Giant 26 in one marla bed area. Irrigate the nursery beds with a watering daily in the beginning and thrice a week there after. Start planting of *kharif* onion both with bulbsets as well as seedlings. Iron deficiency is observed both in the ratoon and plant crop of sugarcane on light textured and calcareous soils. To correct this deficiency, 1 % ferrous sulphate solution (one kg ferrous sulphate in 100 litres of water per acre) may be sprayed 2-3 times at weekly intervals soon after the symptoms appears. Short duration hybrids of Maize (JH 3459, PMH 2 & Parkash) can be sown during the second fortnight of this month in rows 60 cm apart and plant to plant distance of 15-20 cm. maize is very sensitive to standing water, so excess water may be drained out from the field which would also help to keep stalk rot under control. The short statured leguminous crops like moong, mash, guara and beans may be intercropped on vacant land in the young orchards.
 - In Transitional plain zone of luni basin (Fatehpur) in East Rajasthan, white grub attack is seen in groundnut & pearl millet. Farmers are advised to apply chloropyriphos @ 4 litre with irrigation water mix or the above chemicals in 80-100 kg pure sand (Bajri) & broadcast in field when there is sufficient soil moisture.
 - In Barbar & Tarai region of Uttarakhand, due to prevailing weather, there are more chances of leaf streak and BLB diseases in rice crop. Also, there are also chances of incidence of leaf folder, if damage to leaves is >5%, it is advised to spray 400 ml of 30 EC Dimethoate dissolved in 400 liter of water per acre.
 - In (Roorki) Sub humid sub tropic Zone of Uttarakhand, if the leaves of rice are turn pale yellow or brown in colour it may be due to *Khaira*. To control, apply Zinc sulphate @ 5 kg and Urea 20 Kg with 100 liter of water per hectare.

- In Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh, fruit borer is appearing in brinjal, okra and tomato, for control spray carbaryl @ 2g /litre. Weather is conducive for blast in paddy, for control spray the crop with Blitox 50 (Copper oxychloride) with 2.250 kg Blitox 50 or 750 g Bavistin 50 WP or 750 ml Hinosan in 750 litre of water/ha. Weather is conducive for attack of white fly in cucurbits, tomato and French bean, for control spray acephate @0.05%(7g/litres of water) and direct the spray on lower leaves.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry**
 - In Sub humid sub tropic of Uttarakhand, it is advised to 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. Vaccination for Ranikhet disease in poultry should be done.
 - In Himachal Pradesh, weather is conducive for spread of FMD and galgotu so, farmers are advised for vaccination of animals against FMD. Also for ticks and mites attack on animals for control spray Butox @ 2.0 ml per litres of water. Ensure proper drinking water. Feed pregnant and lactating cows and buffaloes with balance feed including mineral mixture. Put uromin bricks for licking to animals for 5 minutes in morning and evening.
 - In Sub-Tropical Zone of Jammu & Kashmir, farmers are advised to go for vaccinate the animal against foot and mouth diseases. In Valley Temperate Zone of Jammu & Kashmir, it is advised to provide cool and fresh drinking water to the livestock. Low energy diets should be provided to animals. Adult animals should be dewormed. Animal sheds should be properly cleaned and disinfected. Cow dung should damp away from animal sheds to avoid spread of infection. Any injury on animal should be properly attended to avoid collection of maggots. As weather is conducive for ticks and mites attack on animals in Intermediate Zone (Rajouri) of Jammu & Kashmir, it is advised to spray Butox @ 2.0 ml per litres of water. Ensure proper drainage in the surroundings of cowshed.
 - In view of present weather farmers in Delhi are advised to monitor vegetable crops like brinjal, cauliflower, cabbage, tomato etc. against fruit borer and diamond back moth, paddy crops against leaf folder or stem borer, sugarcane against shoot borer and lady finger, chilli and cucurbitaceous crops against attack of mite, jassid and hopper. Take proper plant protection measures to control above pest and disease.
 - In view of present weather there is a heavy chance of attack of sucking pests on cotton in Western Plain Zone of Haryana. To control whitefly attack, spray 600 ml Triazophos or 800 ml Ethion in the early hours of morning alternatively in two consecutive sprays.
 - In Transitional Plain Zone of Inland drainage (Fatehpur) of West Rajasthan, Mastitis disease may be seen in milch animals. In this disease, mammary glands & teats may become swollen & blood spots in milk may be seen. Treat the affected animal under the guidance of Veterinary Doctor.
- **Horticulture :**
 - In Himachal Pradesh, give support to the branches of apple so that branches should not break due to fruit load in Sub mountain and low hills sub tropical zone. In high hills temperate wet zone, temperate fruits (Apple, pear plum etc.) are in the fruit development stage. So, maintain the moisture in the soil, apply irrigation if possible. Remove all the bushes from the orchards and also keep the tree basins neat and clean. Picking may be done of the early maturing varieties of the apple and pear.
- **Apiculture :**
 - In Sub Tropical (Chatha) Zone and Intermediate (Pahalgam) Zone of Jammu & Kashmir, farmers are advised to check ants by placing leg of bee hives stand in water pots & feed the colonies with sugar water solution in the ratio of 2:1. Check ectoparasitic mite infestation by dusting sulphur, Keep bee colonies in shade or cover with wet gunny bags. Provide ventilation by placing a small stock in between brood chamber. Kill wasps with a wooden flapper and also by dusting or spraying with insecticides.
 - In Sub humid sub tropic of Uttarakhand, to control mango gall formation cut and destroy the affected parts away from the orchard. Spray NAA 200 ppm 90ml/200 litres of water for better flower and fruiting.
- **Floriculture :**
 - In Subtropical and Intermediate lower zone of Jammu & Kashmir, Chrysanthemum can be propagated through rooting of stem cuttings which are taken from healthy mother stocks.
 - In Valley Temperate zone of Jammu & Kashmir, it is advised to remove all dead/damaged blooms, stalks and leaves from the beds as and when seen. Mowing of lawns may be continued. Nursery beds may be dug up and manuring may be done to sow the seeds of spring flowering annuals and herbaceous perennials. Procure the spring flowering seeds and bulbs if do not have their own. Start collecting seeds of summer annuals as and when matured. Cacti plants should be repotted and manured. Desuckering of budded plants of roses may be continued.
 - In Flood Prone Eastern Plain Zone (Bharatpur) of Rajasthan, farmers are advised to transplant Marigold, Balsom and Xenia. Plant cuttings of *Bougainvillea*, Mogra and Chameli. Dip cuttings in 5000 ppm IBA solution for quick rooting.

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

- **Realised Rainfall:** All the districts of Coastal Karnataka, Belgaum, Dharwad, Gulbarga, and Haveri in North Interior Karnataka, Chickmagalur, Devangere, Hassan, Kodagu and Shimoga districts in South Interior Karnataka, all the districts of Coastal Andhra Pradesh, Chittor in Rayalaseema, most of the districts of Telangana except Medak and Nalgonda, all the districts of Kerala and many districts of North Tamilnadu received good rainfall during last week. No significant rainfall occurred over remaining parts of the region.
- **Rainfall Forecast:** Rain/thundershowers would at many places over Coastal Karnataka and Kerala and at a few places over North Andhra Pradesh and at one or two places over rest of the region.
- **Warning:** Heavy rainfall would occur at one or two places Kerala during next 48 hours.
- **Advisories:**
 - All the districts of Coastal Karnataka, Belgaum, Dharwad, Gulbarga, and Haveri in North Interior Karnataka, Chickmagalur, Devangere, Hassan, Kodagu and Shimoga districts in South Interior Karnataka, all the districts of Coastal Andhra Pradesh, Chittor in Rayalaseema, most of the districts of Telangana except Medak and Nalgonda, all the districts of Kerala and many districts of North Tamilnadu received good rainfall during last week. Complete sowing of medium / short duration *kharif* crops in South Interior Karnataka and Belgaum, Dharwad, Gulbarga, and Haveri districts of North Interior Karnataka and South Coastal Andhra Pradesh. Drain out excess water in fields.
 - Farmers in the Eastern Zone of Karnataka are suggested to take up normal sowing of short duration finger millet varieties. Replace the groundnut crop by fodder maize and sunflower. In tank fed areas, if there is adequate rain, go for cultivation of aerobic rice and medium duration varieties of redgram can be grown for vegetable purpose. Farmers are also advised to do staking of newly planted horticultural crops to protect from high wind speed.
 - Farmers in the North East transition zone of Karnataka are advised to complete sowing of sunflower. Before sowing the seeds, treat the seeds with Imidachloprid insecticide at the rate of 5 g per kg of seed.
 - Farmers in Coastal Zone of Karnataka are advised to complete paddy transplanting and planting of cashew, mango, papaya and coconut. Before planting of banana, suckers should be dipped in Carbofuran 10 g/litre of water.
 - Farmers in North transition Zone (Dharwad district) are advised to start transplanting of paddy and complete sowing of potato, sunflower and *desi* cotton utilizing the realized rainfall.
 - Farmers in the Hill zone of Karnataka are advised to complete sowing of short duration varieties of ragi and sunflower.
 - Farmers in North Dry Zone are advised to complete sowing of sunflower, bajra, niger, navane, castor and horse gram. During first fortnight of August, sowing of maize and sunflower and mixed cropping of onion + chilli + cotton (*desi*) may be taken up. If the crops already sown have recovered due to rainfall received in the last week, farmers are advised to take up spraying of 2 per cent urea to improve the growth of the crops.
 - Farmers in the Southern Dry zone of Karnataka are advised to take up sowing of short duration rice, finger millets, cowpea, green gram, black gram, horse gram, fodder African tall and multi cut sorghum.
 - Farmers in the Southern Transition Zone of Karnataka are advised to complete transplanting of rice in main fields.
 - Farmers in the North East Dry Zone of Karnataka are advised to carryout inter cultivation in all *kharif* crops like green gram, black gram, cowpea, red gram, soybean etc. and hand weeding may be done in between the rows. They are also advised to start sowing of sunflower.
 - Farmers in the Central dry zone of Karnataka are advised to drain out excess water from the field of maize and cotton and start transplanting of rice in the main fields.
 - Farmers in the Cauvery delta zone of Tamilnadu are advised apply gypsum at 160 kg/acre on 40 to 70 days after sowing of groundnut to encourage better pod formation and pod filling.
 - Farmers in the North Eastern Zone of Tamil Nadu are advised to undertake sowing of rain fed groundnut and plough the field to eradicate the weeds in the field.
 - Farmers in the Western Zone of Tamil Nadu are advised to irrigate maize crop after 45 to 65 days of sowing.
 - Farmers in the High altitude hilly zone of Tamilnadu are advised to take up sowing of potato for the *Kadaibogam* season after seed treatment.
 - Farmers in the High Rainfall Zone of Tamil Nadu are advised to undertake basin preparation in pepper, clove, nutmeg and cinnamon for better rain water harvest and grafting and cutting of horticultural crops.
 - Farmers in the North Coastal Zone of Andhra Pradesh are advised to complete transplanting of rice. They are also advised to clip the tips of the transplanted rice to remove stem borer egg masses. In the early planted sugarcane fields (January-March) which is at grand growth stage, propping may be done to avoid lodging due to heavy winds.

- Farmers in the Southern Telangana Rainfall Zone of Andhra Pradesh are advised for direct seeding of rice in puddled soil with short duration varieties. They are also advised to take up sowing of castor taking advantage of recent rains.
- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to complete sowing of medium duration varieties of rice, pulses, cotton, maize and vegetables utilizing the recent rainfall. If excess moisture situation exists in case of already sown pulses, maize and other vegetables in the region, farmers are advised to go for spraying of 2% urea on standing crop for immediate recovery from excess moisture stress.
- Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to complete sowing of cotton, soybean, green gram, black gram, sunflower and castor.
- In Southern Telangana Zone of Andhra Pradesh, delayed sowing of paddy nurseries and transplanting will result in gall midge incidence. Farmers may select gall midge resistant varieties for sowing after sufficient inflows from reservoir.
- Farmers in the problem area zone in Kerala are advised to do propping of the bunched banana plantation as high winds are expected in the next five days.
- Farmers in the Northern zone of Kerala are advised to complete transplanting of vegetables to the main field. Farmers are also advised to undertake planting of Robusta, Poovan, Njalipoovan, Palayankodan varieties of banana and compulsory propping should be undertaken in the existing plantation.
- Farmers in the Southern Zone of Kerala advised to undertake planting of vegetables as an inter crop in coconut plantation.
- In Cauvery delta zone of Tamilnadu, early shoot borer incidence noticed in sugarcane due to the prevailing dry weather condition. To control this, apply Carbaryl granule at 8kg/acre mixed with 20 kg sand in the leaf whorls.
- In some parts of Western zone of Tamilnadu, stemborer is noticed in maize. Mix phorate 10G @8kg with sand total quantity of 50 kg and apply to the farm land.
- Incidence of stem borer in maize, blast on ragi, aphids in green and black gram, thrips, aphids and tikka leaf spot in groundnut and jassids and aphids on cotton was noticed in some parts of the north coastal zone of Andhra Pradesh. Farmers are advised to take appropriate plant protection measures.
- Prevailing dry conditions are favourable for incidence of leaf miner/ leaf webber in groundnut, thrips in cotton and semilooper in castor in the Scarce Rainfall Zone of Andhra Pradesh. Farmers are advised to undertake plant protection measures.
- Incidence of fruit fly is noticed in gourds in Southern Telangana zone, farmers are advised to keep poison bait (100 ml Malathion + 100 g Jaggery per litre of water) to control it and monitor the incidence of brown spot in rice nurseries and sucking pests in cotton and vegetables.
- In some parts of problem area zone of Kerala, caseworm, stem borer and gall midge is noticed in different fields of rice. Farmers are advised to drain off the field completely and take appropriate plant protection measures in consultation with agricultural officer.
- Leaf folder attack is noticed in isolated pockets of Northern zone of Kerala on rice. Farmers are advised to unfold the leaves by rolling thorny wires/twigs over the canopy. If the attack is severe spot spraying of Malathion@ 50EC @2ml/litre of water is also advised.
- Due to prevailing cold weather sucking pest in cotton was noticed in some parts of Hill zone of Karnataka. To control spray with 1.7 ml Dimethoate 30 EC or 2.0 ml methyl demeton in one liter of water.
- **Livestock**
 - Farmers in the Problem area zone of Kerala are advised to undertake precautionary measures against Mastitis. Clean and hygienic water should be provided to animals. Sanitize the recently filled water to reduce bacterial load.
 - Farmers in the Northern zone of Kerala are advised to undertake vaccination and de-worming for the animals in consultation with veterinary doctor.
 - Farmers of the North Dry Zone and Southern transition zone of Karnataka, Southern Telangana zone of Andhra Pradesh and North eastern zone of Tamilnadu are advised to vaccinate livestock against Foot and Mouth disease (FMD vaccination), Black Quarter disease (BC vaccination) and Haemorrhagic Septicaemia sheep and goats against Enterotoxemia.
 - Farmers in the scarce rainfall zone of Rayalaseema are advised to apply potassium permanganate on lesions in the mouth and sulphur treatment is recommended for foot lesions.
 - Farmers in the Eastern Dry zone of Karnataka are advised to maintain optimum room temperature in silkworm and poultry rearing houses. Care may also be taken against the rapid increase in air temperature and decrease in relative humidity.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** All districts in Konkan and Amravati region, Gadchiroli, Gondia, Wardha districts in Vidarbha and Nashik, Jalgaon, Nandurbar, Dhule, Kolhapur, Satara and Pune districts in Madhya Maharashtra received significant rain during last week. All districts in Gujarat region received significant rain during last week.
- **Rainfall Forecast:** Rain / thundershowers would occur at many places over Konkan and Goa and at isolated places over Madhya Maharashtra, Marathwada, Saurashtra and Kutch and Gujarat region. Scattered rain would occur over Vidarbha during next 24 hours and increase thereafter.
- **Advisories:**
 - Farmers in Konkan are advised to maintain 5 cm water level in already transplanted rice field. Apply second dose of nitrogenous fertilizers i.e. 870 g Urea per 1 R area. Undertake planting of all fruit crops by removing plastic bag without disturbing the soil of the graft.
 - As there was significant rain, farmers in Pune district are advised to complete transplanting of *kharif* rice and sowing of contingency crops like sunflower (Bhanu), red gram (Vipula) and castor (VR-9) with the help of realized rainfall. Farmers in Eastern Pune district are also advised to adopt intercropping of sunflower+ tur (2:1). Sow giant bajra or sorghum (Phule Ruchira, Phule Amrutha), maize and cowpea as fodder crops.
 - Solapur district is receiving deficient rain during last few weeks and no significant rain is expected during next 2-3 days; farmers are advised to undertake sowing of sole crops like sunflower (Bhanu), red gram (vipula) and castor (VR-9) in August after receipt of sufficient rain.
 - Farmers in Kolhapur region are advised to complete transplanting of rice seedlings and undertake hoeing and weeding in late sown *kharif* crops. Sangli district has received adequate rain during last fortnight; farmers are advised to complete sowing of contingent crops like sunflower (Bhanu, SS-56) with the help of available moisture.
 - Farmers in Nasik district are advised to complete transplanting of rice and finger millet seedlings. Apply Urea + DAP briquette for rice after 3-4 days of transplanting.
 - *Kharif* crops in Marathwada region are in early vegetative / vegetative stage. Farmers in this region are advised to undertake sowing of fodder crops in unsown areas in Beed and Jalna districts as contingent crops after receipt of sufficient rain. All districts in the region received insignificant rain during last few weeks; therefore undertake moisture conservation practices like mulching, intercultural operations and weeding in the crop fields and apply supplementary irrigation, if possible.
 - As scattered / fairly wide spread rainfall is expected in East Vidarbha during next 2-3 days, farmers are advised to complete transplanting of 21 to 25 days old rice (dhan) seedlings. Farmers in Vidarbha (West) are advised to undertake weeding, hoeing in late sown soybean, cotton and red gram after current spells of rain.
 - As all districts in North Madhya Maharashtra except Ahmednagar district received significant rain and isolated rain is expected during next 2-3 days, farmers are advised to undertake intercultural operations like weeding and apply necessary fertilizers and plant protection measures. Farmers in Ahmednagar district are advised to undertake intercultural operations for conservation of soil moisture and apply light irrigation to cotton, if possible.
 - Farmers in Madhya Maharashtra and Marathwada are advised to complete planting of *adsali* sugarcane.
 - Due to subdued and insufficient rainfall in Saurashtra and Kutch region, groundnut and cotton crops have been reported to be damaged due to dry conditions. Farmers are advised to grow castor (GAUCH-1, GCH-4 and GCH-7) varieties in areas that have 2-3 irrigation facilities in late season. Intercropping with short duration crops i.e. sesamum (GT-3), green gram (GM-3, GM-4), black gram (T-9, GU-1) and cowpea (Pusa Falguni, GCH-1, GCH-2, GCH-4) may be carried out.
 - Moderate to heavy rainfall occurred in all the districts of North Gujarat Zone; farmers are advised to drain out excess water from cotton, pulses fields in low land areas. Continue sowing of castor, fodder sorghum, maize, sesame and cluster bean. Farmers are advised to carry out earthing up in bunch type groundnut varieties and to stop intercultural operation after flowering stage. Carry out gap filling and transplanting in vegetables and pearl millet. Also undertake plantation of different horticultural crops.
 - In South Gujarat Heavy Rainfall Zone of Gujarat, as all districts received very good rain, drain out excess water from the low land areas. Complete sowing of sorghum. Remove weeds from standing rice crop. Carry out sowing of pearl millet and castor. As the wind speed is expected to increase beyond 25 km / hr, susceptible crops like banana and sugarcane may be protected. Staking may be provided in banana and propping may be done in sugarcane to counteract the effect of wind speed. Carry out plantation of different horticultural crops.
 - As all districts in Middle Gujarat Zone received very good rain during last week, arrange for proper drainage in crop fields to avoid water logging condition. Undertake transplanting of tobacco @ 90 cm X 75 cm spacing. Continue sowing of castor varieties GAUCH-1, GCH-2, GCH-4 and GCH-5.
 - As moderate to heavy rainfall occurred during last 48 hours in Bhal and Coastal Zone of Gujarat, farmers are advised to carry out sowing of castor by selecting varieties GAUCH-1, GCH-5, 6 or 7 for dry land, fodder sorghum, sesame and cluster bean at optimum moisture level. Remove excess rain water collected in low land field of cotton, pulses and vegetable crops. Carry out plantation of different horticultural crops and transplanting of fennel crop.

- In North Saurashtra Zone, South West monsoon rain is scanty. So farmers who have irrigation facilities should apply life saving irrigation through drip system under acute moisture stress condition. In North Saurashtra Zone, in standing wide spaced crops like cotton etc., intercropping with short duration crops i.e. sesamum (GT-3), green gram (GM-3, GM-4), black gram (T-9, GU-1) and cowpea (Pusa Falguni, GCH-1, GCH-2, GCH-4) may be undertaken. Areas where crop failed, sowing of fodder sorghum (Gundari, GFS-4, GFS-5) may be undertaken. Farmers are also advised to grow castor (GAUCH-1, GCH-4 and GCH-7) varieties that have some 2-3 irrigation facilities. Carry out mulching in plantation crops.
- Undertake intercultural operation and hand weeding in earlier sown groundnut and pulses in South Saurashtra Zone of Gujarat. Apply irrigation to vegetables. Carry out sowing of castor if irrigation facility is available.
- Varieties of *kharif* crops are mentioned in Annexure II.
- Due to uneven rains, there may be incidence of rice leaf folder and blue beetle in rice in South Konkan; for control of rice leaf folder, spray Monocrotophos @ 12 ml per 10 litres of water and for control of blue beetle, spray Monocrotophos @ 12 ml or Carbaryl 50 WP @ 20 g in 10 litres of water.
- Due to continuous cloudy weather there may be increase in infestation of white fly, aphids and jassids in cotton in Western Maharashtra Scarcity Zone; spray Acetamiprid @ 4 g+ sticker in 10 litres of water.
- Prevailing weather is favourable for infestation of powdery mildew in moong and green gram in Marathwada region; spray Mancozeb 0.2 % or Propiconazol 0.2 %. For control of stem borer in late sown jowar, spray Quinolophos @ 20 ml in 10 litres of water.
- Weather conditions are favourable for incidence of aphids and jassids in cotton in South Gujarat Zone. Farmers are advised to spray Dimethoet 30 EC @ 10 ml or Methyl-O-Demeton 25 EC @ 10 ml or Emidachloprid 17.5 SL @ 4 ml or Thiomethoczam 25 WG @ 3 g per 10 liters of water.
- Cloudy weather condition in South Gujarat Heavy Rainfall Zone is favourable for infestation of sucking pests like white fly, aphids and jassids in vegetables. Farmers are advised to spray alternately at 10 days interval of 10 ml Monorotophos or 10 ml Dimethoate or 10 ml Methyl-o-dematone in 10 liters of water.
- Due to continuous rainfall and cloudy condition prevailed in North Gujarat Zone, there is infestation of Gujarat Hairy Caterpillar in pulses. Farmers are advised to spray 0.15% Monocrotophos at 15 day interval to manage the pest.
- Stages of major crops are mentioned in Annexure-I.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in all districts of West Madhya Pradesh, most of the districts of East Madhya Pradesh and Chattisgarh (except Dhamtari, Durg, Kawardha) districts during last week.
- **Rainfall Forecast:** Rain/thundershowers would occur at many places over East Madhya Pradesh and at a few places over West Madhya Pradesh during next 24 hours and increase thereafter. Rainfall is likely at many places over Chhattisgarh during next three days.
- **Warning:** Heavy rainfall is likely at one or two places over Chhattisgarh during next 48 hours.
- **Advisories:**
 - Farmers in Madhya Pradesh and Chhattisgarh are advised to postpone irrigation, intercultural operations, application of fertilizers and pesticides to already sown crops as rainfall is likely at many places with heavy rainfall at one or two places over Chhattisgarh. Provide adequate drainage facilities in the standing crops to avoid waterlogging due to heavy rainfall in Chhattisgarh.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to complete transplanting of rice and sowing of niger crops. Farmers are also advised to do weeding in rice and arhar field and apply top dressing of urea in rice. Undertake nursery sowing / transplanting of tomato, brinjal, onion, chilli and cauliflower. Provide drainage in pulses, oilseed and vegetable fields with under excessive rain water particularly in turmeric and ginger fields.
 - Farmers in Gird Zone of Madhya Pradesh are advised to do weeding and intercultural operations in bajra, urad, moong, til and paddy, give nitrogen dose to these crops. Prepare proper drainage arrangement in the crop fields which are highly susceptible to water lodging. Prepare bunds to conserve soil moisture in rainfed crops.
 - Farmers in Jhabua Hills of Madhya Pradesh are advised to prepare drainage channels in field of soybean, maize, cotton, vegetables and pulses. Given 1/3 dose of recommended nitrogen through urea in maize crop. They are also advised to provide support to tomato, chilli and capsicum crops.
 - Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised for field operations like weeding, intercultural, earthing and plant protection are to be followed in sugarcane, maize, papaya and guava etc. Farmers are advised for the weeding and broadcasting of urea in previously sown paddy crop. Undertake nursery sowing/transplanting of tomato, brinjal, onion, chilli and cauliflower.
 - Farmers in Nimar Valley Zone of Madhya Pradesh are advised to apply urea and NPK in already sown *kharif* crops. Make proper drainage arrangement from field crops like maize, jowar, arhar with moong/urad and soybean. Farmers are also advised to complete weeding and intercultural operations in groundnut.

- Farmers in Bundelkhand region of Madhya Pradesh are advised to regularly monitor the crops against pest. Weather is favourable for attack of yellow mosaic in soybean, urd, moong crops. Also do hoeing and weeding in all *kharif* crops.
- As wide spread rainfall occurred in most of the districts of Chhattisgarh Plain Zone, rice crop have sufficient standing water. Farmers are advised to provide drainage channels in pulses and oilseeds to avoid waterlogging.
- In Chhattisgarh Plain Zone, farmers are advised to complete the transplanting at the earliest and to spray whipsuper@650 ml+Almix20g per ha after 20-25 days of sowing. Also, farmers are advised for the first doze of nitrogen at this stage and apply interculture, weeding, application of N and earthing in rainfed maize crop at knee height stage.
- Tobacco caterpillar is likely to damage soybean, black gram, pigeon pea etc, Hence farmers are advised to keep watch over the crop and collect the insect and destroy it at early stage. For effective control spraying of Quinolfas 25 EC@ 1.25 liter per hectare is advised in Chhattisgarh Plain Zone.
- Present weather conditions are favourable for transplanting of vegetables in Chhattisgarh Plain Zone. Farmers are advised to go for main field preparation and transplanting.
- Farmers in North Hill zone of Chhattisgarh are advised to prepare field and complete sowing of maize utilizing the realized rainfall during last week. Farmers are advised to undertake nursery for sowing of rice, sowing of arhar, urad, til, maize, groundnut, jowar, ginger, turmeric and arbi.
- Farmers in Bastar plateau zone in Chhattisgarh are advised to prepare field and undertake sowing of cowpea and *kharif* vegetables like bottle gourd, bitter gourd, okra and short duration beans, cabbage, cauliflower utilising the realised rainfall during last week. Farmers are also advised to planting of cassava, colocasia, ginger, elephant foot yam and diascorea and support may be given by bamboo sticks.
- Farmers in Bastar plateau zone in Chhattisgarh are advised to undertake transplanting of rice and sowing of niger, horsegram (kulthi), urad and vegetables etc. in the marhan and tikra farming situations.
- **Animal Husbandry & Poultry**
 - Farmers in Central Narmada Valley Zone are advised to vaccinate cattle against Foot and Mouth Disease.
 - Farmers in Kymore Plateau and Satpura Hills region of Madhya Pradesh are advised to vaccinate cattle against Anthrax disease and provide deworming tablets against worm's infection during rainy season.
 - Farmers in Jhabua hills of Madhya Pradesh are advised to vaccinate their goats by CCPC vaccine and keep them in clean, dry and well ventilated place.
 - In the present monsoon season, low light duration due to cloudy weather condition are there and hence farmers in Chhattisgarh are advised to increase light duration in poultry farms.

Annexure I

Major Crops

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

- Sugarcane (vegetative), *sali* rice (transplanting / early tillering / tillering), *Capsularis* and *Olitorius* jute for seed (sowing), ginger / turmeric (vegetative), arhar (early vegetative / vegetative), *kharif* sesame (sowing / early vegetative / vegetative), groundnut (vegetative), pulses (sowing / vegetative), maize (vegetative), cauliflower (nursery raising) in Assam.
- WRC rice (tillering / flowering / grain formation), okra, cucurbitaceous vegetables (fruiting / harvesting), soybean (early vegetative / vegetative), sesamum (vegetative) in Arunachal Pradesh.
- *Kharif* rice (transplanting / tillering), soybean, groundnut (vegetative), *kharif* maize (vegetative / silking), cucurbits, chilli and okra (fruiting / harvesting), tomato (seedling / transplanting), cauliflower (nursery raising), rice bean, pea (sowing) in Manipur.
- *Sali* rice (vegetative / panicle initiation), maize (cob formation), groundnut (vegetative), tomato (flowering / fruiting / maturity), potato (tuber formation), soybean (vegetative / flowering), turmeric, ginger (vegetative / rhizome formation), banana (planting / vegetative) and vegetables like bottle gourd, ash gourd (vegetative / flowering) in Meghalaya.
- Rice (early vegetative / tillering), soybean, groundnut (vegetative), *kharif* maize (vegetative / tasseling / silking), cauliflower, tomato (nursery preparation) and ginger / turmeric (vegetative / rhizome formation) in Mizoram.
- *Jhum* rice (dough / maturity), Wetland rice (transplanting / tillering), maize (maturity / harvesting), okra (flowering / fruiting), soybean (sowing), cowpea / bean (pod formation / maturity / harvesting), papaya (vegetative) in Nagaland.
- *Aus* rice (panicle initiation / flowering), upland *kharif* rice (tillering / panicle initiation / flowering), *aman* rice (transplanting / tillering), groundnut (vegetative / flowering), maize (tasseling / silking), sesame (vegetative / flowering / pod formation), *kharif* vegetables like okra, *kharif* cucurbits (sowing / vegetative), early sown cucurbits, okra (flowering / fruiting) in Tripura.

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

- Sugarcane (vegetative), fodder crops like sorghum, bajra, maize, meth, kalai, boda and dinanath grass (sowing / vegetative), *kharif* rice (transplanting / tillering), urd, arhar, bajra, toria etc. (sowing) in Bihar.
- Turmeric and ginger (vegetative), upland rice (tillering / panicle initiation), maize, arhar, groundnut, rice, urad, jowar and soybean, til (sowing / vegetative), *kharif* vegetables like okra, beans, French bean, tomato, cauliflower, cabbage etc. (sowing / vegetative), kulthi, African marigold, French marigold (sowing) in Jharkhand.
- Sugarcane (grand growth), banana (vegetative), jute (harvesting), maize, groundnut, arhar, ragi, cotton, direct seeded rice, sunflower (early vegetative / vegetative), rice (transplanting / tillering), green gram, black gram, cow pea (sowing), *kharif* vegetables like okra, French bean, tomato, cauliflower, cabbage etc. (sowing / vegetative) and fruit crops (planting / seedling) in Orissa.
- *Aus* rice (panicle initiation / booting stage), *Aman* rice (transplanting / early vegetative / tillering), jute (vegetative / harvesting), banana (planting), *kharif* maize, sweet corn (vegetative), cauliflower (seedling), marigold (seedling), cucurbits (fruiting), yam and beetle vine (vegetative) in West Bengal.
- Ginger (germination / early vegetative), orange (transplanting), large cardamom (vegetative / primary flowering / secondary flowering), vegetables (vegetative), rice (transplanting) in Sikkim.

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

- Vegetables (bhindi, cucurbits), peas (germination/vegetative), mirch, brinjal (seedling), cucurbits viz. cucumber, summer squash, khira, bitter gourd, bottle gourd (transplanting/ early vegetative/vegetative), tur, Shimla mirch, and tomato (early vegetative/vegetative), apple and other temperate fruits (vegetative), radish, arbi, amaranthus, turmeric, maize, dhaincha, chari, bajra, barley, red and white clover, bell pepper, garlic, ginger, coriander, knolkhol, cabbage, cauliflower, lettuce (germination/ early vegetative), soybean (early vegetative/vegetative), rice (early tillering/panicle initiation) in Himachal Pradesh.

- Rice (vegetative), chilli, tomato, brinjal, cauliflower (seedling), spinach, coriander, radish (seedling), maize, urd, moong, lobia (vegetative), bajra, til, sorghum (vegetative), sugarcane (vegetative), cotton (vegetative), sugarcane (vegetative) in Delhi.
- Chilli, capsicum, cauliflower, broccolli (vegetative), sugarcane (planting), papaya (planting), sunflower (germination), maize (Normal sown -vegetative stage, early sown- tassel emergence), lobia, sunhemp, cowpea, jowar for green fodder (vegetative), garlic, cucurbits, okra (seedling), French bean, maize (seedling), rice (early tillering), summer fodder (maize + cowpea + jowar) (vegetative), maize (sowing / emergence / early vegetative / vegetative / knee high stage), turnip, cruciferous crop (viz. cabbage, cauliflower, knolkhol, kale, broccoli), radish, carrot, beet root, coriander and fenugreek (sowing), leafy vegetables like celery, Parsley and Leek, solanaceous crops viz. tomato, onion, brinjal and chilli, capsicum (nursery sowing/transplanting), matured turnips, knolkhol, lettuce, kale, chinese cabbage, broccoli, summer squash and radish (harvesting in Leh), Horticultural crops (various stages) viz. [peach, mango (flowering/fruiting), (mango, citrus, litchi, loquat, guava and papaya – new plantation), ber, orange (fruiting) & guava (picking)], *kharif* pulses (vegetative / flowering), til, radish, carrot, turnip, spinach, beans, methi and cabbage (early vegetative/ vegetative/ fruiting), brinjal, Knolkhol, chillies, cabbage, cauliflower (early vegetative/ vegetative / fruiting) in Jammu & Kashmir.
- Rice (tillering / panicle initiation), finger millets (vegetative), groundnut, sorghum, pigeon pea, urad, moong, soyabean, rajma, arhar and ginger (early vegetative/vegetative), maize (early vegetative/cob formation) in Uttarakhand.
- Rice (tillering/panicle initiation), sugarcane (vegetative growth), sunflower, fodder maize, lobia, (germination/early vegetative), Sanai, Dhaincha (sowing / early vegetative / vegetative), summer sugarcane (tillering), cotton, soyabean and urd (early vegetative/vegetative), sunflower, jowar, bajra, maize, arhar, (sowing/seedling), vegetables [cucumber, pumpkin, tomato, brinjal, cabbage, lady's finger, chilly, cucurbits] (sowing/vegetative), groundnut (sowing/germination) in Uttar Pradesh.
- Rice (Transplanting / tillering), spring sugarcane (sprouting / tillering), radish (sowing), carrot, turnip, cauliflower (transplanting / vegetative), tomato, sunflower (sowing), cotton (early vegetative), okra, chilli, brinjal (sowing / transplanting), maize, mung, mash, tur (sowing) in Punjab.
- Rice (transplanting / tillering), Sugarcane (spring season) (early vegetative), barseem (vegetative / last cut), fodder ((maize + cowpeas) (vegetative)), moong, mash, pigeon pea (vegetative), cauliflower, cabbage, carrot, potato (transplanting), radish, cotton (sowing), turnip (sowing) in Haryana.
- Cauliflower, cabbage, onion (transplanting / germination), sugarcane (new planting), cotton (Desi kapas, B.T. kapas, Narma kapas, American Cotton) (early vegetative), pearl millet, jowar and bajra mixed with guar, Sudan grass, oats, maize, sorghum etc. for green fodder (vegetative), mirch, simla mirch, guar, vegetable (tinda, water melon, pumpkin, cucumber, coriander, bhendi, ridge gourd) (sowing), *kharif* onion (transplanting), *kharif* groundnut, rice (sowing) other *kharif* crops viz. pearl millet, sorghum, maize, green gram, cowpea (sowing), short duration moth and guar (sowing) in Rajasthan.

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

- Sugarcane (vegetative), rice (transplanting / tillering), fodder maize (vegetative/silking/tasseling), sunflower (sowing), groundnut (sowing), cowpea (sowing), vegetables (vegetative/flowering), turmeric, ginger (vegetative), green gram/black gram (vegetative/flowering), soybean (flowering), pigeon pea (vegetative), maize (silking/tasseling), cotton (vegetative/flowering) and chilli (flowering/fruiting) in Karnataka.
- Sugarcane (April planted) (grand growth), rainfed sugarcane (formative/tillering), sesame (pod formation/pod filling), banana (vegetative), vegetables (all stages), rice (transplanting/tillering), jowar (vegetative), bajra (vegetative) maize (vegetative/grain hardening), finger millets (vegetative), castor (vegetative), *kharif* groundnut (vegetative/flowering/pod formation), early sown groundnut (pegging/pod filling), green gram/black gram (vegetative/ flowering), red gram (sowing/early vegetative), rainfed cotton (vegetative), irrigated Bt.cotton (vegetative / boll formation) in Andhra Pradesh.

- Pepper (flowering/new planting), ginger (vegetative), rubber (tapping), irrigated banana (planting), cardamom (planting), sugarcane (grand growth), vegetables (sowing/ seedling/transplanting), *virippu* paddy (tillering/panicle initiation), coconut (flowering) in Kerala.
- *Kuruvai* rice (tillering/panicle initiation), groundnut (pegging/pod formation), cotton (vegetative/flowering/boll formation), irrigated maize (vegetative/silking/tasseling), sugarcane (grand growth stage), vegetables (vegetative/fruited) in Tamil Nadu.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane new *adsali* (active tillering / elongation), sugarcane new pre-seasonal (active tillering), sugarcane new *suru* (active tillering in Madhya Maharashtra and Marathwada), *kharif* rice (early tillering / active tillering in Konkan, Kolhapur Division and transplanting / early tillering in Nashik, Pune and East Vidarbha Division), cotton (vegetative), soybean (branching / flowering), groundnut (vegetative / flowering), bajra (vegetative in Madhya Maharashtra and Marathwada), red gram (early vegetative) in Maharashtra.
- Cotton (early vegetative / vegetative / flowering), groundnut (vegetative / flowering / pegging), *kharif* rice (seedling / transplanting / tillering), pulses (germination / early vegetative), sugarcane (vegetative / elongation), sesamum, castor (sowing), vegetables (seedling / transplanting / vegetative), green gram, black gram (germination / early vegetative), red gram (germination / vegetative), sorghum, cow pea (sowing) in Gujarat.

CENTRAL INDIA [M.P., CHHATTISGARH]

- Rice (tillering/stem elongation), maize, jowar, arhar and soybean (early vegetative/grand growth), *kharif* vegetables i.e. tomato, brinjal, chilli etc. (early vegetative/vegetative), fodder crops (vegetative), ladies finger, cucurbits (sowing/early vegetative) in Madhya Pradesh.
- Rice (tillering), sugarcane (planting/vegetative), groundnut (pod filling), sesame (late vegetative), ginger, turmeric, papaya, mango and guava (vegetative), onion (planting), vegetables (transplanting / vegetative), millet (sowing), tapioca, ginger, colocasia, dioscorea, elephant foot yam, cassava (planting) in Chhattisgarh.

Annexure II

List of Varieties

Assam

Sali rice: Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal, Masuri, Monohar (for typical lowland rice area), Satya and Basundhara (for medium lowland area).

Rice for flood affected areas: Profulla and Gitesh.

Short duration rice for flood affected areas: Luit, Kapilee, Dichang etc.

Traditional sali rice for flood affected areas: Sonamukhi, Manohar Sali, Bordha, Andru Sali, Solpona.

Submergence tolerance Sali rice varieties: Jalashree and Jalkuwari.

Sesame: Punjab Til No. 1, Gouri, Vinayak, Madhabi, ST-1683.

Early cauliflower: Early Kunwari, Pusa Katki, Pusa Deepali.

Dolichos bean: Asina

Radish: Pusa Desi, Pusa Himani, Pusa Chetki.

Green gram: T-44, Kopergaon, K-851, ML-56, ML-131.

Black gram: T-9, T-27, Pant U-19, T-122, Saonia Mah (SB123), KU 301, USJD113.

Manipur

Cauliflower: White Shot.

Tripura

Kharif rice:

For flash flood areas: Swarna Sub-1, Barsa Dhan.

Hybrid varieties: CRHR-32, Ajay, Rajalaxmi, BS6444G, JKRH-401, ARIZE 6444G, JKRH-3333.

Orissa

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

Kharif rice:

Early maturing varieties: Parijat, Khandagiri, Vandana, Jogesh, Siddant.

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

For flash flood areas: Swarna Sub-1, Barsadhan.

Hybrid varieties: CRHR-32, Ajay, Rajalaxmi, BS6444G, JKRH-401, ARIZE 6444G, JKRH-3333.

Green gram: PDM-11 & 54, K-851.

Black gram: T-9, Pant U-11, Pant U-19, Pant U-30.

Cowpea: SEB-2, Pusa Barsati.

Brinjal: Utkala Tarini, Utkala Madhuri, Blue Star, Green Star, Pusa Purple Cluster.

Green chilli: Pant C-1, Kala Suryamukhi, Utkala Ava, Utkala ragini etc.

West Bengal

Aman rice: IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002.

Coconut: Eastcoastal, Hazari.

Cauliflower: Kanwari, Jowhar, Moti, Early Patna.

Tomato: Pusa Rubi, Pusa Early, S-2, Roma Super.

Jharkhand

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

Maize: Birsa Makka-1, Birsa Makka-1, Sawan-1 (Hybrid), HQPM (Hybrid).

Arhar: Birsa Arhar-1, Narendra Arhar-1, Bahar, ICPH-2671.

Medium land rice: Anjali, Sahbhagi, Naveen, Lalat, Birsamati, Sugandha, BR-10, Pro-Agro 6444, IR-36, IR-64 etc.

Low land rice: Swarna (MTU-7029), Rajshree, Sambha Mahsuri (BPT-5204), Birsa Dhan- 202, Birsamati, Pro-Agro 6444.

Urad: Pant Urad -19, Birsa Urad -1.

Til: Kanke Safed and Krishna.

Horse gram: Birsa kulthi-1, G.H.G.-20.

African Marigold: Pusa Narangi, Pusa Basanti.

French Marigold: Petite Orange, Petite Yellow, Rusty Red, Lemmon Drop.

Bihar

➤ Urd: T-9.

➤ Arhar: Bahar, Narendra Arhar 1, Malviya 13.

Himachal Pradesh :

Pepper : Surjmukhi,

Cauliflower: Pride of India, Shweta, Madhuri, Himrani.

Cucumber : Kiyana seedless/243, Matgaura, Maliniseeded

Jammu & Kashmir

Vegetables : Pumpkin: Arka Suryamukhi and Arka Chandan, **Bittergourd:** Pusa Domousami & Pusa Vishesh

Bottlegourd: Pusa Summer Prolific Long, Pusa Summer Prolific Round, **Spongegourd:** Pusa Chikni and Pusa Supriya, **Radish:** Japanese white, **Carrot:** Nantes, **Turnip:** Purple Top White Globe, **Spinach:** All green, **Beans:** Contender, Pusa Parvati and Arka komal, **Methi:** Pusa Early Bunching and Kasuri methi., **Knol-khol:** White Vienna and Purple Vienna, **Cabbage:** Golden Acre and Pride of India, **Brinjal:** Pusa Purple Long, Pusa Purple Cluster, **Cauliflower:** Pusa Snowball, Pusa Snowball K-I

Til: Punjab Til-1

Punjab & Harvana

Punjab :

Okra: Punjab-8, Punjab-7 and Punjab Padmani

Radish: Punjab Ageti & Pusa Chetki.

Haryana :

Paddy : PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115.

Bajra: HHB 50, HHB 60, HHB 67 Improved, HHB 68, HHB 226

Sorghum: Muskan Satya, Basmati, Pusa Bold

Guar: HG 563, HG 365

Green gram: SML 668

Urd: T9, Uttara

Arhar: Manak, Paras, Pusa 992

Moth: Jwala, RMO 40, RMO 257.

Delhi

Baby corn: HN-4

Radish: Versa ki rani, summer long, long chetaki, Pusa chetaki

Spinach: All green

Coriander: Pant Haritama or hybrids

Cauliflower: Pusa sharad, Pusa hybrid-2, Pant shubra.

Sarson saag: Pusa saag-1;

Uttarakhand

Rice : Pant Dhan-1, 3, 4, 12, Ashwani, Narendra -92, Suraj – 52, VI-Dhan -154, 81, VK Dhan – 62, 65, 82, 85.

Urd : Narendra Urd-1, Pant Urd-30 or Pant Urd-35

Uttar Pradesh

Moong : Type-44, Pant Moong-1,2, Narendra Moong-1, PDM-11, MUM-2, Malviya Jagruti, Samrat, Pusa Vaishakhi 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.

Rajasthan

Kharif onion : N-53 & Agrifound dark red

Guar : R.G.S- 936, R.G.S- 986, R.G.S- 1002, R.G.S- 1017, H.G- 365, H.G 563, H.G 2 & 20. R.G.C. 1066 (Lathi), R.G.S. 112(Surya Gwar)A, R.G.C.-936A, R.G.C.-1002A, R.G.C.-1003A, R.G.C.-1017A, R.G.C.-1031_(Gwar Kanti)A, R.G.C.-1038(Gwar Karan)A, R.G.C.-1055(Gwar Uday)A, R.G.C.-1066(Gwar Lathi)

For fodder purpose : Bajra Raj 171, C.Z.P. 9802 with Chawala V 16 A.R.S. 9, F.S.-68 A, Moth R.M.O.-40A, R.M.O.-257A, R.M.O.-435, Gwar R.G.C.-936A, R.G.C.-1002A, R.G.C.-1017

Fodder Bajra : Raj Bajra Chari-2, RAjko, Jaint, L-72, L-74

Fodder Jowar : Rajasthan Chari-1, 2, 3, M.P. Chari, Pusa Chari-6

Til (Sesamum) : R.T. 46, R.T.125 and T.C. 25.

Moong (Green gram): Ganga-1 (Jamnotri), Ganga-8(Gangotri), S.M.L. 668, M.U.M.-2 **Improved varieties :** RMG-62(65-70 days), RMG-268 (65-70 days), RMG-492 (65-70 days) & RMG-344, SML-668

Short duration varieties - K 851, Pant M 2, PS16, Samrat, Pusa Baisakhi and Pusa Vishal,

Cowpea: FS-68 (60-70 days), RC-19 (60 days), RC-101 (60-65 days)

Mothbean: RMO-40 (62-65 days), R.M.O.-225, R.M.O.-257, R.M.O.-435, Kajari Moth 3, FMS-96 (58-60 days)

Urdbean: Pant: U-19 (70-75 days), RBU (70-80 days), T-9, Krishna, Barkha,

Vegetables : Tomato : Pusa Ruby, Pusa early dwarf, Roma, **Brinjal:** Pusa long, Meghdoot, ArkaBahar, Pusa summer and prolific round, **Cucumber:** Balam, Pusa Sahyog
Early cauliflower : Pusa hybrid-2, Improved chinease and Pusa Himjyoti
Ashwaghandha : Improved varieties - Ashwaghandha-20 and Ashwaghandha-134.

Karnataka

Finger millet: Indaf-5, Indaf-9, GPU-48, KMR-204, MR-365and GPU-28.
Fodder Maize: Deccan-103
Sunflower : Morden, BSH-1.
Aerobic rice: MAS-946-1, Rasi and KRH-2
Redgram: BRG-1 and BRG-2.
Rice: MTU-1010, IR-64, Raksha, BPT-5204 and JGL-1798
Cotton: Jayadhar, DDHC-11 and RAHS-14

Andhra Pradesh

Rice : swarna, chatanya, krishnaveni, sambamasuri, bapatlasannalu and amara for salt affected areas: deepthi, vikal, vedagiri and somaseela
Redgram: LRG-41, 38 and Laksmi (ICPL-85063)

Gujarat:

Castor: GAUCH-1, GCH-5, 6 or 7 for dry land
Maize: GM-1, 2.
Sesamum: GT-1, 2, 3, 4, Purva-1.
Green gram: GM-3, GM-4, K-851. Meha, GG 4
Black gram: T-9, GU-1.
Cowpea: Gujarat Cowpea-1, 2, 3,4,Pusa Falguni.
Pigeon pea: GT-1, GT-100, GT-101, T-15-15, BDN-2, IPCL_87-Pusa Ageti, GTH-1.
Cluster bean: HG-75 or G.C.-1, G.Guar-2, SG-74
Urad: T- 9, GUB- 1
Sorghum: GJ-39, GJ-40 GJ-41 and GFS-4, GFS-5

Maharashtra:

Adsali sugarcane : CO-86032 (Neera), Phule-0265 for Pune region and Co-740, Co-M-88121, Co- 86032 and Phule-265 for Kolhapur region.

Madhya Pradesh

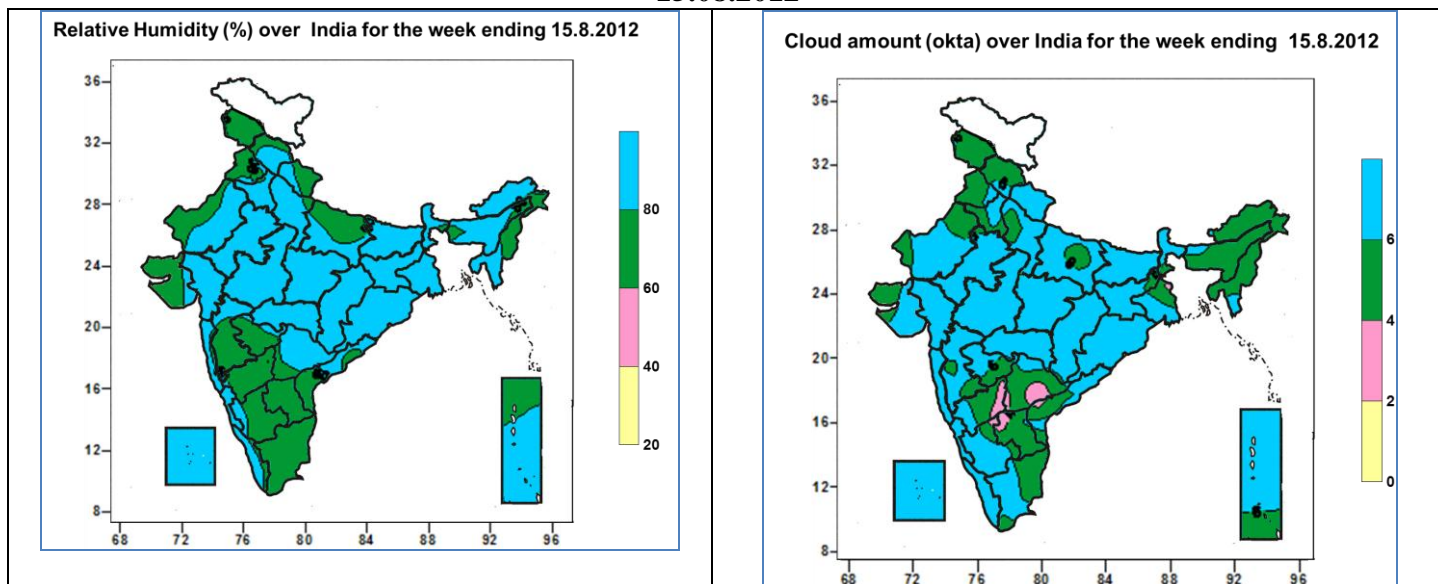
Jowar: JJ-741, JJ-938, JJ-1022, JJ-1041 and CSV-15
Soybean: JS-95-60, JS-93-95, JS-97-52, JS-80-21, JS-335, NRC-37
Urad: JU - 86, JU 3, T-9
Pigeonpea: TJT-501, JKM-189, ICPL-88039
Moong: HUM- 1, JM-721, K-851, Pusa Baishakhi

Chattisgarh

Millet: High Yielding : PR 202, HR 374, VR 708, RAU 08, GPU 45, VC 149 and for kodo millet GPUK-3, RVK-155 and for Kutki JK08.
Maize: Proagro-4640, 4212, Pusa Hybrid -42, MH-10, MH-11, Navjyot, HM-9.
Soybean: JS 335, Indira Soya-09, JS 93-05.

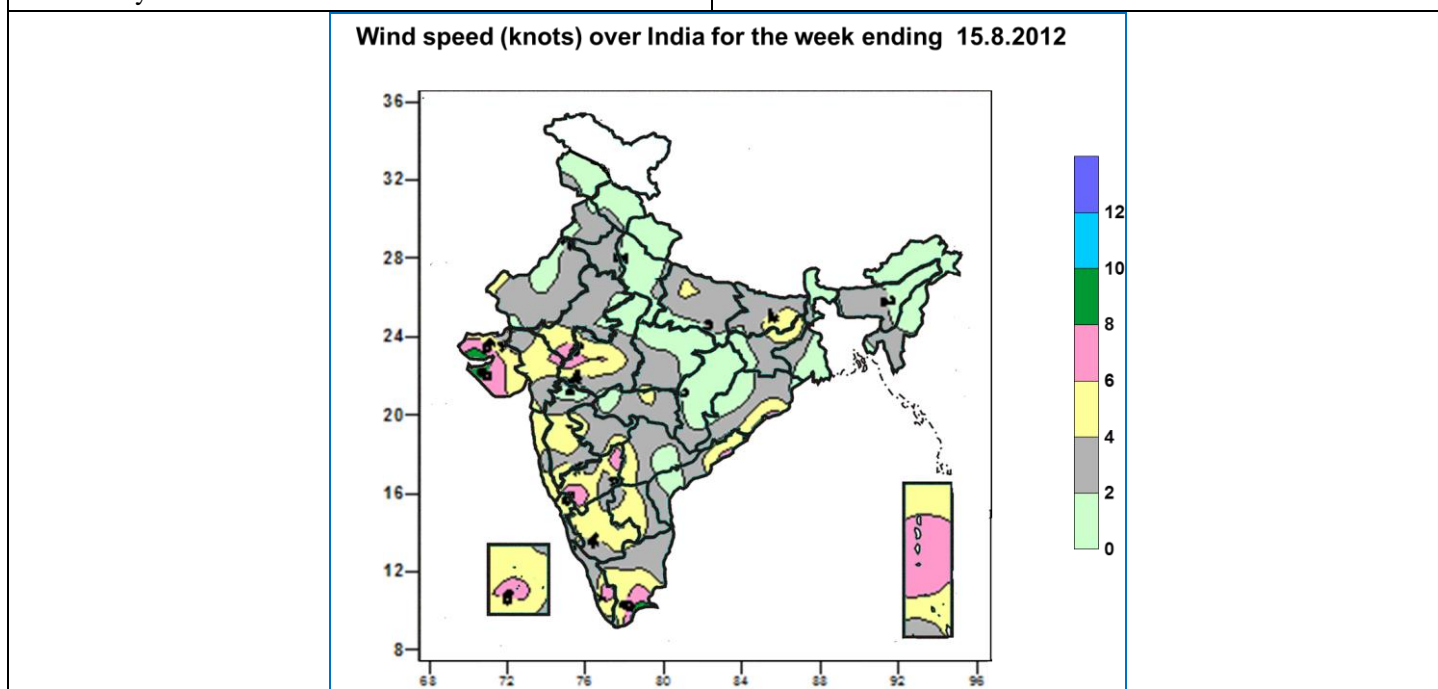
Annexure III

Contour maps for Relative Humidity, Cloud Amount and Wind speed for the week ending on 15.08.2012



Relative humidity ranged between 60 to 80 % over most parts of Jammu & Kashmir, Uttarakhand, East Uttar Pradesh, Nagaland, Manipur, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, North & South Interior Karnataka, South Andhra Pradesh, Tamil Nadu, some parts of Himachal Pradesh, West Rajasthan, Arunachal Pradesh, Assam & Meghalaya, West Uttara Pradesh, Andaman & Nicobar Islands, 80 % and above over remaining parts of the country.

Cloud amount 4 to 6 okta over most parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Northeast India, Saurashtra, Andhra Pradesh, North Interior Karnataka, some parts of Uttar Pradesh, Rajasthan, Jharkhand, West Bengal, Kutch, Madhya Maharashtra, Marathwada, South Interior Karnataka, Andaman & Nicobar Islands, 2 to 4 okta over some parts of Andhra Pradesh, Interior Karnataka and 6 okta and above over remaining parts of the country.



Wind speed ranged between 8 to 10 knots and above over some parts of Saurashtra & Kutch, Coastal Tamil Nadu, 6 to 8 knots over many parts of Saurashtra & Kutch, Andaman & Nicobar Islands, some parts of East Rajasthan, Gujarat, Coastal Orissa, Coastal Adnhra Pradesh, North Interior Karnataka, Tamil Nadu, Kerala, Lakshdweep and below 6 knots over remaining parts of country.