



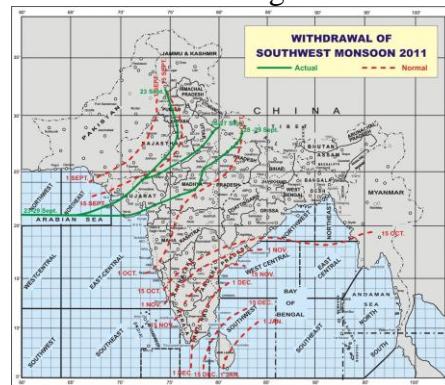
National Agromet Advisory Bulletin

Thursday, 29th September, 2011

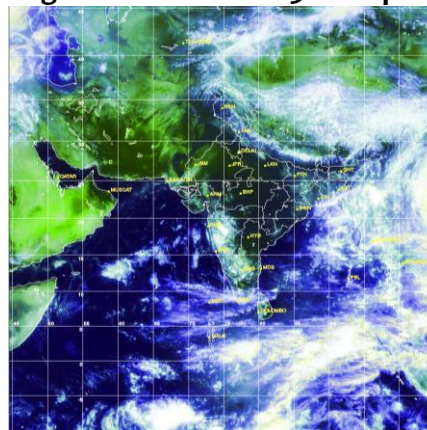
(For the period 29th September to 3rd October, 2011)

Monsoon Watch

- The withdrawal line of Southwest monsoon continues to pass through Lat.28.0°N/Long.82.0°E, Bahraich, Lucknow, Jhansi, Bhopal, Indore, Baroda and Veraval, Lat. 21.0°N / Long. 65.0°E and Lat. 21.0°N / Long. 60.0°E.
- Conditions are becoming favourable for further withdrawal of southwest monsoon from some more parts of central India during next 2 - 3 days.



Satellite image 0600 UTC dated 30th September, 2011



Issued by

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

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

Executive Summary

The southwest monsoon has withdrawn from most parts of North West India, North Gujarat and some parts of West Madhya Pradesh and mainly dry weather is likely to prevail in the above regions during next three days. Farmers in these regions are advised to undertake harvesting of matured *kharif* rice, maize, bajra, jowar crops and undertake field preparation and sowing of early *rabi* crops like potato, vegetable pea, toria, lentil, barseem and vegetables with residual soil moisture.

Farmers in Karnataka are advised to take up sowing of sunflower, *rabi* sorghum and safflower and undertake land preparation for sowing of chickpea and wheat. Poor rainfall conditions were observed in Interior Karnataka and Andhra Pradesh where many of the *kharif* crops are at grain / pod development stage. Particularly in the Rayalaseema region of Andhra Pradesh, early sown groundnut crop faced moisture stress and considerable crop damage is observed. Farmers are advised to provide supplementary irrigation to late sown groundnut crop, as the crop is facing moisture stress conditions.

Good rainfall received during last week in Bihar, Jharkhand and West Bengal may favour sustained crop growth of low land *kharif* rice in these regions and also helpful for sowing of *rabi* crops.

Flooding in the eight districts of coastal Orissa *viz.*, Kendrapara, Jajpur, Bhadrak, Balesore, Dhenkanal, Angul, Mayurbhanj and Keonjhar during last week damaged the crops. All these districts were also affected by the earlier flood occurred during earlier part of September. Rice is the main crop which was damaged. Non-rice crops like jute, pulses, oilseeds, cotton and vegetables grown on uplands and medium lands were also affected due to excess rainfall. Appropriate measures are being advised for the flood affected areas (page no. 11 of National AAS bulletin).

Heavy rainfall has occurred across several parts of Bihar. Farmers are advised to drain out excess water from the fields of vegetables, arhar and urd crops. In North Bihar, farmers are advised to prepare the land in the upland area for sowing of rapeseed.

As scattered rain/thundershowers would occur over Nagaland, Manipur, Mizoram & Tripura, south Andhra Pradesh, interior Karnataka, north Tamilnadu, south Madhya Maharashtra and Marathawada, farmers are advised to undertake intercultural operation and application of fertilizer and plant protection measures to the crops on a non-rainy day and continue the above operations in the remaining regions as no significant rainfall is likely during next three days.

Due to prevailing weather, incidences of bacterial leaf blight in rice in Kerala, stem borer, leaf folder and whorl maggot in rice, leaf webber in tur, tikka leaf spot, rust and bud necrosis in groundnut in Andhra Pradesh, sterility mosaic in tur in Karnataka, gundhi bug, stem borer and case worm in rice in Assam, neck blast in Manipur and sheath rot in rice, cob borer in maize in Jharkhand are reported. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases.

Owing to well distributed rainfall in the country during *kharif* season, *kharif* crop production is expected to be good in most parts of the country except some areas which experienced crop damages due to drought and floods. Extended showers are also favourable for sowing of *rabi* crops. Farmers are advised to undertake land preparation for *rabi* crops after harvesting of *kharif* crops.




Distribution of rainfall of the country during last week




State/Districts	Actual	28.09.11						
Arunachal Pradesh			Fatehgarh Saheb	0.0	-100	Samba	0.0	-100
Changlang	8.6	-86	Ferozpur	0.0	-100	Shopian	**	**
East Kameng	128.6	92	Gurdaspur	11.6	-61	Srinagar	0.0	-100
East Siang	57.4	-48	Hoshiarpur	1.5	-96	Udhampur	2.8	-94
Lohit	52.4	-20	Jalandhar	0.0	-100	East Madhya Pradesh		
Lower Subansiri	29.0	-45	Kapurthala	0.0	-100	Anuppur	75.6	116
Papumpara	100.0	-12	Ludhiana	0.0	-100	Balaghat	8.0	-78
Tawang	38.0	-61	Mansa	0.0	-100	Chhatarpur	7.3	-65
Tirap	13.8	-82	Moga	0.0	-100	Chindwara	0.0	-100
Upper Siang	445.2	178	Muktesar	0.0	-100	Damoh	0.0	-100
Upper Subansiri	11.6	-78	Nawashahar	0.0	-100	Dindori	10.0	-68
West Kameng	92.8	-5	Patiala	0.0	-100	Jabalpur	0.0	-100
West Siang	**	**	Ropar	11.0	-70	Katni	0.0	-100
Assam			Sangrur	0.0	-100	Mandla	0.0	-100
Barpeta	22.3	-77	Mohali	11.5	-70	Narsingpur	10.0	-66
Bongaigaon	7.6	-92	TarnTaran	0.0	-100	Panna	10.7	-53
Cachar	75.5	4	Haryana			Rewa	78.2	239
Darrang	**	**	Ambala	0.0	-100	Sagar	1.3	-95
Dhubri	27.5	-65	Bhiwani	0.0	-100	Satna	17.6	-34
Dibrugarh	90.9	49	Chandigarh	0.0	-100	Seoni	0.0	-100
East Garo Hills	70.0	26	Faridabad	0.0	-100	Shahdol	40.3	62
East Khasi Hills	119.5	18	Fatehabad	0.0	-100	Sidhi	172.8	419
Goalpara	14.7	-82	Gurgaon	0.0	-100	Singrauli	308.7	1203
Golghat	51.0	25	Hissar	0.0	-100	Tikamgarh	0.0	-100
Hailakandi	30.6	-57	Jhajar	0.0	-100	Umaria	2.9	-89
Jaintia Hills	87.0	-47	Jind	0.0	-100	West Madhya Pradesh		
Jorhat	50.3	-11	Katihah	0.0	-100	Alirajpur	0.1	-99
Kamrup	31.7	-27	Karnal	0.0	-100	Asoknagar	0.0	-100
Karbi Analog	2.1	-95	Kurukshetra	0.2	-99	Badwani	0.0	-100
Karimganj	77.2	3	Mahendragarh	0.0	-100	Betul	17.1	-37
Kokrajhar	29.2	-76	Palwal	0.0	-100	Bhind	0.0	-100
Lakhimpur	127.3	34	Panchkkula	1.4	-95	Bhopal	4.2	-87
Morigaon	31.6	-45	Panipat	0.0	-100	Burhanpur	8.9	-59
N.C.Hills	43.4	-22	Rewari	0.0	-100	Datia	0.0	-100
Nowgong	12.3	-74	Rohtak	0.0	-100	Dewas	3.8	-88
Nalbari	2.5	-93	Sirsa	0.0	-100	Dhar	3.5	-90
Sonitpur	31.7	-21	Sonepat	0.0	-100	Guna	0.0	-100
Sibsagar	63.0	64	Yamunanagar	0.0	-100	Gwalior	0.0	-100
Tinsukia	94.1	56	New Delhi	0.0	-99	Harda	3.3	-90
Himachal Pradesh			Jammu & Kashmir			Hosangabad	2.1	-94
Bilaspur	3.4	-89	Anantnag	0.9	-94	Indore	10.6	-74
Chamba	0.0	-100	Badgam	0.0	-100	Jhabua	0.0	-100
Hamirpur	0.0	-100	Bandipore	**	**	Khandwa	12.3	-65
Kangra	19.3	-58	Baramula	0.8	-94	Khargone	4.6	-85
Kinnaur	0.2	-99	Doda	0.0	-100	Mandsaur	1.0	-95
Kullu	5.2	-82	Ganderwal	0.0	-100	Morena	0.0	-100
Lahaul and Spiti	0.0	-100	Jammu	0.0	-100	Neemuch	0.3	-98
Mandi	1.4	-96	Kargil	0.0	-100	Raisen	2.5	-90
Shimla	1.2	-95	Kathua	18.2	-39	Rajgarh	2.6	-90
Sirmaur	0.1	-99	Kistwar	**	**	Ratlam	2.0	-94
Solan	0.1	-99	Kulgam	0.0	-100	Sehore	17.2	-49
Una	1.8	-96	Kupwara	0.0	-100	Shajapur	2.1	-94
Punjab			Ladakh(Leh)	0.0	-100	Sheopur Kalani	0.0	-100
Amritsar	0.0	-100	Poonch	0.0	-100	Shivpuri	0.0	-100
Barnala	0.0	-100	Pulwama	0.0	-100	Ujjain	4.6	-86
Bhatinda	0.0	-100	Rajouri	0.0	-100	Vidisha	6.9	-59
Faridkot	0.0	-100	Ramban	0.0	-100	Chattisgarh		
			Reasi	5.3	-89	Bastar	10.0	-76

Bijapur	8.7	-76	Agra	7.7	-74	Kathihar	69.1	77
Bilaspur	17.3	-48	Aligarh	19.8	-35	Khagadia	31.1	-27
Dantewara	9.4	-75	Auraiya	48.1	50	Kishanganj	229.6	227
Dhamtari	0.5	-99	Badaun	23.0	-28	Lakhisarai	116.8	195
Durg	2.6	-94	Baghpat	61.3	210	Madhepura	45.3	3
Janjgir	38.9	-11	Bareilly	57.7	74	Madhubani	117.0	229
Jashpurnagar	111.4	145	Bijnor	22.0	-37	Monghyar	17.0	-57
Kanker	0.0	-100	Bulandsahar	28.4	-14	Muzaffarpur	246.3	510
Korba	36.4	12	Etah	10.3	-67	Nalanda	46.8	25
Koriya	113.0	338	Etawah	36.0	13	Nawada	70.5	77
Kawardha	0.0	-100	Firozabad	9.5	-77	Patna	150.2	316
Mahasumund	4.7	-86	GBNagar	29.0	5	Purnea	184.7	296
Narayanpur	0.6	-98	Ghaziabad	25.8	-14	Rohtas	192.7	308
Raigarh	21.7	-43	Hamirpur	101.6	202	Saharsha	92.0	132
Raipur	16.6	-52	Jalaun	27.2	-24	Samstipur	45.1	-15
Rajandgaon	1.5	-96	Jhansi	13.1	-67	Saran	225.7	408
Surguja	126.7	266	Jotirba Phule Nagar	29.0	-14	Sheikpura	31.8	-5
East Uttar Pradesh			Kanshiramnagar	52.0	64	Sheohar	308.0	872
Allahabad	56.2	68	Lalitpur	28.0	-20	Sitamarhi	310.8	881
Ambedkar Nagar	5.0	-86	Mahamaya Nagar	1.5	-95	Siwan	61.7	91
Azamgarh	23.3	-56	Mahoba	16.4	-52	Supaul	90.8	129
Bahraich	18.1	-61	Mainpuri	18.5	-39	Vaishali	144.4	302
Ballia	54.2	27	Mathura	32.2	71	West Champaran	27.2	-28
Balrampur	36.1	-9	Meerut	1.4	-96	Jharkhand		
Banda	37.0	4	Moradabad	45.7	32	Bokaro	34.2	-29
Barabanki	35.4	-33	Muzzaffarnagar	24.3	-18	Chatra	52.2	19
Basti	18.5	-58	Pilibhit	57.2	79	Deoghar	40.8	-20
Chandauli	14.8	-54	Rampur	21.1	-52	Dhanbad	49.0	-8
Deoria	6.5	-88	Saharanpur	14.3	-48	Dumka	**	**
Faizabad	72.8	60	Shahjahanpur	16.2	-41	East Singbhum	70.5	45
Farrukhabad	59.2	108	UttaraKhand			Garhwa	144.6	219
Fatehpur	39.2	-5	Almora	12.8	-59	Giridih	40.5	-4
Gazipur	37.1	-22	Bageshwar	4.0	-87	Godda	41.7	14
Gonda	48.7	-11	Chamoli	5.0	-75	Gumla	**	**
Gorakhpur	86.1	43	Champawat	7.5	-81	Hazaribagh	60.0	24
Hardoi	39.3	23	Dehradun	0.5	-99	Jamtara	61.1	4
Jaunpur	29.1	-39	Garhwal Pauri	0.7	-97	Khunti	**	**
Kannauj	38.3	15	Garhwal Tehri	0.0	-100	Koderna	79.0	73
Kanpur City	22.3	-37	Haridwar	3.5	-85	Latehar	66.0	43
Kanpur Dehat	16.4	-45	Nainital	30.8	-27	Lohardagga	180.4	366
Kaushambi	28.3	-16	Pithorgarh	21.4	-57	Pakur	21.0	-64
Kheri	30.5	-29	Rudraprayag	0.0	-100	Palamau	118.4	211
Kushi nagar	11.0	-84	Udham Sing Nagar	9.2	-74	Ramgarh	59.6	24
Lucknow	27.2	-29	Uttarkashi	4.3	-87	Ranchi	113.9	197
Maharajganj	18.0	-71	Bihar			Sahebganj	**	**
Mau	22.5	-57	Araria	168.0	291	Seraikela	**	**
Mirzapur	36.9	-11	Arwal	134.6	318	Simdega	**	**
Pratapgarh	37.0	-13	Aurangabad	86.4	190	West Singbhum	128.7	199
RaiBareilly	18.3	-54	Banka	13.6	-71	East Rajasthan		
Sahuji Maharajnagar	7.0	-83	Begusarai	53.0	57	Ajmer	0.6	-92
Sant Kabirnnagar	45.0	-9	Bhabua	104.2	176	Alwar	0.0	-100
Sant Ravidas Nagar	44.0	37	Bhagalpur	36.9	-26	Banswara	0.0	-100
Shrawasti	35.2	-25	Bhojpur	108.2	188	Baran	0.3	-98
Sidharthnagar	29.5	-38	Buxar	23.6	-7	Bharatpur	0.0	-100
Sitapur	72.5	142	Darbhangha	128.5	181	Bhilwara	3.5	-73
Sonbhadra	48.3	45	East Champaran	209.1	437	Bundi	0.0	-100
Sultanpur	71.5	54	Gaya	67.5	87	Chittorgarh	4.3	-73
Unnao	33.3	-2	Gopalganj	38.0	27	Dausa	0.0	-100
Varanasi	63.0	53	Jahanabad	117.9	258	Dholpur	0.0	-100
West Uttar Pradesh			Jamui	50.4	7	Dungarpur	0.0	-100

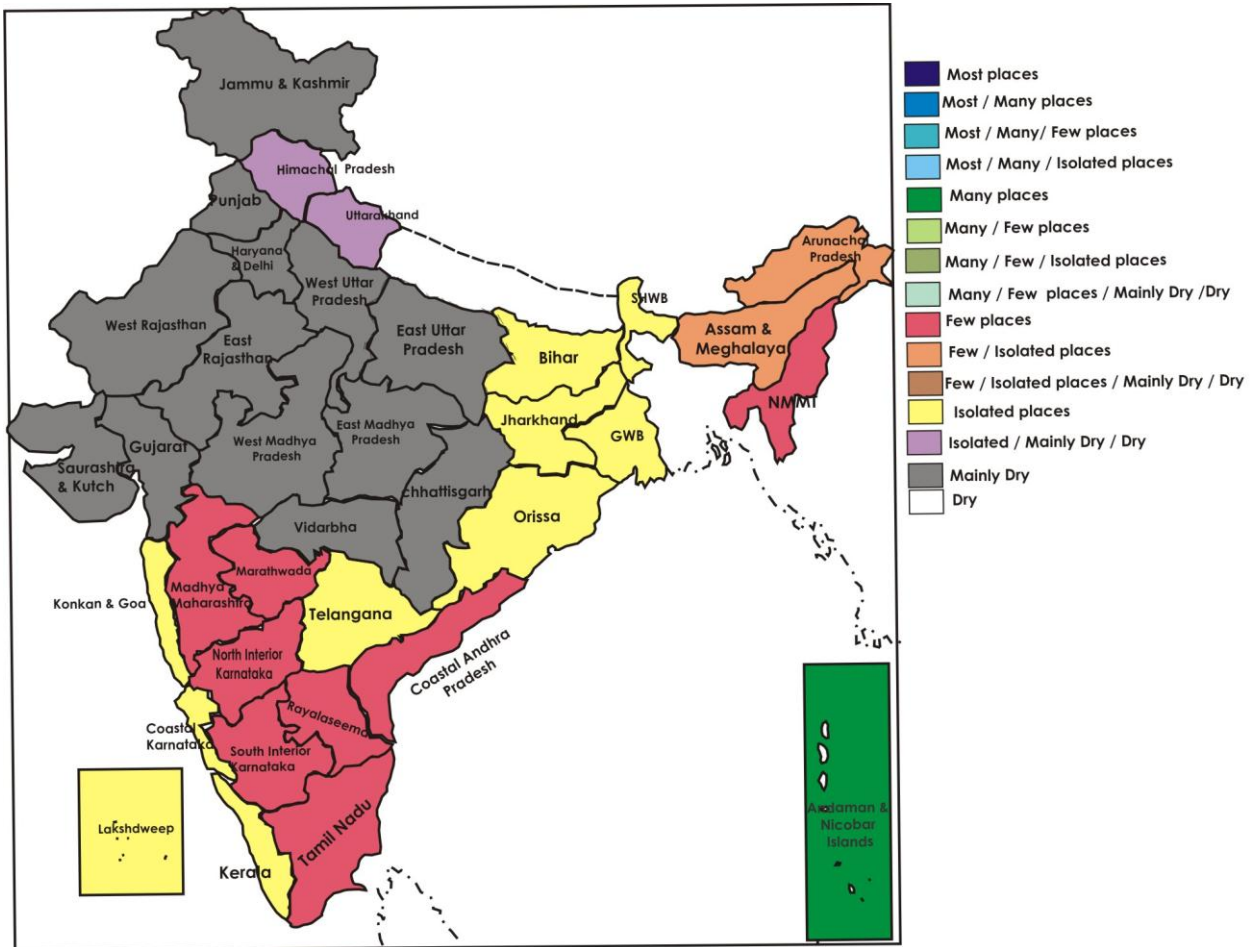
Jaipur	0.0	-100
Jhalawar	0.7	-97
Jhunjhunu	0.0	-100
Karauli	0.0	-100
Kota	4.4	-74
Pratapgarh	0.0	-100
Rajsamand	4.5	-65
Sawai Madhopur	0.9	-93
Sikar	0.0	-100
Sirohi	0.0	-100
Tonk	0.0	-100
Udaipur	4.2	-74
West Rajasthan		
Barmer	0.0	-100
Bikaner	0.0	-100
Churu	0.0	-100
Hanumangarh	0.0	-100
Jaisalmer	0.0	-100
Jalore	0.0	-99
Jodhpur	0.0	-100
Nagaur	0.0	-100
Pali	2.1	-72
Sri Ganganagar	0.0	-100
Gujarat Region		
Ahmedabad	0.1	-99
Anand	0.6	-96
Banaskantha	0.0	-100
Baroda	3.0	-87
Broach	3.3	-90
DNH	7.7	-93
Dahod	1.7	-92
Daman	5.6	-95
Dangs	7.0	-90
Gandhinagar	0.0	-100
Kheda	2.3	-87
Mehsana	0.0	-100
Narmada	1.2	-96
Navsari	21.2	-61
Panchmahal	1.3	-93
Patan	0.0	-100
Sabarkantha	1.1	-94
Surat	7.9	-82
Tapi	9.7	-79
Valsad	11.0	-83
Saurashtra, Kutch & Diu region		
Amreli	3.7	-87
Bhavnagar	6.4	-76
Diu	0.0	-100
Jamnagar	5.7	-16
Junagarh	0.2	-99
Kutch	0.4	-92
Porbandar	0.0	-100
Rajkot	0.1	-99
Surendranagar	1.7	-89
Maharashtra		
Konkan & Goa		
Goa	4.1	-93
Mumbai	41.7	-49
Raigad	10.9	-88
Ratnagiri	6.9	-91
Sindhudurg	9.6	-86
Thane	10.9	-86
Madhya Maharashtra		
Ahmednagar	1.3	-97
Dhule	1.3	-96
Jalgaon	4.6	-84
Kolhapur	1.1	-98
Nandurbar	4.3	-87
Nasik	6.6	-86
Pune	2.4	-95
Sangli	0.9	-98
Satara	6.9	-86
Solapur	7.1	-87
Marathwada		
Aurangabad	4.1	-90
Beed	1.0	-98
Hingoli	37.5	5
Jalna	5.3	-86
Latur	6.5	-81
Nanded	7.3	-81
Usmanabad	3.0	-94
Parbhani	8.7	-77
Vidarbha		
Akola	0.0	-100
Amraoti	6.6	-79
Bhandara	7.8	-76
Buldhana	4.5	-83
Chandrapur	5.0	-87
Gadchiroli	5.4	-83
Gondia	4.5	-87
Nagpur	1.4	-95
Wardha	4.1	-87
Washim	1.2	-96
Yeotmal	7.8	-75
Orissa		
Angul	99.7	133
Balasore	83.2	11
Bargarh	26.3	-19
Bhadrak	78.8	67
Bolangir	21.7	-32
Boudh	89.8	115
Cuttack	33.8	-27
Deogarh	104.8	158
Dhenkanal	78.1	73
Gajapati	0.9	-98
Ganjam	3.5	-92
Jagatsingpur	25.5	-50
Jajpur	100.3	81
Jharsuguda	52.4	39
Kalahandi	34.1	9
Kandhamal	42.5	2
Kendrapara	75.0	31
Keonjhar	201.5	329
Khurda	18.4	-64
Koraput	8.4	-81
Malkangiri	5.0	-85
Mayurbhanj	130.9	110
Nawapara	30.5	-12
Nawarangpur	2.1	-94
Nayagarh	43.2	-23
Puri	22.3	-60
Rayagada	4.1	-89
Sambalpur	96.9	139
Sonepur	10.8	-75
Sundargarh	156.3	358
West Bengal		
GWB		
Bankura	53.1	-12
Birbhum	42.8	-47
Burdwan	27.0	-58
Hooghly	46.8	-15
Howrah	36.5	-56
East Midnapore	59.7	-35
Murshidabad	20.4	-73
Nadia	46.9	-21
24 Pargana (N)	77.9	14
Purulia	66.5	12
24 Pargana (S)	58.9	-40
West Midnapore	76.4	23
SHWB		
Cooch Behar	100.6	-1
Darjeeling	179.2	71
East Sikkim	146.5	107
Jalpaiguri	121.9	21
Malda	76.9	-9
North Dinajpur	103.5	-22
North Sikkim	105.3	51
South Dinajpur	61.6	-5
South Sikkim	112.3	59
West Sikkim	100.0	43
Karnataka		
Coastal Karnataka		
Dakshin Kannada	1.5	-98
Udupi	5.9	-94
Uttar Kannada	12.5	-77
North Interior Karnataka		
Bagalkote	0.0	-100
Belgaum	0.4	-99
Bidar	4.2	-91
Bijapur	2.2	-96
Dharwad	1.2	-96
Gadag	0.9	-98
Gulbarga	4.2	-91
Haveri	2.2	-93
Koppal	0.2	-99
Raichur	2.8	-93
Yadgir	2.7	-95
South Interior Karnataka		
Bangalore Rural	3.5	-92
Bangalore Urban	0.4	-99
Bellary	1.2	-97
Chamarajnagar	0.0	-100
Chichballapur	0.3	-99
Chickmagalur	3.0	-94
Chitradurga	0.6	-98
Davangere	4.0	-88
Hassan	0.8	-98
Kodagu	3.0	-94
Kolar	0.1	-99
Mandya	0.1	-99

Mysore	0.5	-99	Kanyakumari	0.4	-99	Guntur	16.5	-63
Ramnagara	0.0	-100	Karur	9.5	-69	Krishna	4.0	-92
Shimoga	8.8	-75	Krishnagiri	6.8	-85	Nellore	2.9	-91
Tumkur	0.8	-98	Madurai	20.8	-41	Prakasam	4.8	-88
Kerala			Nagapattinam	0.6	-98	Sirkakulam	4.9	-89
Alappuzha	7.2	-91	Namakkal	12.7	-63	Visakhapatnam	9.4	-79
Kannur	6.4	-88	Nilgiris	6.5	-84	Vizianagram	7.6	-84
Ernakulam	4.7	-95	Perambalur	40.7	32	West Godavari	1.8	-96
Idukki	10.6	-88	Puducherry	67.1	174	Telangana		
Kasaragod	6.4	-90	Pudukottai	12.1	-62	Adilabad	28.0	-22
Kollam	8.0	-89	Ramanathapuram	8.1	-58	Hyderabad	0.0	-100
Kottayam	9.6	-88	Salem	25.4	-35	Karimnagar	9.6	-75
Kozhikode	1.2	-98	Sivaganga	33.5	23	Khammam	5.2	-87
Malappuram	0.4	-99	Thanjavur	13.1	-55	Mehabubnagar	1.0	-98
Palakkad	3.8	-93	Theni	3.9	-85	Medak	9.0	-75
Pathanamthitta	4.1	-95	Tirunelveli	0.0	-100	Nalgonda	3.4	-92
Thiruvananthapuram	0.9	-98	Tiruvallur	0.8	-98	Nizamabad	8.6	-77
Thrissur	15.8	-81	Tiruvannamalai	12.3	-67	Rangareddy	0.0	-100
Wyanad	0.9	-98	Tiruvarur	3.0	-89	Warangal	0.0	-100
Tamil Nadu			Toothukudi	0.0	-100	Rayalaseema		
Chennai	0.0	-100	Trichy	23.2	-28	Anantapur	0.3	-99
Coimbatore	0.2	-99	Vellore	0.4	-99	Chittoor	0.2	-99
Cuddalore	7.8	-77	Villupuram	26.7	-21	Cuddapah	0.3	-99
Dharmapuri	6.2	-85	Virudhunagar	9.0	-63	Kurnool	0.6	-98
Dindigul	1.0	-97	Andhra Pradesh					
Erode	0.7	-98	Coastal Andhra Pradesh					
Kanchipuram	0.0	-100	East Godavari	0.1	-99			

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

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

Weather Forecast (Valid upto 1430 hours of 2nd October, 2011)



Major Feature of Weather Forecast upto 1430 hours IST of 2nd October, 2011

- Fairly widespread rain/thundershowers would occur over Andaman & Nicobar Islands.
- Scattered rain/thundershowers would occur over Nagaland, Manipur, Mizoram & Tripura, south Andhra Pradesh, interior Karnataka, north Tamilnadu, south Madhya Maharashtra and Marathawada.
- Isolated rain/thundershowers would occur over remaining parts of the country outside Gujarat and northwest & central India where weather would be mainly dry.

Weather Warning

- No weather warning.

Weather Outlook up to 1430 hours IST of 4th October, 2011

- Scattered rain/thundershowers would occur over northeastern states and south peninsular India.
- Weather would continue to remain mainly dry over many parts of the country.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Most of the districts of Arunachal Pradesh and Assam received rain during last week.
- **Rainfall Forecast:** Scattered rain / thundershowers would occur over Nagaland, Manipur, Mizoram and Tripura during the period. Isolated rain is likely to occur over Assam and Arunachal Pradesh and increase thereafter.
- **Advisory**
 - In Assam, farmers are advised to complete sowing of pulses like green gram and black gram, pigeon pea, sowing of brinjal (early varieties), cauliflower (early varieties), cabbage, knoll khol, tomato, radish, country bean, Dolichos bean etc. and planting of banana and pine apple.
 - Farmers in Sub Tropical Hill Zone of Arunachal Pradesh are advised to harvest matured maize cobs and WRC crops (rice-IR-8 cultivar) and dry properly before storing.
 - Farmers in Arunachal Pradesh are advised to conserve rain water. Farmers are also advised to start land preparation and sowing for *rabi* crops, prepare nursery bed for vegetables and planting of citrus fruits.
 - Farmers in Mid Tropical Hill Zone in Nagaland are advised to start land preparation and sowing for *rabi* crops like rapeseed, mustard, pea etc.
 - Farmers in Mid-tropical plain zone of Tripura are advised to prepare nursery for sowing of early cauliflower, other cole crops, turmeric, radish and brinjal (early).
 - Farmers of Sub tropical Plain Zone of Manipur are advised to continue sowing for French bean, broad bean and pea and continue to prepare bed for raising nursery for tomato, onion, cabbage, cauliflower etc. Start harvesting of matured soybean and groundnut crops.
 - In Kolasib region of Mizoram, in view of likely occurrence of rainfall, cover the exposed rhizome by earthing up and apply remaining $1/3^{\text{rd}}$ Nitrogen and $1/2$ Potassium for smooth growth and better rhizome yield. Continue to prepare nursery bed for cole crops and tomato.
 - Farmers in Ri-Bhoi, East Khasi and West Khasi districts in Meghalaya are advised to start land preparation and sowing of winter vegetables. Also, start harvesting of early transplanted *kharif* rice in West Garo, South Garo and Jaintia districts.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - In Central Bramhaputra Valley Zone in Assam, there is attack of gundhi bug in panicle initiation stage of *sali* rice; to control the attack, apply Malathion 5% dust @ 20 kg / ha.
 - In Hill Zone of Assam, there is chance of infestation of rice hispa where the crops are at tillering stage; farmers are advised to monitor the crops and spray Quinolphos @ 2 teaspoonful / 5 litres of water to control the attack.
 - In upper Bramhaputra Valley Zone in Assam, there is attack of stem borer and caseworm at seedling and tillering stages of rice; farmers are advised to monitor the crops and spray Chloropyriphos (20%) @ 2 ml / litre of water to control the attack.
 - In Sub Tropical Plain Zone of Manipur, there is chance of occurrence of diseases like neck blast, sheath blight, stem rot, etc. and pests like leaf folder, stem borer, gall midge and brown plant hopper on rice; farmers are advised to monitor and spray Tricyclazole @ 6 g / 10 litres of water against neck blast, Validamycin @ 2 ml / litre of water for sheath blight, Validamycin 3L @ 2.5 ml / litre of water or Thiophanate methyl 75 WP @ 1 g / litre of water against stem rot, Cartap @ 600 ml / litre of water for leaf folder, Monocrotophos 36 WSC @ 1.3 litres or Chloropyriphos 20 EC @ 1.3 litres in 500-700 litres of water per hectare against stem borer and gall midge and Imidachlorpid @ 7 ml / 15 litres of water and LamdaCyhalocin @ 15 ml / 15 litres of water against Brown plant hopper.
 - In Kolasib region of Mizoram, due to prevailing weather conditions, there is chance of infestation of pests like gundhi bug, stem borer, leaf hopper and plant hopper and diseases like blast in rice;

farmers are advised to monitor the crops and spray Malathion dust 5% @ 8 kg / acre or Malathion 50 EC @ 2 ml / litre (350 ml / acre) of water against gundhi bug, Nuvacron / Monocil 36 SL @ 1020 WG in 400 litres of water per ha against stem borer, leaf hopper and plant hopper, Benlate or Mancozeb @ 0.25% against blast disease. Due to high cloud cover and high humidity there is incidence of attack of Gummosis disease on Khasi Mandarin; farmers are advised to scrap affected bark, clean and paint with Bordeaux pasting (1:1.5:10). There is chance of attack of pod bug and anthracnose on Feanch bean, rice bean, urd and mung; farmers are advised to spray the crops with Phosphamidon @ 0.5 ml / litre of water against pod bug and Carbendazim @ 0.01% against anthracnose. In cucurbits, due to prevailing rain, infestation of fruit fly is more; use light trap and poison baits during night containing 200 g gur + 20 ml Malathion in 20 litres of water as coarse droplets on lower surface of leaf.

- As there is chance of attack of leaf folder and rice hispa in rice in Temperate Sub Alpine Zone of Meghalaya, farmers are advised to spray Chloropyriphos 20 EC @ 1.5 ml per liter of water at milk stage of rice. There is chance of incidence of shoot borer in ginger and turmeric in West Garo, East Garo and Ri-Bhoi districts; spray Rogor @ 0.05%.
- In Mild Tropical Plain Zone of Tripura, due to the prevailing humid weather, there is chance of attack of gundhi bug, leaf roller and disease like blast in *aman* rice; farmers are advised to spray Malathion 35 EC @ 1.5 g per liter of water or Cartap Hydrochloride (Dollar) @ 1.5 g per liter of water against gundhi bug, Cypermethrine + Prophenofos @ 1.5 ml per litre of water against leaf roller and Hexaconazole 1 g per liter of water or Azoxyxtrobin 1 g per liter of water against blast. There is attack of leaf spot and leaf blotch in ginger and Turmeric; to control the attack spray Blytox 1 g per liter of water to control the attack.
- Apply plant protection measures on a non-rainy day.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry:

- Undertake immunizations against Brucellosis, Foot and mouth disease (FMD), HS, BQ and Anthrax diseases in cattle, pig and goat in Upper, Lower and Central Bramhaputra Valley Zone in Assam.
- Duck farmers of North Bank Plain Zone of Assam are advised to vaccinate the ducks against the duck plague disease.
- Farmers in Manipur are advised to deworm the cattle, sheep, goat etc. and vaccinate against B.Q. @ 2 ml.
- In Mizoram, due to continuous rainfall, there are chances of contamination of feed with fungus and bacteria; hence, farmers are requested to boil the feeds before giving to pigs to kill harmful insects or parasites.

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

- **Realised Rainfall:** Most of the districts of the States of this region received rainfall during last week.
- **Rainfall Forecast:** Isolated rain is likely to occur over the States during the period.
- **Advisories:**
 - Eight districts of Orissa were affected due to flash flood since 22nd September 2011. These include Kendrapara, Jajpur, Bhadrak, Balesore, Dhenkanal, Angul, Mayurbhanj and Keonjhar. All these districts were also affected by the earlier flood occurred during earlier part of September. Approximately five lakh ha of crop were affected by the earlier flood and more than one lakh ha is likely to be affected by the later one. Rice is the main crop which was damaged. Non-rice crops like jute, pulses, oilseeds, cotton and vegetables grown on uplands and medium lands were also affected due to excess rainfall.
 - Due occurrence of flood, over the above mentioned districts, rotting of crops observed due to prolonged complete submergence leading to more than 50% or even total loss at some places.

Some crops were covered by sand or silt. Rice and few crops were lodged. All the HYVs of rice were affected. Jute was also affected both in quantity and quality of the produce. Vegetable seedlings as well as main crops on uplands were damaged partially. Freshly sown pre *rabi* pulses and oilseeds were damaged. Pulses and oilseeds at maturity stage were greatly damaged.

➤ The following measures are suggested for the flood affected areas of Orissa:

▪ **If partially damaged**

- ✧ Drain out excess water from both the rice and non-rice crops.
- ✧ Harvest the early sown groundnut crops on relatively higher land, immediately after acquiring optimum moisture, to avoid viviparous germination.
- ✧ Pick up and dry the matured pods of green gram and black gram to avoid rotting due to germination of seeds.
- ✧ Keep standing the harvested jute in bundles and go for retting after the water gets cleared of turbidity.
- ✧ Make the lodged rice crops upright.
- ✧ Spray water to the rice leaves to remove mud.
- ✧ In case of poorly drained land, the urea may be applied as mud balls prepared by mixing with wet soil.

▪ **3.2. If more than 50% damaged**

- ✧ Grow *rabi* rice (duration not more than 120 days) in low lands having irrigation facilities, with advanced nursery sowing in December, where standing water remains up to December. Pulses and oilseeds crops may be sown as rainfed crops over these areas.
 - ✧ Grow *rabi* rice (Duration of 120 to 135 days) after mid October in medium land close to sea where water is drained out by October.
 - ✧ Non-rice crops such as mustard, groundnut, green gram, black gram, vegetables etc. may be sown in October, after draining out excess water, in well drained medium land where water does not stand after receding of the flood water.
 - ✧ In upland areas affected by excess rainfall, go for sowing of pre-*rabi* non-rice crops such as green gram, black gram, sesame, niger and horse gram. Grow fodder crops (maize, sorghum and cowpea) for cattle. Go for raising seedlings for brinjal, tomato and early varieties of cole crops in raised beds. Make thatched or polythene cover above the nursery to save the seedlings from excess rainfall. Undertake sowing of *rabi* non-rice crops such as pulses and oil seed crops in medium land.
- Farmers in South Bihar Alluvial Zone are advised to undertake propping in standing sugarcane crop for better stand in the field.
- Heavy rainfall occurred across several parts of Bihar during last week. Farmers are advised to remove excess water from the fields of vegetables, arhar and urd crops.
- In North West Alluvial Zone of Bihar, farmers are advised to prepare the land in upland areas for sowing of rapeseed.
- Farmers in South Eastern Plateau Zone of Jharkhand are advised to undertake cultivation of green pea in fallow medium land for the utilization of reserved moisture. Rotting of tubers of Turmeric, Ginger and Elephant foot yam are noticed. To save the crops, arrange to drain out excess water.
- Farmers in Central, Western and North Eastern Plateau Zone of Jharkhand are advised to start sowing of toria, niger, bell pepper, green pea, tomato, cabbage, cauliflower, potato etc.
- Farmers in Central Plateau Zone of Jharkhand are advised to grow African marigold or French marigold.
- Farmers in Coastal saline Zone of West Bengal are advised to start seed bed preparation of short duration varieties of tomato and cauliflower as soon as possible.
- Farmers in Terai Zone of West Bengal are advised to undertake seedbed preparation for gladiolus, withania and marigold.

- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- Recent heavy rainfall may favour the infestation of insects like swarming caterpillar and stem borer and disease like blast in rice in North Central Plateau Zone of Orissa; apply Chloropyriphos dust in the bunds of the affected fields by swarming caterpillar and spray 2 ml Chloropyriphos per litre of water in the afternoon. For stem borer, spray Chloropyriphos @ 400 ml / Acre. For blast, spray 1 ml Tricyclazol or 1 g Ediphenophos per litre of water. The current weather is also suitable for leaf eating insects like leaf roller, army, gallmidge; spray Monocrotophos @ 2 ml / litre of water.
- The current humid weather is favourable for red and black hairy caterpillar in pulses in North Eastern Plateau Zone of Orissa; apply 10 kg 1.5% Chloropyriphos in the morning to control it.
- In some areas of Western Plateau Zone of Jharkhand late sown urd and mung are attacked by hairy caterpillar; spray Endosulfan or Quinolphos @ 2 ml per litre of water to control them.
- Under prevailing weather condition, there is chance of attack of Brown Plant Hopper (BPH) in *kharif* rice in New Alluvial Zone of West Bengal. If the number of insect reaches more than 15 per plant, apply 0.75 ml Nuvan or Vapona per litre of water or dust Quinolphos 1.5% or Carbaril 4% at lower portion of the stem.
- Due to high humidity and cloudy weather, high yielding varieties of rice may be attacked by blast and bacterial leaf blight in Coastal Saline Zone of West Bengal. For blast disease spray Trycyclazole @ 0.5 g per litre of water or Kasugamicyne @ 1.5 g per litre of water. To prevent bacterial blight spray mixture of 1 g Streptomycine along with 20 g Copper Oxychloride into 10 litres of water.
- Attack of stem borer in brinjal has been reported in North West Alluvial Plain Zone of Bihar; apply Sevin 50 % wettable powder @ 2.5 g per litre of water in the affected crop.
- Due to prevailing weather conditions in South Eastern Plateau Zone of Jharkhand, there is a chance of attack of brown spot, false smut, blast and leaf eating insects in rice; spray Samadhan (Hexaconazole) @ 1 ml per liter of water or Saaf @ 2 g per liter of water by mixing Teepol @ 0.5 ml per liter of water against brown spot, Tilt @ 1 ml per liter of water against false smut, Bavistin @ 1 g or Beam (tricyclazole) @ 6 g per 10 liters of water against blast, Quinolphos 25 EC or Chlorpyriphos 20 EC @ 0.6 liter per acre against leaf eating insects at flowering to milk stage. Sheath rot disease is also noticed; spray Mancozeb @ 2.5 g or Carbendazim @ 1 g per litre of water.
- In some pockets of Western Plateau Zone of Jharkhand, late sown moong and urad are attacked by hairy caterpillar; spray quinolphos @ 2 ml per litre of water. Late sown crops of maize are attacked by fruit borer; to control, spray Neem based insecticides @ 2-3 ml per litre of water, preferably on upper parts of the plant.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- In North Eastern Plateau Zone of Orissa, to control ticks and mites in animals, spray Butox @ 2 ml per litre on animals' body and 1-3 ml per litre in the shed. RD vaccine should be given immediately to the chicks which are 7 days old. To prevent coxidirosis disease spray antibiotic solution named Kohrsolin-TH in the poultry house. Periodic vaccination viz. FMD, HS & BQ may be carried out to protect the dairy animals. Clean and hygienic water should be fed to dairy animals. Keep the animal shed clean. Produce and use Azolla as animal feed. Feed the milch animals @ 1 kg feed in two litres of water mixed in 50 g mineral salt.

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

- **Realised Rainfall:** Most of the districts of Uttar Pradesh and Nainital, Pithorgarh in Uttarakhand received rainfall and rest of the region remained mainly dry during last week.
- **Rainfall Forecast:** Weather would remain mainly dry over the region.
- **Advisory:**

- As many districts of the States in the region received rainfall during the last week, postpone irrigation to the standing crops. Provide adequate drainage facilities in East UP as isolated heavy rainfall during next 48 hours.
- Flash flood in Varanasi districts of East Uttar Pradesh due to heavy rain occurred during earlier weeks some crops are partially affected; farmers are advised to arrange for drainage facilities, wherever possible to prevent further crop damage.
- As weather is favourable, farmers in Delhi are advised to undertake planting of early potato. Thereafter, sowing of other *rabi* crops such as late wheat can be taken up. Sowing of gladiolus may be done in prepared fields.
- Farmers in Punjab and Haryana are advised to apply light irrigation to the paddy crop as weather would remain mainly dry during next few days. Stop irrigating the crop two weeks before full maturity so that harvesting can be done easily. The farmers are advised to pick the fully matured opened bolls. Intercrops like wheat, winter maize, potato, gobhi-sarson, raya and gram can be successfully taken in the crop of sugarcane. Transplanting may be undertaken with fully developed seedlings (4-6 week old) of main season varieties of cauliflower. This is proper time of raising of nursery of vegetable crops. If nursery of vegetables is already prepared, transplanting of tomato, cabbage, cauliflower etc. can be done. Sow leguminous and non-leguminous crops in mixture to improve the nutritive value of the fodder i.e. maize + cowpea, sorghum + guara.
- Farmers of Himachal Pradesh are advised to make arrangement for immediate harvesting of apple, pomegranates, ragmash, beans, vegetables and potato. Nursery beds preparation and subsequently sowing of seeds of cabbage, cauliflower and broccoli etc. may be done. Direct sowing of carrot, raddish and Palak can also be done during this period. Light earthing up followed by light irrigation is also advised in ginger and turmeric. Farmers of the sub-montane and low hill area are advised to complete sowing of toria and berseem and take up sowing of potato. In the high hills, Kalazira and saffron are near maturity so do not allow water stagnation.
- Farmers in Jammu & Kashmir are advised to undertake harvesting of matured rice, matured pods of pulses, early sown maize, bajra, oilseeds, sowing of toria (intercropped with gobi sarson), berseem, winter vegetables viz. garlic, methi, spinach, radish, carrot, turnip, cole crops viz. cabbage, cauliflower, broccoli, knol, khol, planting of litchi,. They are also advised to harvest tomatoes, capsicum, chilli and brinjal at regular interval in cold arid zone (Leh). In fallow lands, conservation of soil moisture *insitu* condition for the sowing of *rabi* crops is advised. Make arrangements for proper drainage of water from the orchards.
- Farmers in Bhabar and Tarai Zone of Uttarakhand are advised to undertake sowing of vegetable pea at high hills, planting of potato. Continue sowing of early vegetable pea, mustard, berseem. and also in this week temperature conditions are expected to be congenial for sowing of toria and garlic under optimum soil moisture conditions.
- Farmers in Uttarakhand and Uttar Pradesh advised to undertake propping for long and healthy crop plants.
- Farmers in Bhabar and Tarai Zone of Uttarakhand are advised to undertake sowing of Rajmash crop.
- Farmers in Uttar Pradesh are advised to undertake sowing of brinjal, chilli, lady's finger and lobia during this week.
- Farmers in Allahabad are advised to control tikka disease in groundnut, apply solution of Zinc Maganese of 20 Kg/hect. Also to control fruit fly in brinjal spray solution of sodium salt.
- Farmers in Rajasthan are advised to undertake field preparation for sowing of Ajwain, taramira, rainfed taramira, toria, pea, mustard, picking of matured fruits of tomato, brinjal, chilli, maize and harvesting of pods of green gram, moth beans, cowpea, moong beans, pulses, bajra and jowar. They are also advised to undertake seed bed preparation for raising nursery of vegetables viz. chilli, brinjal, palak, pea, cabbage, coriander, onion and tomato for *rabi* season and sowing of radish . Farmers are advised to start field preparation for sowing of wheat and barley and procure improved varieties of mustard, lentil, gram and potato tubers. In command areas of southern humid plain zone, farmers are advised to go for sowing of maize for fodder or for green cobs before sowing of wheat.

- In Arid Western Plain Zone (Bikaner) of Rajasthan, there are chances of yellow mosaic in moth crop, farmers are advised to spray of Diamethoat@ 1ml/lit.orMetasystox@ 1.2 ml/lit. where the crops are immature.
- In Semi Arid Eastern Plain Zone of Jaipur in Rajasthan, tomato crop is affected with fruit borer. To control this, farmers are advised to spray Malathion 50 EC @ 1 ml per litre water or Bacillus Thuringensis Kastki (Dypel-8 L)@ 1 litre water with Methomil 40 SP @ 600 gm per hectare. Repeat spray after 15 days if problem persists.
- In Sub Tropical Zone (jammu) of Jammu & Kashmir, weather is congenial for outbreak of grey weevil in jowar crop under such situation, farmers are advised to spray the crop with malathion @0.05 percent or carbaryl @ 0.1 percent. Present weather conditions are also congenial for tikka leaf spot and collar rot in ground nut under such situation spraying the crop with mancozeb @ 0.25% or carbendazim@ 0.1% is advised. Citrus trees showing deficiency of zinc may be given foliar spray of 0.3 % w/v Zinc Sulphate.
- Farmers of the low hills of Himachal Pradesh are advised to spray matacid 50EC 1ml/litre or Chloropyrophos @2ml/L of water to control rice hispa, leaf folder and leaf miner in paddy and maintain 4-5cm of water level in rice field for good yield.
- Present weather is favourable for termites to damage crops and vegetables in Delhi. Farmers are advised to spray Chlorpyriphos 20 EC @ 4ml/litre of water.
- Monitor the standing crop of sugarcane for the attack of pyrilla in Punjab and Haryana. Take proper plant protection measures.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandary**
 - In Punjab, During hot and humid climate may lead to conditions of ring worm & other problems in animals so farmers are advised to keep the animals clean and dry also protect wounds from flies to avoid maggots' infestation.
 - To check tick infection spray Asuntol 0.05%, Butox 0.02% and Taktic 0.02% on the animals as well as in the sheds and repeat the spray after 10-15 days.
 - Due to changing environment milch and baby animals are likely to be affected with infection of respiratory tracts in In Semi Arid Eastern Plain Zone of Jaipur in Rajasthan. If symptoms like droppings from nose, fever etc. are seen in animals, a three days course of Cproflaxin, Anorflaxin or Sulpha may be given under the guidance of veterinary doctor.

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

- **Realised Rainfall:** No significant rainfall occurred in Karnataka, Kerala, Andhra Pradesh and most of the districts in Tamil Nadu except Perambalur, Puducherry and Sivaganga.
- **Rainfall Forecast:** Scattered rain/thundershowers would occur over Rayalaseema, interior Karnataka, North Tamil Nadu and South coastal Andhra Pradesh. Isolated/ scattered rain/thundershowers would occur over south peninsular India.
- **Advisories:**
 - Poor rainfall conditions was observed in Interior Karnataka and Andhra Pradesh. Here many of the kharif crops are at grain/pod development stage. However, no significant damage has been reported in this region. Farmers are advised to monitor the crop and arrange for supplementary irrigation depending upon residual soil moisture.
 - As there was no significant rainfall in Coastal, North Interior and South Interior Karnataka, Kerala, Coastal Andhra Pradesh, Telangana, Rayalaseema and most of the districts in Tamil Nadu, apply irrigation to the crops. Postpone irrigation to the crops in Perambalur, Puducherry and Sivaganga in Tamil Nadu, since sufficient rainfall has been received.

- Farmers in the Scarce Rainfall Region of Rayalaseema of Andhra Pradesh are advised to provide supplementary irrigation to groundnut crop, since there was no rainfall during last two weeks and the crop is facing drought conditions. Groundnut crop sown in first fortnight of June month should be harvested as rain is not expected in this week and also to avoid loss of pods in the ground during harvesting.
- Farmers in the North Dry Zone of Karnataka are advised take up sowing of sunflower, rabi sorghum and safflower and harvesting of pearl millet (bajra), since there is no chance of rainfall during the coming five days. Keep the land ready for sowing of chickpea and wheat. Plant protection measures also may be taken up.
- Farmers in the Hill Zone of Karnataka are advised to take up sowing in areas where sufficient amount of rainfall is received, undertake sowing of bajra around borders and go in for seed treatment with imidacloprid. Since increase in wind speed is forecasted, there is a possibility of falling of plants. Therefore farmers are advised to go in for staking for plants and also remove and burn the leaf spot affected leaves.
- Farmers in the North East Dry Zone of Karnataka are advised to harvest green gram and black gram wherever it is possible, prepare land for sowings of *rabi* crops like safflower, rabi jowar & sorghum and inter cultivation is to be done in kharif crops like maize ,cotton, spreading groundnut, sunflower etc.
- Farmers in the Western Zone of Tamil Nadu are advised to undertake root dipping operation for paddy seedling while transplanting paddy.
- Farmers in the North Western Zone of Tamil Nadu are advised to wait for one or two days for harvesting of groundnut, since increase in the moisture content of soil is expected due to upcoming rains. With the onset of NE monsoon during the second or third week of October and expected pre-monsoon showers, farmers are advised to be ready with the procurement of quality seeds and medicines for their treatment for enhanced germination for the crops like red gram, black gram, green gram and castor).
- Farmers in the High Altitude Hilly Zone of Tamil Nadu are advised to complete sowing as early as possible and monitor for pest and disease incidence before onset of NE monsoon.
- Farmers in the Problem Areas Zone of Kerala are advised to undertake new planting of banana.
- Farmers in Central Zone of Kerala are advised to continue manuring in coconut, ginger, turmeric and vegetables. Undertake transplanting of mundakan rice. Farmers of High Altitude Zone of Kerala are advised to apply fertilizers in coconut, arecanut, pepper and cardmom plantations.
- Incidence of Bacterial leaf blight in paddy is severe in some areas of Problem Areas Zone of Kerala. For the dry sown area, crop is at harvesting stage. Hence dewatering is to be done to enhance harvesting with combined harvester.
- Rodents damage, stem borer, leaf folder and whorl maggot in paddy, shoot and capsule borer in castor, leaf webber in red gram, tikka leaf spot, rust and bud necrosis disease in groundnut, thrips in chillies, powdery mildew is noticed in bhendi, fruit fly and powdery mildew in gourds, early blight in tomato, blossom end rot in sweet orange, leaf cutting weevil and anthracnose in mango is noticed in the Southern Telangana Zone of Andhra Pradesh. Farmers are advised to undertake suitable plant protection measures to control these pests and diseases.
- Due to present weather conditions sucking pests, whiteflies, leaf spot, stem and root rot, leaf folder and BPH, mites and thrips, sheath blight and leaf blast, leaf spotted wilt, stem borer are noticed in the Krishna Godavari Zone of Andhra Pradesh. Farmers are advised to undertake suitable plant protection measures to control these pests.
- Sterility mosaic was noticed in pigeon pea and fruit borer was noticed in bhendi crop in some areas of North East Transition Zone of Karnataka. To control sterility mosaic, rough out the affected plants

and spray Docofol @ 2.5 ml/litre of water and spray Quinlophos 2 ml per litre of water to control fruit borer.

- Black rot was noticed on cabbage in North Transition Zone of Karnataka .Spray tetra cycline hydroxide @ 10 mg or Agrimycin -100 @ 10 mg per litre to control it.
- Due to higher humidity, low temperature and frequent rains in the Coastal Zone of Karnataka, gundhi bug, thrips, leaf folder was noticed in paddy, phytophthora foot rot and anthracnose disease on pepper leaves, vines etc. and koleroga/rotting disease in arecanut. Farmers are advised to undertake plant protection measures.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Hingoli district of Marathwada in Maharashtra received significant rainfall during last week.
- **Rainfall forecast:** Scattered rain is likely to occur over Madhya Maharashtra and Marathwada region during the period. Either mainly dry weather will prevail or isolated rain will occur over remaining region.
- **Advisories:**
 - Farmers in Madhya Maharashtra, Marathwada and Vidarbha are advised to continue harvesting of matured black gram and soyabean. Farmers of South Konkan region of Maharashtra are advised to start harvesting of matured early rice varieties.
 - Farmers in Konkan, Kolhapur, Pune and Nasik division of Maharashtra are advised to maintain water level of 5-10 cm and of 5-8 cm in Vidarbha in rice field. Apply third dose of nitrogenous fertilizers to medium and late maturing varieties of rice at flowering stage.
 - Farmers in Maharashtra are advised to spray Magnesium Sulphate 1 kg + DAP @ 4 kg / acre for better growth of cotton boll and control of red leaf. Apply 2% Urea or DAP at flowering stage on soyabean in East Vidarbha as there is less possibility of rain.
 - Under prevailing weather, farmers of Madhya Maharashtra and West Vidarbha are advised to apply 1 goni of urea and half goni of potash per acre on vapsa condition in cotton.
 - Taking the advantage of prevailing weather, farmers of Madhya Maharashtra and Marathwada are advised to undertake sowing of *rabi* jowar with the help of optimum moisture in the field. Farmers are also advised to complete preparatory tillage and undertake the sowing of safflower after harvesting of *kharif* crops.
 - Farmers in Madhya Maharashtra are advised to undertake sowing of rainfed gram.
 - Taking the advantage of dry weather farmers in Vidarbha are advised to spray NAA 10 PPM to avoid flower dropping in orange.
 - As mainly dry weather will prevail during the period, farmers in Bhal and Coastal zone, North Gujarat Zone, South Gujarat Zone and Middle Gujarat Zone are advised to continue harvesting of green gram, *kharif* bajara, maize and cow pea.
 - As dry weather is prevailing, farmers in Middle Gujarat Zone are advised to give light irrigation to cotton crop. Prepare the tobacco nursery and undertake sowing of cluster bean.
 - Farmers in North-West Zone of Gujarat are advised to undertake sowing of maize, jowar and lucern. Complete the harvesting of green gram and pulses under dry weather. Irrigate groundnut crop.
 - Farmers in South Gujarat Zone are advised to prepare land and undertake sowing of mustard utilising residual soil moisture.
 - Farmers in South Saurashtra Zone of Gujarat are advised to undertake harvesting of groundnut.
 - As dry weather is prevailing, farmers in North Saurashtra Zone of Gujarat and North Gujarat Zone are advised to apply 40 kg N / ha as top dressing in cotton.
 - Suitable varieties of the crops for sowing are mentioned in Annexure II.

- In low-lying water logged areas, there may be attack of brown plant hopper in rice in Konkan region of Maharashtra; spray 50% Malathion @ 10 ml or Monocrotophos @ 15 ml per 10 liters of water. There may also be incidence of blue beetle and rice earhead bug in South Konkan region of Maharashtra; spray Monocrotophos 36 WSC @ 14 ml or Carbaryl 50 WP @ 20 g or Cypermethrin 25 EC @ 2.4 ml per 10 litres of water or dust 2% Methyl Parathion dust @ 20 kg / ha. Also there may be attack of blast in rice in East Vidarbha; spray Copper oxychloride @ 25 g or Carbendazim 50% @ 10 g per 10 litres of water.
- Prevailing weather is favourable for the attack of sucking pests like thrips, jassids and white fly in cotton in Pune division; spray Fipronil @ 500 ml or Spinosad @ 250 ml or Trizophos @ 1000 ml / ha in 500 litres of water.
- As mainly dry weather would prevail, there may be attack of thrips in onion in Western Maharashtra Scarcity Zone; spray 4% Neemark or Profenophos @ 10 ml or Carbosulfan @ 10 ml per 10 litres of water.
- Due to humid and cloudy weather there may be attack of thrips in pomegranate in Marathwada region of Maharashtra; spray Fipronil @ 2 ml or Spinosad @ 0.3 ml per litre of water. There is also chance of attack of leaf roller in tur in Marathwada region; spray Monocrotophos @ 20 ml or Dimethoate @ 15 ml / 10 litres of water.
- Prevailing weather is favourable for incidence of sucking pests in vegetable crops in Konkan region of Maharashtra; spray Malathion @ 2 ml per litre of water at 10 to 15 days interval.
- As cloudy and high humid weather will prevail during the period in South Gujarat Heavy Rainfall Zone, there may be incidence of red spider mite in hybrid cotton, lady's finger, brinjal and sesamum. Farmers are advised to spray Propergite 57 EC or Dicofol @ 15 ml in 10 litres of water.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- For control of external parasites like ticks, spraying of cattle shed by using 1 to 1.5 ml neon per litre of water is advised. For control of fly and Mosquito in cattle shed, spray Malathion dust and clean the shed frequently in Gujarat.
- Farmers in North-West Zone of Gujarat are advised to give antibiotic RtoB @ 0.5 ml to the poultry birds and antibiotic dose to the animals.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** No significant rainfall occurred over the region except Anuppur, Shahdol, Singrauli and Sidhi districts in East Madhya Pradesh and Jashpurnagar, Koriya and Surguja districts in Chattisgarh.
- **Rainfall Forecast:** Mainly dry weather prevailed over the region.
- **Advisory:**
- As there is possibility of dry weather and clear sky condition in Bundelkhand Zone of Madhya Pradesh, farmers are advised to harvest the mature crops of Moong and Urd etc. Also prepare field for sowing of toria, onion, potato and garlic.
- Farmers in Kymore Plateau and Satpura Hill Zones in Madhya Pradesh are advised to prepare field for sowing of rabi crops and transplant cauliflower in main fields.
- Farmers in Central Narmada Valley Zone of Madhya Pradesh are advised for transplanting of tomato, brinjal, and chilly. Farmers in Malwa Plateau Zone of Madhya Pradesh are advised for sowing of potato and prepare nursery for onion, brinjal, chilly tomato, etc. Also transplanting of tomato, brinjal, chilly etc. can be done with proper seedlings.
- Farmers in Chattisgarh Plain Zone are advised for sowing of nursery of early varieties of cauliflower, tomato, brinjal, chilli, niger and horsegram. Also in North Hill Zone of Chattisgarh, farmers are advised for sowing of Ramtil and toria and prepare nursery for tomato, cabbage, pea, chilly and cauliflower.

- Farmers in Bastar Plateau Zone are advised for sowing of niger, kulthi (horegram), toria, cauliflower and cabbage. In case the early vegetables (cauliflower type vegetables and brinjal and chillies etc.) nursery is ready, then field preparation should be done.
- Weather is congenial for sucking pests and stem borer in chilly, brinjal and tomato in Vindhya Plateau Zone of Madhya Pradesh, spray Trijophos 40 EC 800 ml per hectre for stem borer and Emidachloroprid 17.8 SL, 1ml per 3 litre of water.
- Weather is congenial for the incidences of boll worm in non BT cotton, spray Profenophos 40 EC @ 2.5 ml/l of water.
- Weather is congenial for stem borer attack in Bastar Plateau Zone of Chattisgarh in maize, spray Carobofuran 3 G @ 2-3 grains/ plant or at the time of earthing up @ 10 Kg./ acre.
- **Animal Husbandry & Poultry**
- In Gird Zone of Madhya Pradesh, the Cattles may be infected by foot and mouth diseases. The vaccination of cattle's is most essential in order to control such type of diseases infection. For keeping the cattle healthy, green fodder with wheat bhusa feeding may be given to animals for batter digestion. provide balanced and nutrient rich feed having protein, carbohydrate, fat vitamins and antibiotics.
- Farmers in Jhabua Hill and Bundelkhand Zone are advised to vaccinate their animals to Foot & Mouth Disease. For control of Ranikhet disease in chicks vaccinate with F-1 or Lasota Strain vaccine.
- Arrange for vaccination against PPR disease in Goats in Central Narmada Valley Zone and arrange for vaccination for Foot and Mouth disease and anthrax. Use Potassium Permanganate @ 5 ml per liter of water for infected animals.

Annexure I

Major Crops

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

- Sugarcane (vegetative), *sali* rice (tillering / panicle initiation), *olitorius* and capsularis jute (retting / fiber extraction), sesame (vegetative / flowering / pod formation), groundnut (pegging / pod formation), arhar, radish, knoll khol and brinjal (early variety), sesamum, Dolichos bean, country bean (sowing / early vegetative / vegetative), jute (for seed production) (early vegetative / vegetative), early cauliflower and cabbage (nursery sowing / seedling / transplanting / vegetative), winter vegetables (nursery bed preparation / sowing / transplanting), ginger / turmeric (vegetative), black gram / green gram (sowing / vegetative) and khasi mandarin (vegetative / flowering) in Assam.
- Rice (harvesting), tuber crops (vegetative), soyabean and groundnut (pod formation / seed filling), cabbage, cauliflower, knolkhol etc. (nursery preparation / transplanting), ginger and turmeric (maturity) and maize (cob maturity / harvesting) in Arunachal Pradesh.
- Soyabean (maturity), groundnut (maturity), *kharif* rice (milk / dough / maturity), ginger and turmeric (rhizome formation), tomato (nursery raising), early cauliflower and cabbage (nursery sowing / vegetative), onion (nursery preparation), brinjal (flowering / fruiting), French bean, broad bean, pea (sowing / vegetative) in Manipur.
- *Kharif* rice (maturity), arhar (pod formation), *sali* rice (milk / dough / maturity), *rabi* maize (sowing / growing), pea, garlic and lettuce (sowing), ginger and turmeric (early sown) (maturity / harvesting), ginger and turmeric (late sown) (vegetative), *toria* (vegetative), groundnut (pod formation), onion (nursery preparation), potato (vegetative), *Khasi* mandarin (flowering / fruiting) and banana (vegetative), lentil, mustard, rapeseed (sowing), winter vegetable (sowing) in Meghalaya.
- Rice (panicle initiation / flowering / milk), groundnut (pegging / pod formation), soyabean (flowering / pod formation), okra (harvesting), ginger and turmeric (rhizome formation / maturity / harvesting), *khasi* mandarin (vegetative / fruiting), French Bean, rice bean, urd and moong bean (maturity / harvesting), banana (vegetative / fruiting / maturity), cucurbits (flowering / fruiting), cole crops and tomato (nursery preparation) in Mizoram.
- Soyabean (flowering / pod formation), groundnut (flowering / pegging / pod formation), green gram and black gram (sowing / vegetative), finger millet (flowering), okra (flowering / fruiting), lowland rice (panicle initiation), upland rice (maturity / harvesting), banana (fruiting), colocasia (flowering), cabbage (nursery sowing / transplanting), cowpea (vegetative), mandarin (planting) and papaya (transplanting) in Nagaland.
- *Aman* rice (panicle initiation / flowering / milk), groundnut (pegging / pod formation), upland / jhum rice (dough / maturity), cucurbits and other vegetables (flowering / fruiting), maize (cob formation / maturity), ginger and turmeric (vegetative / rhizome formation), cole crops (nursery preparation / sowing), radish, brinjal (early) (sowing) and sesame (vegetative / flowering / pod formation) in Tripura.

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

- Sugarcane (vegetative), rice (booting / panicle initiation), *kharif* maize (tasselling), *kharif* arhar, sesame, sorghum, jowar, (flowering / grain formation), lobia for green fodder, mishrikand (vegetative), onion, radish (sowing), cauliflower (sowing), fruit trees (transplanting) and sweet potato (planting) in Bihar.
- Rice (booting / flowering / milk), finger millet (grain formation), maize (silking / grain formation / grain filling / harvesting), pigeon pea (vegetative / flowering / grain formation), pulses (urd bean, moong bean) (grain formation / maturity), groundnut (pegging / grain formation), turmeric and ginger (vegetative / rhizome formation), elephant foot yam (tuber elongation), potato (land

preparation / sowing), sweet potato (stem elongation), mustard, toria, green pea (sowing), cauliflower, cabbage, chilli, tomato (transplanting), niger (sowing), papaya (transplanting), African or French marigold (sowing) in Jharkhand.

- Arhar (early vegetative / vegetative / flowering / grain formation), maize (tasseling / silking / cob formation), papaya, marigold, tuberose (planting), cowpea (sowing / early vegetative), *kharif* vegetables (flowering / fruiting), sugarcane (vegetative), *kharif* rice (panicle initiation / flowering / grain formation), groundnut (pegging / pod formation / maturity), turmeric and ginger (planting / early vegetative), yam (sowing), sesame, green gram, black gram, niger, other pulses (flowering / grain formation), mango, banana, lemon, cashew nut and marigold (planting) in Orissa.
- *Aman* rice (Booting / heading stage), tomato, cauliflower (nursery preparation), *aus* rice (grain maturity / harvesting), *kharif* maize (tasseling / silking / cob formation), mango, coconut, guava, banana (planting) and *kharif* vegetables (flowering / fruiting / harvesting), winter vegetables (nursery preparation) in West Bengal.
- Large cardamom (capsule formation / transplanting of suckers from nursery / grain maturity), *kharif* vegetables (harvesting), orange (fruiting.), ginger (late harvesting), rice (flag leaf initiation / flowering), maize (harvesting), seed potato (maturity / harvesting), orange (fruiting) in Sikkim.

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

- Rice(panicle initiation), brinjal, tomato, chilli, cauliflower, cabbage(vegetative and flowering stage), radish, spinach, coriander (vegetative and fruiting stage), onion (bulb forming stage), cucurbits crops (fruiting), lentil (pod formation), *Kharif* maize(Grain filling stage), hybrid cluster bean, baby corn, Pigeon pea (sowing/ vegetative), green gram and black gram(flowering / fruiting), cotton (sowing), Sugarcane(sowing), guar, bajra (maturing/harvesting), Soyabean (flower initiation/grain filling) in Delhi.
- Vegetables (flowering / fruiting / harvesting), garlic, ginger (planting), bhindi, (transplanting), cucurbits (transplanting), Khira, summer squash, bitter gourd, tur, brinjal, Shimla mirch, and tomato (transplanting), Apple (fruit development/maturity), pomegranate (fruit development), ginger, arbi, amaranthus, turmeric, rice, maize (sowing/transplanting) in Himachal Pradesh.
- Berseem (sowing / emergence), cucurbits (vegetative / flowering/maturity), onion (seed bed preparation), capsicum, chilli, brinjal, raddish, carrot, turnip, cauliflower, cabbage, broccoli (vegetative / fruiting / maturity / picking), winter vegetable crops viz. potato, radish, carrot, turnip, garlic, spinach, methi (sowing / fruiting), early sown maize (initiation of tassel emergence / grain development), early sown maize, bajra (grain formation / maturity / harvesting), maize (grain filling and development), *kharif* pulses, mash (flowering / pod development / maturity), moong (pod formation/ maturity / harvesting), rice (flowering / milking / grain filling / maturity / harvesting), *Kharif* oilseed (groundnut, sunflower, summer brassica etc.) (flowering / seed development / maturity, groundnut – pegging initiation stage), *Rabi* oilseeds i.e. toria, gobi sarson (sowing / emergence), citrus, guava, apple (fruiting) in Jammu & Kashmir.
- Chilli, capsicum, cauliflower, broccolli (transplanting), tomato (vegetative/maturity/harvesting) and lahi (flowering / fruiting), sugarcane (planting), Early planted rice (maturity / harvesting), late planted rice (panicle initiation / milking), litchi, loquat, peach, citrus (flowering / fruiting), mango (early varieties) (flowering), maize (cob formation/cob maturity), soyabean (flowering / pod formation), foxtail millet, okra, bottle gourd, bitter gourd, ginger, turmeric, (sowing / planting), toria, pea (field preparation / sowing), papaya (planting), sorghum, pigeon pea, early vegetable pea, urd, potato and pearl millets(sowing) in Uttarakhand.
- Rice (tillering), winter sugarcane (vegetative growth / formative), summer sugarcane (initial growth / formative stage), cucurbits like gourd, bitter gourd, cucumber, etc. and another vegetables like lady's finger, tomato, brinjal, chilli etc. (sowing / flowering/fruiting), black gram, baby corn/ maize / fodder maize, vegetables (flowering/fruiting/maturity/harvesting), groundnut, jowar, bajra,

til, moong, urd, moong, lobia (early vegetative), arhar, toria (sowing /early vegetative), tomato, brinjal, cabbage, garlic, (sowing/transplanting), toria (nursery sowing) in Uttar Pradesh.

- Rice (Irrigated area, Basmati) (panicle initiation/grain formation), rice (heading / grain filling), Spring sugarcane (sprouting), berseem (vegetative), vegetables (sowing/fruited), sugarcane(grand growth), greengram, blackgram (pod formation / grain filling), sesamum (flowering/pod formation/picking), cotton (boll opening), okra (sowing/vegetative), maize (grain filling), pearl millet (grain filling) (heading) in Punjab.
- Sugarcane (spring season) (planting/emergence/early vegetative), barseem (vegetative), pulses, moong, mash, pigeon pea (vegetative), rice (tillering / vegetative growth) in Haryana.
- Rice (tillering/vegetative), narma cotton, desi cotton (flowering / boll formation in Sriganaganagar), sweet potato (sowing), pearl millet, sorghum (vegetative / maturity / harvesting), moong, cowpea, urd (maturity / pod picking), early sown maize (harvesting), maize, soybean, chilli and cluster bean (vegetative) in Rajasthan.

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

- Kuruvai rice (maturity), Samba rice (nursery/ transplanting), cotton (vegetative/ flowering), vegetables (nursery / transplanting/ fruited), sugarcane (vegetative/ grand growth/maturity), groundnut (pod development / maturity stage), maize (vegetative /flowering), sorghum (vegetative), black gram (flowering/ harvest), pulses (vegetative/flowering) in Tamil Nadu.
- Sugarcane (ratooning/vegetative/ grand growth), cotton (flowering/boll development), hybrid jowar, maize (sowing/grain development), ragi, sunflower, early planted paddy crop (grain formation/ tillering/ transplanting), red gram (Bud initiation / flowering / pod formation), black gram(harvesting), groundnut(pod development), late planting paddy (tillering stage), pigeon pea (vegetative), bajra (maturity) and horticultural crops (flowering/fruit development) in Karnataka.
- Maize (tasselling / cob initiation), jowar, cotton (square to flowering stage), sugarcane and pulse crops like green gram & red gram(pod formation/ pre-harvesting stage), rice (nursery / tillering), groundnut (pod maturity/harvesting), bajra (harvesting) in Andhra Pradesh.
- Virippu rice (panicle initiation/harvesting), black pepper (berry maturing/harvesting), ginger (vegetative), turmeric and vegetable crops (harvesting), Mundakan rice (transplanting) in Kerala.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (new *adsali* - sprouting / old *adsali* - grand growth / elongation), sugarcane (pre-seasonal) (vegetative), sugarcane (*suru*) (vegetative), *Kharif* rice (grain formation / grain maturity in early maturing varieties, panicle initiation / flowering in medium maturing varieties and tillering in late maturing varieties in Konkan, Kolhapur, Pune and Nashik division and tillering in East Vidarbha), jowar (flowering / grain formation), soyabean (pod maturity), groundnut (pod development), cotton (flowering / boll formation), red gram (branching) in Maharashtra.
- *Kharif* bajra (harvesting), vegetables (flowering / fruited / harvesting), sugarcane (vegetative), groundnut (pegging / pod formation), *kharif* pulses (flowering / grain formation / maturity / harvesting), maize (harvesting), cotton (boll formation) in Gujarat.

CENTRAL INDIA[M.P., CHHATTISGARH]

- Sugarcane (vegetative), vegetables (flowering and fruited), moong, urad, maize, soybean, sesame, groundnut, jowar groundnut, pigeon pea (maturity/harvesting), onion, brinjal, tomato and chilli etc. (vegetative), rice (flowering / grain formation), proper time of sowing/transplanting of toria, onion, garlic, tomato, brinjal, chilly in Madhya Pradesh.
- Rice (tillering), sugarcane (planting), maize (flowering), groundnut, arhar, green gram and sesame (vegetative), ginger, turmeric, papaya, mango and guava (vegetative) cauliflower, proper time for sowing/transplanting of tomato, brinjal, chilli, niger, horsegram, ramtil, toria, cauliflower, cabbage, niger, kulthi in Chhattisgarh.

Annexure II

List of Varieties

Assam

Early cauliflower:

Mid season varieties: Improved Japanese, Pusa Synthetic, Pusa Snowball.

Early maturing cabbage varieties: Golden Acre, Pride of India, Pusa Mukta.

Others: Early Kunwari, Pusa Katki and Pusa Deepali.

Cabbage: Golden Acre, Pride of India, Pusa Mukta (Sel-8).

Tomato: Punjab Suhara, Avinash, Pusa Ruby.

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

Black gram: SB 121 (Saonia Mah), T-9, T-27, Pant U-19, T-122, KU 301, USJD 113, T 9, T27.

Radish: Pusa Desi, Pusa Himani, Pusa Chetki, Japanese white, Bombay Red.

Brinjal:

Long varieties: Cluster, JC-1, Kuchia, Pusa Kranti, Pusa Purple Long, Longai.

Round varieties: Pusa Purple Round, Pusa Vairab, JC-2, BWR-12.

Knol khol: White Vienna.

Sesamum: SP-1181 (Madhabi), Gauri, Binayak, ST 1683, Punjab Tall No. 1.

Dolichos Bean: Pusa Early Profile and SD-18.

Rapeseed and mustard: M-27, TS-36, TS-38 and TS-46.

Manipur

French bean: Pant Anupam, Tangkhul Hawaii (local).

Pea: Arkel, Azad.

Cabbage: Rare Ball.

Cauliflower: White Flash.

Onion: Nasik Red.

Tripura

Brinjal: Pusa Kranti, Pusa Purple Long.

Cauliflower: CFL-4048, Pusa Early Synthetic, Kamaya, Suhasihi.

Cabbage: BC-76, Pusa Drum Head, Pusa Synthetic.

Broccoli: Everest, Ayeshwaria.

Tomato: Trishul, Allrounder, T-1408, T-1458, Anup.

Mizoram

Tomato: Avinash -2, Pusa Divya, Arvind, Rita.

Cabbage: Golden Acre, Ryozeeki, Harnil.

Broccoli: Pushpa, Pusa Broccoli, Aishwarya and Fiesta.

Cauliflower: Pusa Early Synthetic, Pusa Shubhra, Pant Gobhi - 2 and Patna Ageti.

Orissa

Rice:

Medium land close to sea where water is drained out by October: Lalat, Surendra, MTU-1001, MTU-1010, Konark, Gajapati.

Different crops in upland areas affected by excess rainfall:

Sesame: Kanak, kalika, Uma, Usha, Tilottama, Neelima and Prachi

Green gram: K -851, PDM -54, PDM -11, OUM 11-5

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

Niger: Deomali

Horse gram: Urmi, DS 1-2-2, DS 1-2.

Brinjal: Utkal Madhuri, Green Round, Green Long, Sufala, Suchitra, Supriya.

West Bengal**Banana:** Mortoman, Chapa, Kathali, Singapuri.**Cauliflower:** Pusa Deipali, Pusa Chetaki.**Tomato:** Baisali, Indam 1116, Akash.**Jharkhand****Green Pea:** Swarn Rekha, Arkel, Azad Pea, Kashi Nandini, PE-6, Birsa Matar.**Sweet Potato:** Birsa Sakarkand-1 and Sri Bhadra.**Potato:****Short duration:** Kufri Ashoka and Kufri Pukhraj.**Long duration:** Kufri Surya and Kufri Puskar.**Toria:** T-9, P.T.-303, Panchali and Bhavani.**Niger:** Birsa Niger-1, Birsa Niger-2.**Bell pepper:** California Wander, Bharat, Arka Basant, Arka Mohini, Arka Gaurav, Allowander, Bombi, Indra, Nan-3020.**Tomato:** Pusa Ruby, Swarna Sampda, Swarn Lalima.**Cabbage:** Golden Acre, Pride of India, Early Drum Head.**Cauliflower:** Pusa Deepali, Patna Early, Hazipur Extra Early, Pusa Ketki.**Papaya:** Pusa Giant, Pusa Dwarf, Honey Dew, Pusa Majesty.**Mustard:** Shivani, Pusa Jaikisan, Pusa Bold, Vardan.**African Marigold:** Pusa Narangi, Pusa Basanti.**French Marigold:** Petite Orange, Petite Yellow, Rusty Red, Lemmon Drop.**Bihar****Onion:** N-53, Agrifound Dark Red and Baswant 780.**Radish:** Pusa Chetki, Pusa Deshi, Pusa Himani, Pusa Reshmi, Japani Safed, Arka Nishant.**Sweet Potato:** Rajendra Shakarkand-5, Krash-4, Rajendra Shakarkand-35, Rajendra Shakarkand-43, Rajendra Shakarkand-47, Shri Bhadra, Kalmegh, Rajendra Shakarkand-92.**Cauliflower:** Aghani, Pusa Dipali, Pusi, Patna Main, Pusa Shuvra.**Rapeseed:** RAUTS-17, PT-303, Panchali and Bhawani.**Delhi****Pea:** Pusa Pragati.**Carrot:** Pusa Rudhira and Pusa Kesar.**Early mustard:** Pusa Sarson-25, Pusa Sarson-26, Pusa Agrni, Pusa Taraka, Pusa Mahak**Sarson Saag:** Pusa Saag-1;**Radish:** Pusa Chetki, Versa Kee Rani;**Spinach:** All Green; Coriander- Pant Haritama, Hybrids;**Turnip:** Pusa Swati, Local Red variety.**Early potato :** Kufri Badshah**Coriander:** Pant Haritama**Himachal Pradesh****Lettuce:** Iceberg**Brinjal :** Arka Nidhi, PPC**Ageti bhindi :** P-8, Prabhini kranti, Arka anamika**Frenchbean :** Contender**Pepper :** Surjmukhi**Broccoli:** Palam Samridhi**Rajmash :** Triloki, Jwala, baspa Kailash

Jammu & Kashmir**Brinjal** : PPL, PPC & PPR

Carrot: . Nantes and Pusa Yamdagini

Turnip : Purple Top White Globe

Chillies : NP-46A, Pusa jawala**Bajra**:WCC-75, ICMS-7703 and Hybrid M.H.B-110,**Cauliflower** : Giant snow ball, punam, pusa hybrid -2, NS-60**Cabbage**: Golden Acre, pusa mukta & pride of India**Knol –khol** : White Viena, king of market & Purple Viena**Fodder berseem** : mascavi, pusa giant, BL-1**Toria**: RSPT-1, RSPT-2, RSPR-3**Gobi Sarson** : GSS-1

Winter Vegetables : **Potato** : K. Badshah, K. Sinduri, K. Chipsona & K. Sona, **radish** : **pusa chetki**, **Japanese white** & pusa Reshmi, **carrot**: Pusa Kesar, P. Yamdagani, **Turnip** : PTWG, **garlic** : local, yamuna safed agrifound parvati, large segmented, **Methi**: P.E.B.K. methi, pusa early bunching and kasuri methi and **spinach** : prickly seeded, all green during these days.

Punjab**Early varieties of sugarcane**: CoJ 85, CoJ 83, and CoJ 64**Toria** : PBT 37/ TL 15**Oil seeds**: PBT 37/ TL 15**Desi varieties of radish**: Punjab Pasand and Punjab Safed,**Turnip**: L-1 and 4-white**Carrot** : PC 34)**Late season Cauliflower**: **Snow-Ball-16**, **Pusa Snow ball 1** & **Pusa Snow ball K-1****Haryana****Baisakhi Mung**: K851 and Type 44 and Muskan**Pigeon pea**: UPAS 120, T-21.**Uttarkhand:****Pea**: VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel at high hills, Pant Subjee Matar-3.**Garlic** : VL-Garlic or DARL-52 , Yamuna Safed-1, 2, pant Lohit, Agreefound Parvati etc**Toria** : Pant Toria 2002-25, Pant Toria-30, Pant Toria-303, Type -9.**Tomato** : Pant T-3, Pusa Gaurav, Pusa Bahar, Pusa Hybrid-2 etc**Potato**: Kufri Jyoti, Kufri Ashok, Kufri Anand.**Mustard**: Pant Rai-8988, Rohini, Urvasi, Kranti.**Serson**: Binoy-9, Narendra Dev Yellow Serson-2.**Berseem**: Vardan, Miskavi.**Uttar Pradesh:****Toria**: Pitambri kanti type-9(black). Type-36(yellow), PT-303, PT30, Bawani, T9, PT303**Rajasthan****Groundnut** : RSB 87, RS 138, JL 24, RG 14,**Sweet potato**: Pusa Safed, Pusa Lal, Pusa Sunhari & L-20**Taramira** : T-27, I.T.S.A.**Toria**: T-9, Sangam**Gram**: RSG 44, Dahod yellow, GNG 16, ICCV 10, RSG 888 and Pratap chana 1.**Pea** : Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 (improved varieties of early pea)**Mustard**: Improved varieties

1. Early sown (Irrigated) - EJ17, Pusa Mahak and kanti.
2. Normal sown (irrigated) - Maya, Rohini, Pusa Jai kisan, Varuna, RGN13, RGN73, NRCDR 2, NRCHB 506(hybrid).
3. Normal sown (rainfed) -Arawali,RGN48, Geeta and PBR97
4. Saline sodic soils - CS52, CS54, CS56, Narendra Rai 1
- 5.Taramira - Karan Tara, Narendra Tara
- 6.Yellow Sarson - NRCYS-05-02, YSH401

Potato : 1. Early sown- Kufri-Ashok and Chandramukhi for early sowing.
2. Mid sowing- Kufri-Anand, Chipsona-1, 2, Jyoti and Pukhraj.

Onion : Red Arka Niketan, Local Red and Pusa white for rabi season.

Radish : Pusa Rasmi.

Ajwain : Pratap ajwain - 1

Karnataka

Sunflower: Modern, KBSH-41, 42 &44

Cowpea: C-152, PKB-4, KM-5

Horse gram: KBH-1, PHG-9, GPM-6

Safflower; Annigeri-1, S-144

Rabi Sorghum: Hybrid- DSH-4, Improved Varieties-M-35-1(rainfed and irrigated), Moguti(5-4-1), DSV-4(rainfed and irrigated), DSV-5(rainfed and 1 or 2 protective irrigation)

Maize: GANGA-11, Deccan-103

Ragi : INDAF-7,9 and 15

Tamil Nadu

Late samba: ADT 38, ADT 46, ADT 49, improved white ponni, IR 20, ASD 19, Paiyur1, Trichy 1, Trichy 3 and Co 50

Late Thaladi: ADT 39 ADT 42, and ASD 16

Andhra Pradesh

Green gram: LBG-752, LBG-623, LBG-20, T-9, LGG-460, LGG-407

Red gram: LRG-41, ICPL-85063

Paddy: (BPT-5204, BPT-5204, MTU-7029, MTU-2067,MTU-2077,MTU-1001,MTU-7029)

Gujarat:

Cluster bean: GC-1, 2.

Mustard: Guj - Mustard-1, 2, 3, Pusa Jaykisan (Bio-902).

Maharashtra

Rabi Jowar: Maldandi 35-1, Selection-3, Phule Vasudha, Phule Revati, Phule Yashodha and Mauli, for medium soil - Mauli, for black soil - Phule Revati, Phule Vasudha.

Safflower: Bhima, Phule Kusuma.

Gram: Vijay Gram.

Madhya Pradesh

Onion:Udaipur 102, Pusa white, Nasik Red and Nasik Roja

Chattisgarh

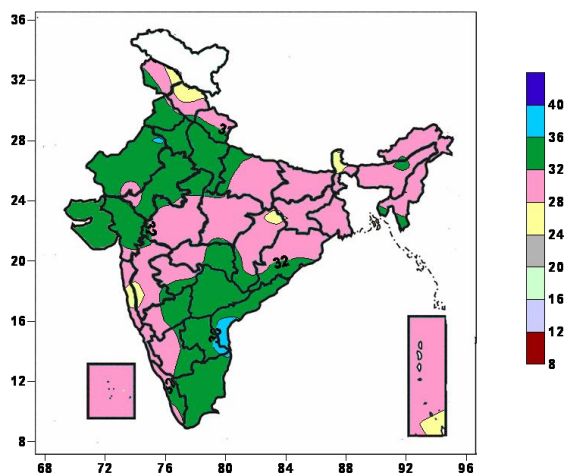
Niger crop: JNC-1, JNC-6, JNC-9, GA-10, Ootakmund, KGN-2,

Horsegram (Kuthi) crop : AK-231, AK-42, Bastar Kuthi, Birsa Kuthi, VLG-9

Annexure III

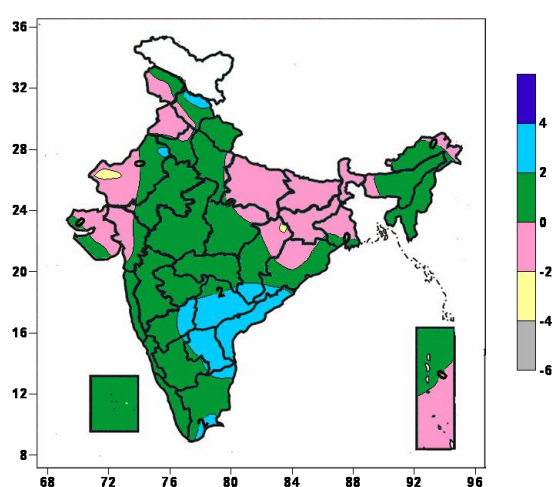
Contour maps for the week ending 28.09.2011

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 28.09.11



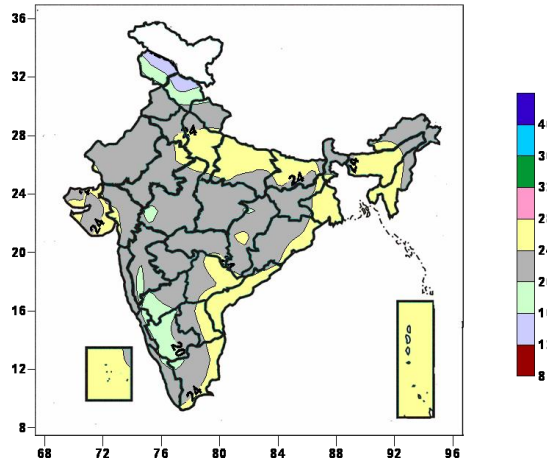
Actual Mean Maximum temperature ranged between 36 to 40°C over some places of Coastal Andhra Pradesh, Raylaseema, 32 to 36°C over most parts of Rajasthan, Punjab, Haryana, Delhi, West Uttar Pradesh, Andhra Pradesh, Tamil Nadu, Kerala, Gujarat, Saurashtra & Kutch, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarkhand, East Uttar Pradesh, Arunachal Pradesh, Tripura, Orissa, Chattisgarh, Vidarbha. North & South Interior Karnataka, 24 to 28°C over most parts of Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, Gangetic West Bengal, Chattisgarh, Konkan, Madhya Maharashtra, Andaman & Nicoibar Islands, 20 to 24°C some parts of Himachal Pradesh, 28 to 32°C over remaining parts of the country.

Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 28.09.11



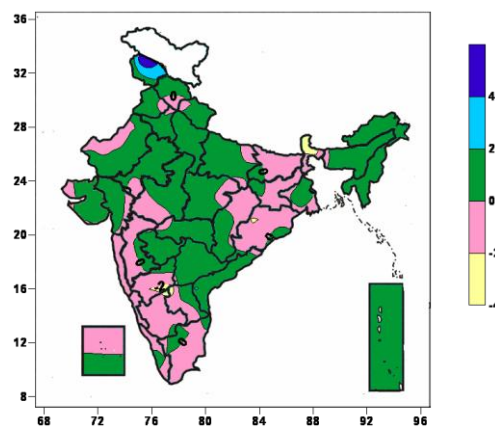
Actual Mean Maximum temperature anomaly between 2 to 4°C over most parts of Andhra Pradesh, some parts of Himachal Pradesh, Orissa, Chattisgarh, Tamil Nadu, North & South Interior Karnataka, -2 to 0°C over most parts of Punjab, East Uttar Pradesh, Bihar, Jharkhand, West Bengal & Sikkim, Gujarat, Saurashtra & Kutch, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, East Uttar Pradesh, Orissa, Chattisgarh, Arunachal Pradesh, Assam, -4 to -2°C over some parts of West Rajasthan, Chattisgarh, -6 to -4°C over some parts of West Rajasthan, -0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 28.09.11



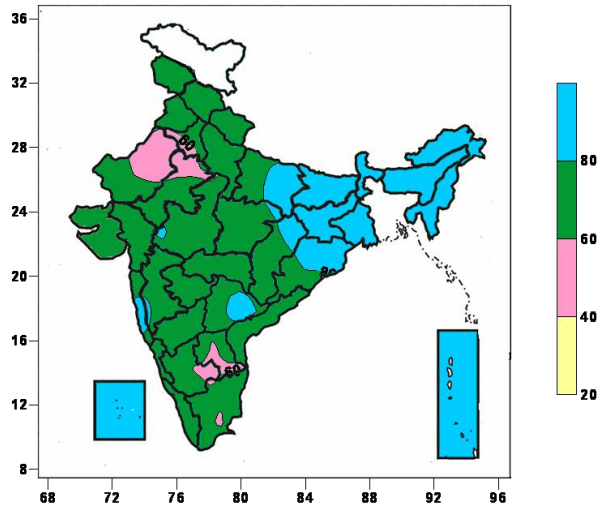
Actual Mean Minimum Temperature ranged between 20 to 24°C over most parts of Punjab, Uttarakhand, Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Chattisgarh, Orissa, Madhya Pradesh, Maharashtra, Telangana, Karnataka, Tamil Nadu, Kerala, Gujarat, some parts of Jammu & Kashmir, Himachal Pradesh, Rajasthan, Uttar Pradesh, Jharkhand, Rayalaseema, 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, 12 to 16°C over some parts of Jammu & Kashmir, Himachal Pradesh, 24 to 28°C over remaining parts of the Country..

Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 28.09.11



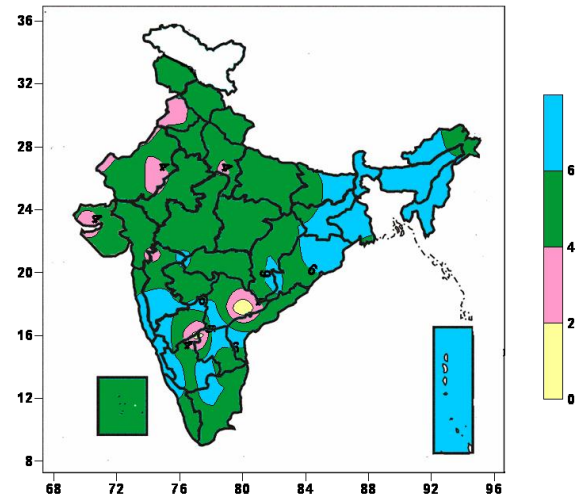
Minimum Temperature anomaly ranged between 2 to 4°C over most parts of Bihar, Sikkim, some parts of Sub-Himalayan West Bengal, -2 to 0°C over most parts of Jammu & Kashmir, Punjab, Gangetic West Bengal, Assam & Meghalaya, Orissa, Chattisgarh, Lakshadweep Islands, some parts of Himachal Pradesh, East Uttar Pradesh, Rajasthan Bihar, Jharkhand, Andhra Pradesh, Tamil Nadu, Kerala, North & South Interior Karnataka, Madhya Maharashtra, Marathwada, Vidarbha, Gujarat, Madhya Pradesh, -4 to -2°C over some parts of Orissa, 0 to 2°C over remaining parts of the Country.

Relative Humidity (%) over India for the week ending 28.09.11



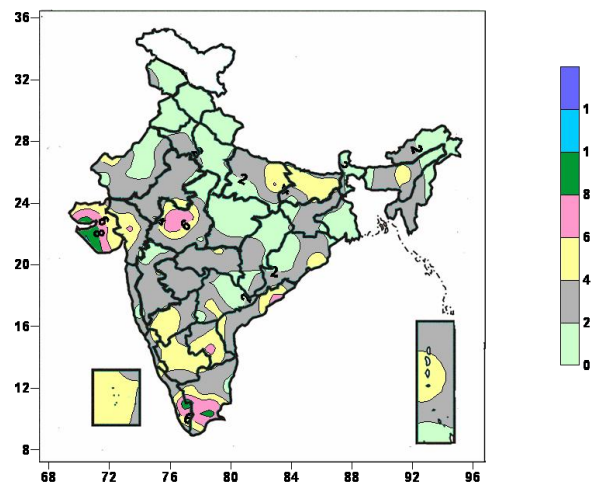
Relative humidity between 60 to 80% over most parts of Jammu & Kashmir, Himachal Pradesh, Rajasthan, Coastal Andhra Pradesh, Raylaseema, Tamil Nadu, South & north Interior Karnataka, Madhya Maharashtra, Marathwada, some parts of Punjab, Haryana, Delhi, East Uttar Pradesh, Vidarbha, Madhya Pradesh, Kerala, Gujarat, Saurashtra & Kutch, 80% and above over remaining parts of the country.

Cloud amount (okta) over India for the week ending 28.09.11



Cloud amount above 6 okta over most parts of Bihar, Jharkhand, West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Orissa, Tamil Nadu, Coastal & South Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Arunachal Pradesh, Chattisgarh, Madhya Pradesh, Andhra Pradesh, Kerla, North Interior Karnataka, Konkan & Goa, Madhya Maharashtra, 2 to 4 okta over most parts of Himachal Pradesh, Punjab, some parts of Jammu & Kashmir, West Rajasthan, Uttar Pradesh, Andhra Pradesh, North & South Interior Karnataka, Madhya Maharashtra, Marathwada, Gujarat, Saurashtra & Kutch, 0 to 2 okta over some parts of Telangana, 4 to 6 okta and above over remaining parts of the country.

Wind speed (knots) over India for the week ending 14.09.11



Wind speed ranged between 8 to 10 knots over some parts of Saurashtra & Kutch, 6 to 8 knots over some parts of Saurashtra & Kutch, Gujarat, Coastal Andhra Pradesh, West Madhya Pradesh, Raylaseema, Tamil Nadu, Kerala, 4 to 6 knots over most parts of Bihar, North & South Interior Karnataka, Lakshadweep Island, some parts of Rajasthan, East Uttar Pradesh, Coastal Orissa, Assam, Andhra Pradesh, Tamil Nadu, Kerala, Coastal Karnataka, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, Andaman & Nicobar islands, 0 to 2 knots over most parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, West Uttar Pradesh, West Bengal, Sikkim, East Madhya Pradesh, Chattisgarh, some parts of Rajasthan, Haryana, Delhi, East Uttar Pradesh, Bihar, Jharkhand, Orissa, Telengana, Konkan, Madhya Maharashtra, Andaman & Nicobar Islands, 2 to 4 knots over remaining parts of the country.