



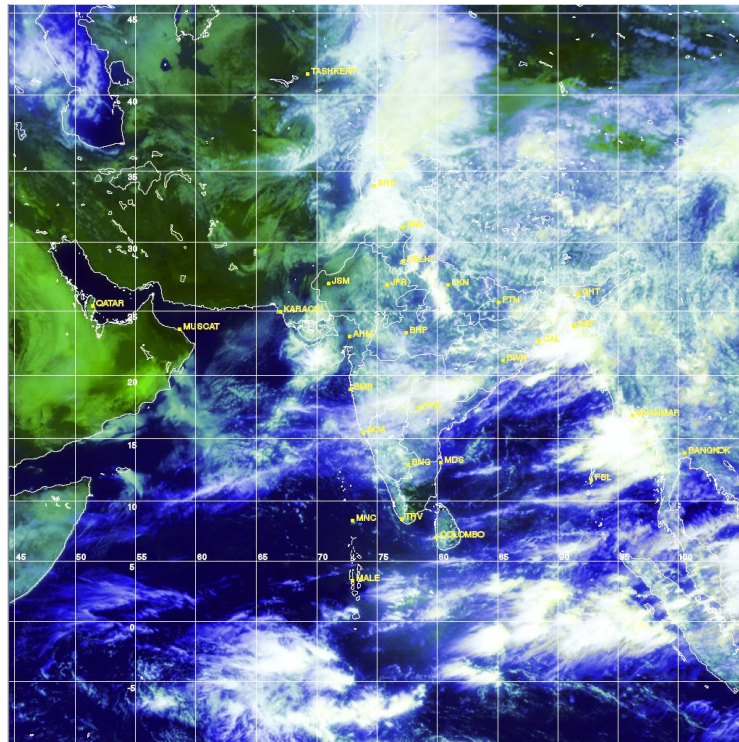
National Agromet Advisory Bulletin

Thursday, 15th September, 2011

(For the period 15th to 19th September, 2011)



Satellite image 0600 UTC dated 16th 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

Well distributed rainfall in many parts of the country during last week helped the growth of *kharif* crops. However, subdued rainfall activity was observed during last week over West Uttar Pradesh, Madhya Maharashtra, Marathwada, Bihar and North Interior Karnataka. Damage to some crops due to excess rainfall, especially in cotton in the Malwa region of Punjab has been reported. Cotton crop, which is at harvesting stage, has been damaged in the Districts like Muktsar, Ferozpur, Fazilka, Taran-Taran, Jalandhar, Kapurthala. Farmers are advised to arrange for drainage facilities to prevent the crop from further damage.

Good rainfall was received during last week in Himachal Pradesh, Punjab, Haryana, Jammu & Kashmir, Madhya Pradesh, Chhattisgarh, Uttarakhand, Gujarat, Rajasthan and Kerala. This rainfall may favour for sustained crop growth and better *kharif* crop production. Wherever waterlogging is observed due to continuous rains, farmers are advised to arrange for adequate drainage conditions to remove excess water.

As fairly widespread / widespread rain / thundershowers would occur over west coast, east and adjoining central and north east India during next three days and western Himalayan region and adjoining plains and central India during next 48 hours, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops. There are also chances of isolated heavy to very heavy rainfall over Punjab, Haryana, Delhi, Himachal Pradesh and Uttarakhand during next 24 hours with isolated heavy rainfall during subsequent 24 hours and isolated heavy rainfall over Gangetic West Bengal, Orissa, Chhattisgarh, Coastal Karnataka, Kerala, Arunachal Pradesh, Assam and Meghalaya, Nagaland, Manipur, Mizoram, Tripura, West Uttar Pradesh and Jammu Division of Jammu & Kashmir during next 24 hours; farmers in these regions are advised to arrange adequate drainage facilities in the already sown crop fields to avoid water stagnation and crop damage.

Due to prevailing weather, incidences of *Heliothis* and stem borer in maize, cut worm in rice and spotted boll worm in cotton in Orissa, thrips and blast in rice, sucking pests and *Spodoptera* in soybean, red cotton bug, stem borer, mites and leaf reddening in cotton, late blight in tomato and leaf eating caterpillar in cauliflower in Karnataka are reported. Farmers are advised to undertake appropriate plant protection measures to control the pests and diseases.

There is prospect of good *kharif* crop production in the country due to well distributed rainfall during the season.

Realised rainfall for Uttar Pradesh, Maharashtra, Bihar and Karnataka during last few weeks

State/Districts	Actual	17.08.11	Actual	24.08.11	Actual	31.08.11	Actual	07.09.11	Actual	14.09.11
East Uttar Pradesh										
Allahabad	146.8	102	19.3	-73	26.2	-51	24.2	-48	46.1	-30
Ambedkar Nagar	103.0	58	74.0	13	0.0	-100	12.0	-83	9.0	-85
Azamgarh	73.3	-3	83.5	28	0.7	-99	3.4	-94	55.4	-19
Bahraich	66.4	5	51.7	-31	4.7	-92	2.7	-95	55.0	-17
Ballia	43.8	-39	46.6	-22	2.8	-95	5.6	-88	30.9	-47
Balrampur	49.2	-34	184.5	119	1.7	-98	3.3	-94	4.2	-93
Banda	172.5	79	23.0	-62	22.2	-59	45.4	1	52.8	-7
Barabanki	128.6	62	60.3	-2	7.4	-86	6.1	-89	29.1	-59
Basti	74.0	3	65.7	-5	6.1	-89	23.9	-65	10.5	-84
Chandauli	91.0	20	19.4	-73	0.0	-100	0.0	-100	31.6	-56
Deoria	99.5	8	49.5	-28	20.5	-69	23.0	-56	52.0	-9
Faizabad	71.1	8	77.4	10	6.3	-87	29.5	-45	25.0	-46
Farrukhabad	121.5	44	10.3	-84	0.5	-99	8.5	-80	8.9	-82
Fatehpur	54.6	-36	6.5	-91	1.4	-97	24.8	-44	38.3	-44
Gazipur	99.9	29	26.7	-60	28.4	-45	9.6	-80	42.2	-46
Gonda	53.3	-23	92.7	32	4.1	-93	8.0	-88	29.4	-59
Gorakhpur	65.6	-22	60.5	-16	12.6	-81	17.7	-72	22.1	-67
Hardoi	154.5	135	14.1	-80	0.0	-100	2.6	-95	58.4	-3
Jaunpur	69.7	2	34.7	-43	0.0	-100	9.4	-83	35.7	-51
Kannauj	142.3	70	30.2	-56	0.0	-100	1.5	-97	14.3	-74
Kanpur City	70.0	3	14.9	-79	7.2	-83	20.6	-54	26.1	-47
Kanpur Dehat	156.3	141	9.3	-85	8.0	-86	23.7	-53	34.3	-26
Kaushambi	80.5	15	23.8	-60	21.7	-57	21.6	-53	23.7	-59
Kheri	162.6	117	70.3	-14	5.2	-91	3.4	-93	33.6	-44
Kushi nagar	48.5	-48	33.0	-61	25.5	-64	11.0	-80	24.8	-59
Lucknow	234.3	216	10.2	-83	1.1	-98	13.7	-69	45.4	-21
Maharajganj	14.6	-86	61.0	-33	7.0	-89	3.0	-95	10.0	-86
Mau	76.0	-7	40.5	-42	0.0	-100	2.5	-95	6.0	-92
Mirzapur	167.8	133	6.2	-89	6.1	-89	19.9	-55	64.3	-10
Pratapgarh	78.0	5	47.7	-29	1.0	-98	31.3	-44	66.3	0
RaiBareilly	67.3	-11	13.8	-79	5.9	-88	11.3	-78	32.8	-45
Sahuji Maharajnagar	174.0	117	2.0	-97	58.5	-14	60.0	8	100.0	37
Sant Kabirnagar	30.0	-62	140.0	136	4.0	-94	19.0	-62	38.0	-32
Sant Ravidas Nagar	67.0	-12	24.0	-67	0.0	-100	0.0	-100	27.0	-63
Shrawasti	97.1	53	100.0	34	0.8	-99	25.9	-55	91.5	38
Sidharthnagar	46.8	-39	88.5	17	14.2	-78	21.0	-62	41.3	-32
Sitapur	187.3	162	21.3	-69	0.8	-99	3.7	-93	144.7	120
Sonbhadra	146.7	93	55.3	-16	43.0	-15	31.8	-42	60.2	-25
Sultanpur	60.3	-18	24.5	-66	0.1	-99	20.6	-66	31.8	-46
Unnao	100.9	28	3.7	-94	4.0	-92	18.0	-64	31.0	-44
Varanasi	133.6	145	26.8	-60	0.0	-100	9.4	-81	48.4	-39
West Uttar Pradesh										
Agra	38.6	-49	37.1	-27	2.1	-96	34.2	-8	17.6	-60
Aligarh	111.3	78	25.7	-44	7.8	-84	20.1	-42	7.9	-83
Auraiya	176.6	165	16.7	-75	1.7	-97	21.7	-59	9.3	-79
Badaun	90.6	23	63.8	8	13.4	-80	5.2	-87	46.2	16
Baghpat	41.5	-31	18.5	-52	0.0	-100	0.0	-100	52.3	61
Bareilly	213.5	181	145.7	94	16.2	-75	7.2	-86	90.4	80
Bijnor	277.0	218	37.4	-45	11.3	-82	1.5	-97	30.5	-37
Bulandsahar	124.8	74	42.7	-20	7.4	-85	22.5	-29	19.8	-58
Etah	62.5	-12	27.7	-48	5.8	-86	14.5	-62	40.2	-5
Etawah	122.3	68	5.9	-92	0.7	-99	23.3	-54	3.7	-93
Firozabad	73.4	13	12.0	-77	1.0	-98	16.5	-54	23.0	-52
GBNagar	162.0	199	20.0	-61	9.5	-67	34.0	25	5.0	-89
Ghaziabad	75.0	30	6.8	-88	17.9	-65	8.5	-73	4.6	-89
Hamirpur	84.1	-3	11.8	-79	4.4	-92	35.8	-18	45.7	-10
Jalaun	119.4	45	24.3	-60	46.9	-22	56.3	29	32.4	-35

Jhansi	56.2	-33	30.1	-48	0.4	-99	78.7	35	59.9	22
Jotirba Phule Nagar	153.3	85	81.0	18	37.5	-40	28.5	-34	71.0	52
Kanshiramnagar	145.5	105	57.0	7	2.0	-96	15.0	-61	67.0	59
Lalitpur	21.0	-75	41.0	-33	0.0	-100	84.0	30	58.0	7
Mahamaya Nagar	135.1	96	29.0	-40	0.0	-100	41.8	9	10.0	-77
Mahoba	48.6	-48	44.7	-24	0.0	-100	26.4	-42	85.0	67
Mainpuri	89.5	21	30.8	-38	1.5	-96	8.0	-81	21.0	-54
Mathura	40.3	-35	13.7	-67	0.0	-100	45.0	60	68.3	103
Meerut	100.9	43	18.5	-73	29.8	-36	8.0	-83	17.8	-61
Moradabad	262.8	227	169.2	134	33.6	-46	12.5	-72	72.4	61
Muzzaffarnagar	42.1	-39	164.0	-72	1.1	-97	6.8	-83	20.5	-48
Pilibhit	163.4	104	88.9	13	5.0	-93	15.0	-73	73.8	31
Rampur	101.2	38	98.7	35	10.2	-85	9.1	-78	19.4	-44
Saharanpur	19.3	-73	46.0	-24	27.3	-44	5.3	-83	106.7	172
Shahjahanpur	103.8	40	69.8	-13	1.1	-98	5.1	-89	61.0	15
Bihar										
Araria	167.0	119	32.6	-65	2.5	-97	10.5	-86	30.7	-62
Arwal	91.8	34	145	119	8.0	-81	6.0	-80	74.5	10
Aurangabad	112.6	89	79.0	27	9.9	-82	15.1	-72	64.1	-8
Banka	50.4	-10	46.7	-7	5.9	-87	0.0	-100	44.7	-14
Begusarai	77.2	-1	88.5	28	31.7	-54	3.5	-90	2.4	-96
Bhabua	163.5	116	15.9	-80	1.7	-97	7.4	-86	22.4	-73
Bhagalpur	49.7	-11	77.8	24	8.0	-83	12.5	-76	3.6	-94
Bhojpur	31.0	-50	17.9	-76	14.5	-75	7.0	-86	13.0	-83
Buxar	23.2	-66	47.3	-1	0.0	-100	0.4	-99	50.7	-29
Darbhanga	63.3	5	73.5	0	11.7	-79	16.3	-67	1.1	-98
East Champaran	69.6	22	86.8	15	14.7	-76	3.0	-94	7.4	-87
Gaya	188.1	161	48.0	-23	13.8	-71	11.7	-76	80.6	54
Gopalganj	67.2	4	96.9	32	17.1	-71	27.7	-42	4.0	-94
Jahanabad	95.1	75	68.3	5	11.3	-72	21.4	-38	31.2	-50
Jamui	98.5	56	72.2	32	7.6	-87	7.8	-86	24.6	-61
Kathihar	53.5	-22	16.4	-78	13.9	-75	19.5	-64	5.1	-93
Khagadia	44.8	-34	54.7	-13	3.8	-94	9.5	-79	13.3	-78
Kishanganj	242.1	110	79.6	-22	21.1	-81	0.5	-99	24.0	-76
Lakhisarai	50.1	-14	16.1	-75	12.2	-78	3.4	-93	33.4	-42
Madhepura	85.5	37	24.3	-67	9.3	-86	8.9	-86	11.0	-85
Madhubani	46.2	-21	48.4	-41	16.6	-79	6.5	-85	3.3	-93
Monghyar	77.0	32	30.0	-53	6.0	-89	8.0	-84	20.0	-65
Muzaffarpur	75.7	34	90.6	23	13.7	-79	7.0	-87	4.5	-93
Nalanda	105.6	82	233.3	268	4.6	-91	33.6	-19	26.4	-58
Nawada	50.3	-21	29.2	-49	10.0	-78	2.9	-93	17.6	-68
Patna	40.8	-32	113.1	56	9.7	-81	11.8	-74	13.6	-79
Purnea	167.6	159	113.8	74	48.4	-41	5.6	-91	40.4	-39
Rohtas	165.3	126	36.8	-51	4.2	-93	2.5	-96	21.5	-69
Saharsha	129.5	114	66.0	-17	4.5	-94	21.1	-61	8.2	-88
Samstipur	109.2	95	121.3	119	16.5	-68	5.6	-89	4.7	-93
Saran	41.5	-40	37.7	-51	32.4	-41	2.9	-94	38.6	-50
Sheikpura	32.8	-40	24.8	-51	26.7	-50	3.4	-91	6.4	-89
Sheohar	44.0	-38	71.0	-10	7.0	-90	17.0	-67	0.0	-100
Sitamarhi	45.2	-36	86.8	10	14.5	-79	2.6	-95	0.8	-98
Siwan	27.3	-62	78.3	4	5.5	-90	2.8	-95	19.5	-73
Supaul	100.9	67	55.6	-30	36.2	-44	5.1	-91	17.1	-75
Vaishali	20.4	-68	53.2	-17	3.6	-94	1.0	-98	37.0	-30
West Champaran	80.7	7	130.5	41	104.0	16	12.5	-82	33.7	-53
Maharashtra										
Konkan & Goa										
Goa	78.7	-54	173.0	43	276.9	182	279.4	221	108.9	85
Mumbai	40.7	-67	85.1	-20	502.1	415	185.7	80	76.9	13
Raigad	116.9	-47	123.2	-27	516.1	239	381.1	169	81.7	-3
Ratnagiri	93.7	-56	157.8	-4	275.1	92	346.5	172	57.0	-22

Sindhudurg	75.9	-54	223.0	64	350.8	175	295.7	227	139.1	108
Thane	120.6	-29	124.4	-2	441.3	278	267.0	114	67.6	-6
Madhya Maharashtra										
Ahmednagar	3.9	-77	72.3	235	68.3	163	41.5	61	2.7	-91
Dhule	19.3	-25	30.3	28	117.5	314	103.5	289	16.0	-18
Jalgaon	8.3	-80	50.0	27	133.6	237	58.8	45	8.1	-69
Kolhapur	81.2	-34	33.2	-62	184.4	152	245.8	339	58.2	84
Nandurbar	109.2	110	22.5	-50	98.7	88	80.5	76	26.7	-18
Nasik	56.8	-4	42.9	-11	131.2	153	122.4	134	18.3	-59
Pune	34.4	-40	19.2	-52	119.4	226	144.5	266	10.0	-66
Sangli	17.7	-28	42.5	125	50.7	134	62.8	263	2.4	-91
Satara	63.3	43	22.4	-25	153.7	404	207.9	667	18.6	-24
Solapur	1.0	-95	95.1	271	60.0	139	13.7	-48	2.8	-92
Marathwada										
Aurangabad	4.3	-86	56.5	67	127.2	216	69.8	80	6.4	-79
Beed	1.8	-94	117.4	270	110.0	203	33.6	-16	2.5	-92
Hingoli	14.1	-77	93.7	56	128.8	165	32.0	-47	2.0	-94
Jalna	3.3	-90	72.3	102	93.6	139	54.4	28	5.1	-82
Latur	6.9	-86	99.6	75	117.4	141	26.5	-48	2.0	-95
Nanded	16.1	-72	53.6	-13	105.4	109	36.0	-29	8.1	-76
Usmanabad	3.2	-90	92.7	135	76.3	97	35.5	-6	1.5	-96
Parbhani	7.1	-86	60.5	4	97.2	89	38.4	-31	4.2	-87
Vidarbha										
Akola	19.4	-51	55.3	45	64.1	45	83.2	123	20.2	-40
Amraoti	53.2	0	75.7	62	142.7	221	94.9	91	15.2	-60
Bhandara	47.0	-44	74.8	-6	93.4	34	173.0	137	39.9	-32
Buldhana	8.3	-79	55.1	44	77.2	89	70.3	87	9.0	-68
Chandrapur	84.3	1	46.5	-40	113.3	59	135.4	82	54.4	-5
Gadchiroli	101.2	-5	69.8	-25	83.1	2	128.7	65	56.8	11
Gondia	47.8	-49	39.1	-58	138.1	69	186.8	148	32.0	-51
Nagpur	52.3	-5	45.2	-21	109.5	85	115.3	71	36.5	-15
Wardha	82.5	33	44.3	-19	155.6	205	142.9	114	29.3	-11
Washim	16.8	-71	92.5	74	73.6	106	29.9	-45	26.3	-34
Yeotmal	45.0	-25	49.9	-11	69.6	38	80.0	41	44.5	50
Karnataka										
Coastal Karnataka										
Dakshin Kannada	184.3	-14	162.4	-10	156.4	23	217.3	140	163.1	136
Udupi	196.8	-16	223.4	14	231.2	69	371.4	227	245.0	162
Uttar Kannada	129.4	-27	154.8	24	216.7	128	332.0	339	113.5	107
North Interior Karnataka										
Bagalkote	8.0	-51	73.5	368	6.4	-59	25.6	43	11.0	-50
Belgaum	10.9	-65	40.4	91	49.9	146	68.7	338	22.1	40
Bidar	23.8	-48	85.0	76	86.8	102	23.2	-39	5.8	-85
Bijapur	4.5	-78	54.6	162	20.7	-16	8.2	-66	1.6	-94
Dharwad	7.8	-71	62.5	261	27.6	58	37.0	178	16.6	-8
Gadag	6.0	-62	59.5	274	18.0	3	14.7	-10	2.7	-88
Gulbarga	24.7	-41	76.9	89	61.4	69	20.1	-49	1.2	-97
Haveri	10.9	-61	20.9	-4	25.3	61	55.4	343	12.2	5
Koppal	14.6	-21	70.0	278	9.5	-60	12.1	-39	10.3	-60
Raichur	10.3	-65	64.1	139	21.2	-26	19.9	-17	2.0	-92
Yadgir	19.5	-51	69.0	62	26.8	-18	14.7	-56	6.5	-81
South Interior Karnataka										
Bangalore Rural	123.4	347	58.2	91	16.4	-42	10.5	-64	13.3	-57
Bangalore Urban	102.3	219	76.5	143	17.7	-35	8.4	-73	38.8	18
Bellary	12.4	-35	39.7	100	8.8	-62	11.4	-38	3.4	-84
Chamarajnagar	20.2	54	44.9	155	7.8	-45	14.4	-7	4.6	-79
Chichballapur	68.0	198	68.5	158	19.5	-17	9.5	-64	9.3	-65
Chickmagalur	53.5	-53	52.2	-37	91.8	76	154.5	278	44.4	64
Chitradurga	1.9	-84	15.0	7	13.5	9	8.7	-21	3.4	-76
Davangere	3.9	-82	26.6	44	18.1	20	21.1	66	8.4	-50

Hassan	12.1	-60	17.9	-40	19.4	4	42.3	142	13.1	-7
Kodagu	54.4	-60	55.0	-52	102.3	39	201.4	223	36.4	-4
Kolar	56.6	175	40.4	76	14.6	-27	9.7	-60	27.6	-6
Mandya	10.2	-10	37.2	99	4.3	-69	12.8	-16	1.7	-92
Mysore	13.7	-5	25.4	63	17.7	45	40.9	215	12.0	-27
Ramnagara	48.6	114	34.7	17	17.6	-31	9.1	-66	35.2	6
Shimoga	66.6	-37	74.0	-7	128.2	143	238.1	531	64.5	183
Tumkur	22.5	27	38.8	103	6.6	-62	6.5	-67	10.5	-59

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall		Data not available

Distribution of rainfall for remaining states of the country during last week

State/Districts	Actual	14.09.11
Arunachal Pradesh		
Changlang	58.7	-46
East Kameng	40.2	-46
East Siang	12.1	-92
Lohit	10.9	-88
Lower Subansiri	20.0	-52
Papumpara	62.1	-28
Tawang	49.0	-56
Tirap	106.0	-10
Upper Siang	38.4	-80
Upper Subansiri	41.2	90
West Kameng	67.4	-39
West Siang	**	**
Assam		
Barpeta	59.6	-47
Bongaigaon	15.5	-84
Cachar	43.4	-56
Darrang	**	**
Dhubri	130.1	40
Dibrugarh	62.7	-33
East Garo Hills	43.0	-57
East Khasi Hills	113.8	-43
Goalpara	39.4	-31
Golghat	29.9	-44
Hailakandi	27.4	-73
Jaintia Hills	142.0	-36
Jorhat	46.9	-38
Kamrup	44.2	1
Karbi Analog	19.0	-62
Karimganj	10.0	-91
Kokrajhar	77.4	-25
Lakhimpur	82.7	-25
Morigaon	4.6	-92
N.C.Hills	15.1	-44
Nowgong	4.0	-93
Nalbari	75.7	78
Sonitpur	79.2	20
Sibsagar	57.0	8
Tinsukia	47.2	-45
Himachal Pradesh		
Bilaspur	60.1	31
Chamba	24.1	-41
Hamirpur	66.8	72
Kangra	86.7	30
Kinnaur	9.7	-23
Kullu	41.8	124
Lahaul and Spiti	11.1	-54
Mandi	61.5	37
Shimla	61.0	90
Sirmaur	125.3	103
Solan	28.9	-40
Una	122.5	260
Punjab		
Amritsar	48.0	119
Barnala	17.5	-31
Bhatinda	16.4	-14
Faridkot	8.0	-60
Fatehgarh Saheb	31.5	9
Ferozpur	6.7	-65
Gurdaspur	56.8	104
Hoshiarpur	65.9	110
Jalandhar	35.7	9
Kapurthala	58.3	179
Ludhiana	64.3	116
Mansa	4.2	-83
Moga	20.0	-13
Muktesar	47.0	134
Nawashahar	80.4	102
Patiala	70.3	142
Ropar	87.5	125
Sangrur	15.1	-40
Mohali	43.3	49
TarnTaran	2.0	-91
Haryana		
Ambala	39.2	-10
Bhiwani	19.1	2
Chandigarh	69.2	50
Faridabad	50.8	63
Fatehabad	26.5	55
Gurgaon	25.6	-17
Hissar	27.9	69
Jhajar	20.5	-2
Jind	17.6	-20
Katihah	27.6	-16
Karnal	32.4	30
Kurukshetra	20.3	-23
Mahendragarh	38.1	92
Palwal	39.0	25
Panchkkula	38.0	-14
Panipat	66.3	181
Rewari	57.4	118
Rohtak	4.4	-87
Sirsa	3.1	-77
Sonepat	36.2	34
Yamunanagar	16.3	-66
New Delhi	61.9	92
Jammu & Kashmir		
Anantnag	18.8	37
Badgam	2.6	-87
Bandipore	**	**
Baramula	25.0	60
Doda	31.2	39
Ganderwal	15.4	75
Jammu	26.0	-43
Kargil	0.0	-100
Kathua	121.8	96
Kistwar	**	**
Kulgam	8.4	-39
Kupwara	26.1	211
Ladakh(Leh)	2.4	-4
Poonch	65.5	32
Pulwama	19.5	42
Rajouri	63.0	92
Ramban	20.1	-11
Reasi	52.4	6
Samba	27.2	-40
Shopian	**	**
Srinagar	16.4	86
Udhampur	21.8	-56
East Madhya Pradesh		
Anuppur	128.0	82
Balaghat	43.9	-28
Chhatarpur	124.3	128
Chindwara	4.7	-91
Damoh	112.5	107
Dindori	102.5	79
Jabalpur	74.6	18
Katni	52.0	-14
Mandla	117.3	82
Narsingpur	54.8	-18
Panna	92.7	25
Rewa	74.2	5
Sagar	77.1	19
Satna	62.8	4
Seoni	84.8	54
Shahdol	77.0	27
Sidhi	198.0	180

Singrauli	126.3	150
Tikamgarh	100.7	154
Umaria	183.7	154
West Madhya Pradesh		
Alirajpur	25.6	-39
Asoknagar	0.0	-100
Badwani	31.4	14
Betul	20.0	-70
Bhind	41.7	-8
Bhopal	57.1	10
Burhanpur	3.0	-90
Datia	44.4	1
Dewas	0.5	-99
Dhar	20.1	-53
Guna	42.5	8
Gwalior	19.3	-58
Harda	12.7	-75
Hosangabad	55.2	-32
Indore	33.8	-15
Jhabua	16.6	-56
Khandwa	6.3	-83
Khargone	18.8	-39
Mandsaur	47.5	32
Morena	20.9	-41
Neemuch	62.6	74
Raisen	104.4	68
Rajgarh	92.9	175
Ratlam	100.1	128
Sehore	34.1	-38
Shajapur	66.0	102
Sheopur Kalani	2.7	-92
Shivpuri	37.6	-11
Ujjain	33.6	-12
Vidisha	51.2	26
Chattisgarh		
Bastar	54.4	-21
Bijapur	61.1	0
Bilaspur	85.6	27
Dantewara	67.1	23
Dhamtari	20.5	-72
Durg	53.6	-19
Janjgir	112.2	64
Jashpurnagar	150.1	75
Kanker	42.8	-41
Korba	214.6	195
Koriya	223.4	211
Kawardha	47.0	-2
Mahasumund	171.5	146
Narayanpur	72.8	9
Raigarh	302.9	264
Raipur	58.5	-17
Rajandgaon	53.7	-17
Surguja	197.9	192
UttaraKhand		
Almora	41.0	3
Bageshwar	47.0	18
Chamoli	67.6	98
Champawat	96.5	44
Dehradun	84.2	-2
Garhwal Pauri	36.8	-35

Garhwal Tehri	21.1	-51
Haridwar	110.2	159
Nainital	107.9	49
Pithorgarh	57.5	-18
Rudraprayag	23.7	-69
Udham Sing Nagar	49.4	-26
Uttarkashi	55.7	-26
Jharkhand		
Bokaro	61.9	-11
Chatra	0.0	-100
Deoghar	**	**
Dhanbad	118.6	76
Dumka	**	**
East Singbhum	175.7	159
Garhwa	68.0	-12
Giridih	72.7	28
Godda	18.7	-71
Gumla	**	**
Hazaribagh	103.0	54
Jamtara	30.7	-64
Khunti	**	**
Koderna	83.0	57
Latehar	48.4	-34
Lohardagga	38.0	-43
Pakur	13.0	-85
Palamau	69.8	-3
Ramgarh	52.0	-22
Ranchi	59.5	-17
Sahebganj	32.8	-58
Seraikela	**	**
Simdega	**	**
West Singbhum	110.9	68
East Rajasthan		
Ajmer	25.0	36
Alwar	51.2	63
Banswara	77.7	87
Baran	60.2	105
Bharatpur	43.3	47
Bhilwara	19.8	-20
Bundi	38.5	47
Chittorgarh	57.9	89
Dausa	32.0	15
Dholpur	33.4	-8
Dungarpur	115.9	253
Jaipur	24.3	17
Jhalawar	48.5	52
Jhunjhunu	38.8	142
Karauli	15.4	-47
Kota	47.0	46
Pratapgarh	138.2	218
Rajsamand	65.9	226
Sawai Madhopur	11.4	-58
Sikar	12.2	-26
Sirohi	268.5	394
Tonk	25.1	8
Udaipur	104.0	279
West Rajasthan		
Barmer	82.8	471
Bikaner	4.7	-54
Churu	18.2	48

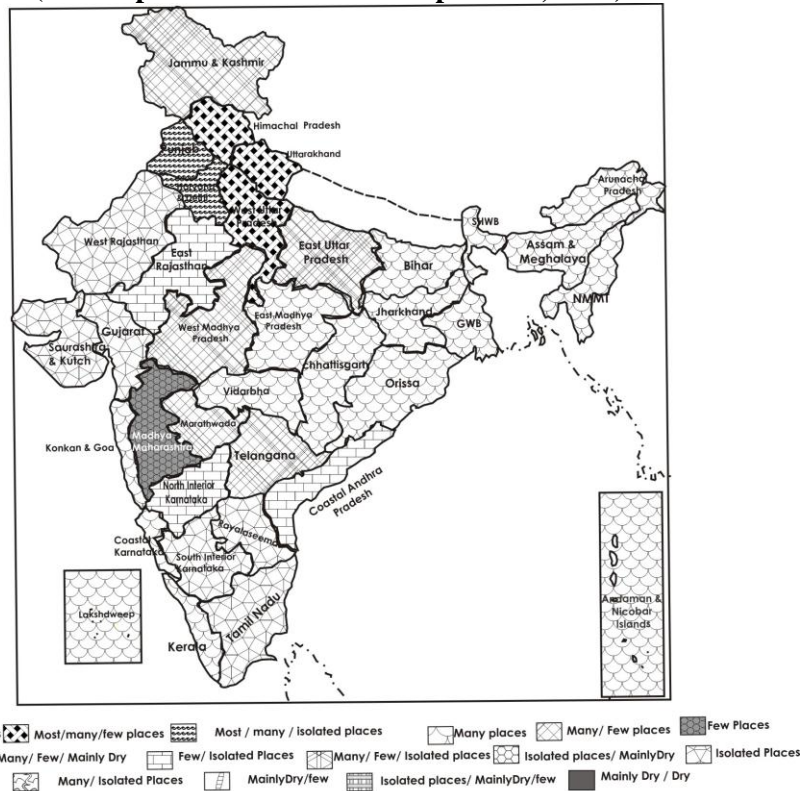
Hanumangarh	9.3	4
Jaisalmer	3.4	-54
Jalore	125.8	375
Jodhpur	22.7	45
Nagaur	11.0	-17
Pali	87.2	259
Sri Ganganagar	21.5	152
Gujarat Region		
Ahmedabad	31.1	-10
Anand	35.2	1
Banaskantha	175.7	350
Baroda	36.3	-18
Broach	60.6	75
DNH	99.0	61
Dahod	17.6	-59
Daman	69.3	13
Dangs	6.0	-92
Gandhinagar	43.0	3
Kheda	30.2	-26
Mehsana	112.9	154
Narmada	45.4	1
Navsari	116.8	68
Panchmahal	41.9	-13
Patan	81.8	167
Sabarkantha	90.8	113
Surat	87.4	91
Tapi	31.0	-34
Valsad	141.7	98
Saurashtra, Kutch & Diu region		
Amreli	32.3	83
Bhavnagar	40.0	80
Diu	125.3	553
Jamnagar	76.1	247
Junagarh	21.3	-14
Kutch	25.4	-10
Porbandar	25.9	-7
Rajkot	46.2	88
Surendranagar	56.1	203
Orissa		
Angul	57.3	-16
Balasore	29.6	-67
Bargarh	176.4	124
Bhadrak	51.9	-16
Bolangir	61.5	-17
Boudh	39.3	-48
Cuttack	28.7	-64
Deogarh	75.6	-3
Dhenkanal	45.9	-29
Gajapati	25.7	-53
Ganjam	28.6	-50
Jagatsingpur	41.8	-44
Jajpur	51.8	-16
Jharsuguda	175.7	131
Kalahandi	67.0	-20
Kandhamal	45.0	-41
Kendrapara	75.0	5
Keonjhar	38.4	-34
Khurda	22.6	-71
Koraput	58.4	-23
Malkangiri	93.2	41

Mayurbhanj	78.7	3
Nawapara	58.2	-2
Nawarangpur	41.6	-41
Nayagarh	40.6	-34
Puri	28.1	-63
Rayagada	25.9	-53
Sambalpur	97.1	25
Sonepur	62.1	-32
Sundargarh	110.6	57
West Bengal		
GWB		
Bankura	179.2	180
Birbhum	78.8	23
Burdwan	68.1	-6
Hooghly	34.2	-41
Howrah	22.3	-71
East Midnapore	30.8	-69
Murshidabad	67.2	7
Nadia	23.2	-51
24 Pargana (N)	16.2	-79
Purulia	145.8	97
24 Pargana (S)	41.6	-55
West Midnapore	51.6	-29
SHWB		
Cooch Behar	16.5	-86
Darjeeling	90.5	-35
East Sikkim	56.0	-39
Jalpaiguri	36.5	-71
Malda	28.6	-63
North Dinajpur	10.3	-90
North Sikkim	43.2	-57
South Dinajpur	16.5	-77
South Sikkim	48.8	-47
West Sikkim	54.0	-47
Kerala		
Alappuzha	116.0	83
Kannur	102.5	138

Ernakulam	247.4	291
Idukki	120.0	98
Kasaragod	144.9	163
Kollam	73.7	79
Kottayam	143.8	155
Kozhikode	213.4	346
Malappuram	152.7	289
Palakkad	94.4	203
Pathanamthitta	137.9	149
Thiruvananthapuram	42.9	38
Thrissur	216.1	287
Wyanad	26.1	-34
Tamil Nadu		
Chennai	17.2	-26
Coimbatore	10.7	-4
Cuddalore	105.4	261
Dharmapuri	4.7	-87
Dindigul	10.8	-63
Erode	30.2	41
Kanchipuram	50.7	59
Kanyakumari	13.2	-29
Karur	24.3	-1
Krishnagiri	21.7	-28
Madurai	18.6	-44
Nagapattinam	30.9	31
Namakkal	33.4	5
Nilgiris	45.7	74
Perambalur	73.6	171
Puducherry	103.6	232
Pudukottai	35.9	37
Ramanathapuram	8.2	-32
Salem	40.2	17
Sivaganga	67.7	154
Thanjavur	37.1	41
Theni	10.8	-13
Tirunelveli	2.2	-52
Tiruvallur	30.4	11

Tiruvannamalai	66.4	68
Tiruvarur	21.4	-16
Toothukudi	11.3	61
Trichy	57.2	82
Vellore	37.1	15
Villupuram	61.8	73
Virudhunagar	38.0	105
Andhra Pradesh		
Coastal Andhra Pradesh		
East Godavari	38.5	15
Guntur	10.5	-66
Krishna	21.6	-36
Nellore	14.7	-23
Prakasam	6.8	-66
Sirkakulam	43.7	-12
Visakhapatnam	41.0	1
Vizianagram	49.8	0
West Godavari	30.3	-20
Telangana		
Adilabad	29.2	-12
Hyderabad	7.2	-80
Karimnagar	34.3	11
Khammam	62.9	65
Mehabubnagar	6.4	-80
Medak	11.7	-69
Nalgonda	10.5	-67
Nizamabad	13.4	-65
Rangareddy	9.2	-79
Warangal	84.5	159
Rayalaseema		
Anantapur	6.2	-73
Chittoor	37.1	35
Cuddapah	13.2	-40
Kurnool	5.8	-77

Weather Forecast (Valid upto 1430 hours of 18th September, 2011)



Major Feature of Weather Forecast upto 1430 hours IST of 18th September, 2011

- Fairly widespread rain/thundershowers would occur along west coast and over east, adjoining central & northeast India and Andaman & Nicobar Islands.
- Fairly widespread rain/thundershowers would occur over western Himalayan region and adjoining plains and central India during next 48 hours and decrease thereafter.
- Scattered rain/thundershowers would occur over remaining part of the country outside west Rajasthan, Gujarat and southeast peninsular India where it may be isolated.

Weather Warning

- Isolated heavy to very heavy rainfall would occur over Punjab, Haryana, Delhi, Chandigarh, Himachal Pradesh and Uttarakhand during next 24 hours with isolated heavy during subsequent next 24 hours.
- Isolated heavy rainfall would occur over Gangetic West Bengal, Orissa, Chhattisgarh, coastal Karnataka, Kerala, Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 48 hours.
- Isolated heavy rainfall would occur over west Uttar Pradesh and Jammu division of Jammu & Kashmir during next 24 hours.

Weather Outlook up to 1430 hours IST of 20th September, 2011

- Fairly widespread rain/thundershowers would continue over east & adjoining central India and northeastern states.
- Subdued rainfall activity over northwest India.

Zonewise Agromet Advisories

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

- **Realised Rainfall:** Many districts of Orissa, West Bengal and Jharkhand received significant rainfall during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over the states of the region during the period. There is also chance of isolated heavy rainfall over Gangetic West Bengal and Orissa during next 48 hours.
- **Advisories:**
 - In view of likely occurrence of fairly widespread rain / thundershowers over the States of the region, farmers are advised to postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - Flash flood in four districts of coastal areas of Orissa due to heavy rain occurred during earlier weeks caused submergence of rice fields during last week. Release of excess water from Mahanadi caused damage of the crops in Mahanadi delta region of the state. In view of above and also likely occurrence of isolated heavy rainfall in Orissa, farmers are advised to arrange for drainage facilities, wherever possible, to prevent the further crop damage.
 - Farmers in Gangetic West Bengal are also advised to arrange for drainage facilities in view of isolated heavy rainfall likely to occur over this region.
 - Farmers of Orissa are advised to drain out excess water from non-paddy crop field, wherever possible and sow black gram, green gram, sesame, arhar, niger, horsegram and brinjal after the soil attains optimum moisture condition.
 - In Bihar, standing crops of rice is facing moisture stress in some districts due to poor rainfall during last few weeks; apply life saving irrigation to the crops. Continue sowing of pigeon pea and planting of cauliflower and toria.
 - Farmers of Central and North Eastern Plateau Zone of Jharkhand are advised to sow tomato, cabbage and cauliflower.
 - 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.
 - Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
 - 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.
 - Attack of rice hispa, cut worm and stem borer has been reported in South Bihar Alluvial Zone; spray Imidachlorprid @ 1 ml dissolved in 4 litres of water or Nuvan @ 1 ml dissolved in 1 liter of water.
 - Prevailing rainy weather is conducive for the occurrence of pests like hairy caterpillar in pulses in South Eastern Plateau Zone of Jharkhand; at early stage of caterpillar apply Dichlorvos @ 0.5 ml per liter of water.
 - Present weather condition may favour occurrence of anthracnose disease in cucurbitaceous crops in South Eastern Plateau Zone of Jharkhand; blitox 50 @ 3 g per liter of water should be used as prophylactic spray. Weather is also conducive for the attack of diseases like leaf blight in tomato, chilli and capsicum; spray blitox 50 or copper oxychloride @ 3 g per liter of water.
 - Infestation of *Helicoverpa* infestation has been found in maize in Keonjhar and Mayurbhanj districts of North Central Plateau Zone of Orissa; spray 100 L.E. NPV during morning and evening. Maize crop has also been infested with stem borer; apply 1 g Furadan in the leaf whorl or spray 2 ml Chloropyriphos or 1.5 ml Phosphamidon in 1 litre water. Repeat the spraying once again after 15 days of first spraying.
 - Due to excess water in Cuttack, Kendrapara and Jagatsingpur districts of East and South Eastern Coastal Plane Zone of Orissa, cut worm has been found in rice crop; apply Chloropyriphos around

the bunds of the affected field to prevent the entry of pest to the unaffected field and spray 400 ml Chloropyriphos in 200 litres of water per acre in the afternoon hours.

- Infestation of spotted boll worm is reported in cotton in Ganjam district of Orissa; spray 200 LE HNPV along with gur, if it crosses the ETL level of 5 –10 % of affected twigs and install pheromone traps in the middle of the field at 1 ft above the crop height.
- Due to heavy rainfall and high humidity, there is likely occurrence of cutworm in rice in North Eastern Plateau Zone of Orissa; apply Chloropyriphos @ 400 ml / 200 liters of water / acre round the bunds of the affected fields to prevent the entry of the pest to the unaffected fields.
- Apply plant protection measures to the crops after current spells of rain.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- Due to hot humid weather In Coastal Saline Zone of West Bengal cattle may be attacked by ulceration in foot and mouth. If ulceration found, wash it with potassium permanganate or boric acid. To prevent this disease keep the cattle clean and follow proper vaccination. Due to damp weather, there is a chance of coxidiosis disease in poultry; spray antibiotic (khosrolin) in the poultry house.
- It is time to go for pisciculture in Ganjam district of Orissa, as the reservoirs are now full of water.
- High moisture content may accelerate the growth of fungus (*Aspergillus Spp.*) in the poultry feed. So all feed concentrate meant for poultry should be dried to 12% moisture. In cattle, to prevent the outbreak of foot and mouth disease, FMD Vaccine should be administered to the adult cattle @ 5 ml S/C in Western Undulating zone of Orissa.

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

- **Realised Rainfall:** Many districts of Arunachal Pradesh and Assam received rain during last week.
- **Rainfall Forecast:** Fairly widespread rain / thundershowers would occur over the states of this region during the period. Isolated heavy rainfall would occur over Arunachal Pradesh, Assam and Meghalaya and Nagaland, Manipur, Mizoram and Tripura during next 48 hours.
- **Advisory**
 - As fairly widespread rain / thundershowers would occur over the states of this region during the period, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops. In view of possibility of occurrence of isolated heavy rainfall during next 48 hours, farmers of these States are also advised to arrange for adequate drainage to avoid water stagnation.
 - In Assam, farmers are advised to continue sowing of pulses like green gram and black gram, pigeon pea, sowing of brinjal (early varieties), cauliflower (early varieties), cabbage, knolkhol, tomato, radish, country bean, Dolichos bean etc. and planting of banana and pine apple. Taking the advantage of adequate rain during last few weeks, farmers are also advised to prepare the land and complete transplanting of *sali* rice.
 - In flood affected areas of Lower Bramhaputra Valley Zone of Assam, farmers who lost their crops are advised for re-sowing using short duration varieties (90-95 days) of *Sali* rice.
 - In Arunachal Pradesh, farmers are advised to harvest matured maize cobs after current spells of rain and dry properly before storing.
 - Farmers in Arunachal Pradesh are advised to conserve rain water. Farmers are also advised to start land preparation 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 for *rabi* crops.
 - Farmers in Mid-tropical plain zone of Tripura are advised to prepare nursery for sowing of early cauliflower, radish and brinjal.
 - Farmers of Manipur are advised to prepare land for onion, French bean, broad bean and pea and continue to prepare bed for raising nursery for tomato, cabbage, cauliflower etc.

- In view of possibility of occurrence of isolated heavy rainfall during next 48 hours, farmers of these States are advised to undertake harvesting as well as sowing or transplanting operation after current spells of rain.
- Suitable varieties of the crops for sowing or transplanting are mentioned in Annexure II.
- In Central Brahmaputra Valley Zone in Assam, there is a chance of attack of stem borer and caseworm in *sali* rice; farmers are advised to spray Chloropyriphos (20%) @ 2 ml / litre of water.
- 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 crop and spray Quinolphos @ 2 teaspoonful / 5 litres of water to control the attack.
- In Sub Tropical Plain Zone of Manipur, there is chance of occurrence of Bacterial Leaf Blight (BLB), sheath blight, leaf folder, stem rot, stem borer and gall midge on rice; farmers are advised to monitor and spray 250 ppm of Agrimycin 100 against BLB, Validamycin @ 2 ml / litre of water for sheath blight, Cartap @ 600 ml / litre of water against leaf folder and Thiophanate methyl 75 WP @ 1 g / litre of water against stem rot; spray 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.
- In Mizoram, there is chance of infestation of pests like gundhi bug, stem borer, leaf hopper and plant hopper and disease like blast in rice; farmers are advised to monitor the crop and spray Malathion dust 5% @ 8 kg / acre or Malathion 50 EC @ 2 ml / litre (350 ml / acre) 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. There is chance of attack of pod bug and anthracnose on Feanch bean, rice bean, urd and mung; farmers are advised to spray the crop with Phosphomidon @ 0.5 ml / litre 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. There is attack of leaf spot on ginger and turmeric; spray Carbendazim (1 g / litre) or Mancozeb (2.5 g / litre) + 1ml Sandovit.
- As there is chance of attack of leaf folder and rice hispa in Jaintia, West and East Garo hill districts of Meghalaya, farmers are advised to spray Chloropyriphos 20 EC @ 1.5 ml per liter of water in seedling and tillering stage of rice. There is chance of incidence of shoot borer on 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 rice blast in *aman* rice; farmers are advised to spray Mancozeb @ 0.25% against blast.
- Apply plant protection measures after current spells of rain.
- 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 and Central Brahmaputra Valley Zone in Assam.
- In North Bank Plain Zone of Assam, duck farmers are advised to collect higher egg laying breed of duck as CharaChambeli and khaki Campbell along with local breed.
- Farmers in Manipur are advised to deworm the cattle, sheep, goat etc. Vaccinate poultry against Coccidiosis and Ranikhet diseases. It is also advised to deworm and vaccinate pigs against SFV (Swine Fever vaccine) and Foot and Mouth disease (FMD).
- In Tripura, vaccinate and deworm the pigs from swine fever and internal parasite.
- In Mizoram and Tripura, due to prevailing high moisture, there is chance of ammonia fumes which irritate the respiratory tract and eyes in poultry. Poultry farmers are advised to provide good ventilation. Due to continuous rainfall, there are chances of contamination of feed to fungus and bacteria; hence, farmers are requested to boil the feeds before giving to pigs to kill harmful insects or parasites.

- In Nagaland, poultry farmers are advised to treat the chicks with furaltadone @ 1 g / litre of water against Bacillary white diarrhea, mostly in baby chicks and vaccinate the birds against Foot and Mouth disease.

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

- **Realised Rainfall:** Many of the districts of the states of this region received rainfall during last week.
- **Rainfall Forecast:** Rain/thundershowers are likely to occur at most places over Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Punjab, Haryana, Delhi during next 24 hours and afterwards at many places and decrease thereafter. Rainfall is also likely to occur at many places over West Uttar Pradesh and Jammu and Kashmir during next 48 hours and at a few places thereafter. Rainfall is likely to occur at a few / isolated places during next three days.
- **Advisory:**
 - Damage to some crops due to excess rainfall, especially in cotton in the Malwa region of Punjab has been reported. Cotton crop, which is at harvesting stage, has been damaged in the Districts like Muktsar, Ferozepur, Fazilka, Taran-Taran, Jalandhar, Kapurthala. Farmers are advised to arrange for drainage facilities to prevent the crop from further damage
 - As fairly widespread rain/thundershowers is likely to occur over the region, postpone irrigation to the standing crops. Provide adequate drainage facilities in Punjab, Haryana, Delhi, Himachal Pradesh and Uttarakhand as isolated heavy rainfall during next 48 hours.
 - Farmers in Delhi are advised to undertake sowing of early pea, sarson saag, radish, spinach, coriander, turnip and carrot. Also transplant brinjal, onion, tomato, chilli, chrysanthemum and marigold on raised beds. Sowing of gladiolus may be done. Prepare field for sowing of early mustard and prepare nurseries of cauliflower for mid-season cultivation with proper drainage facilities.
 - Farmers in Punjab are advised to harvest mature bajra, jowar and matured fruits of tomato, brinjal and chilli after current spells of rain. Undertake sowing of toria, early varieties, of vegetables and fruits and late season varieties of cauliflower. Transplant fully developed seedlings (4-6 week old) of main season varieties of cauliflower. Farmers are advised to drain out excess water standing in cotton, orchards & vegetable crops.
 - Farmers of Himachal Pradesh are advised to make arrangement for harvesting of apple, vegetables. Nursery beds preparation and subsequently sowing of seeds of cabbage, cauliflower and broccoli etc. may be done. Direct sowing of carrot, radish and Palak can also be done during this period. Skip Irrigation to crops in mid hills region and apply irrigation to rajmash, kathu and other temperate crop. Maintain intermittently 5 cm rain water in rice field for good yield.
 - Farmers in Jammu & Kashmir are advised to undertake harvesting of matured pods of moong, sowing of berseem, radish, carrot, turnip, planting of litchi, cole crops viz. early cauliflower, cabbage, knoll khol, broccoli, kale, chinese cabbage for crops under greenhouses. They are also advised to harvest tomatoes, capsicum, chilli and brinjal at regular interval in cold arid zone (Leh). Proper mulching with straw or plastic sheet is advised to protect the seedbeds from rainfall.
 - Farmers in Bhabar and Tarai Zone of Uttarakhand are advised to undertake sowing of vegetable pea at high hills, toria, planting of papaya.
 - Farmers in Pantanagar Bhabar and Tarai Zone of Uttarkhand are advised to do harvesting and threshing of matured rice crop during this week when rain stops. Continue sowing of early vegetable pea, tomato 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 Uttar Pradesh are advised to undertake sowing of brinjal, chilli, lady's finger and lobia during this week.
 - Farmers in Rajasthan are advised to undertake field preparation of sowing of taramira, rainfed taramira, toria, pea, mustard, picking of matured fruits of tomato, brinjal, chilli and picking of pods of green gram and pulses, harvesting of bajra, jowar. They are also advised to undertake seed

bed preparation for raising nursery of vegetables viz. chilli, brinjal, palak, pea, cabbage, coriander and tomato for *rabi* season.

- Farmers in Central Plain Zone of Uttar Pradesh are advised to spray solution of Monocrotophos 36 EC in 800ml/ha. to control leaf roller in arhar, spray solution of Carbendazim 500gm in 100 lit. of water to control brown leaf spot in rice crop, to spray solution of Methyl Parathion 2% powder @25-30 km/ha. to control army worm also in rice.
- In Himachal Pradesh weather is favorable for appearance of rice hispa, leaf folder and leaf miner in rice. For controlling the same, spray Metacid 50EC @1ml/litre or Chloropyrophos @2ml/l of water. For controlling powdery mildew in bhindi, farmers are advised to spray Cantaf/Sitra @0.5 ml per litres or Karathane@ 1 ml per litres of water.
- There are chances of yellow mosaic in moth crop in Arid Western Plain Zone (Bikaner) in Rajasthan, farmers are advised to spray of Dimethoate@ 1ml/lit. or Metasystox@ 1.2 ml/lit., where the crops are immature. There are also chances of bacterial blight and hoppers in rice, farmers are advised to spray 100 ppm. solution of Streptocyclin to control bacterial leaf blight and to control hoppers, spray of 75 S.P. 500 gm per ha. is advised.
- There are chances of increase in infestation of Hara Tela in narma cotton in Irrigated North Western Plain Zone in Rajasthan. To control, farmers are advised to spray solution of Thiomithoxam 25 WG 0.5 ml / lit. of water. There are also chances of bacterial blight in guar crop and yellow mosaic disease in moong. Farmers are advised to spray solution of Streptocyclin 12 gm / 100 lit. water to control bacterial blight and to spray solution of Triazophos 40 E.C. @ 2 ml per lit. of water to control yellow mosaic disease.
- In Jammu Division, the present weather is favorable for bacterial leaf blight in rice crop, under such situations farmers are advised to drain out whole old water and apply fresh water to the crop after four days and also delay the nitrogen application or Spray the crop with Streptocycline@ 100gm + Copper Oxychloride@ 500gm in 500 litre of water when symptoms are appears in the crop during clear weather.
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandary**
 - In Punjab, due to hot, humid weather during which flies, lice and ticks are very common. These suck blood, cause skin irritation and spread diseases. To check these, spray Asuntol 0.05%, Butox 0.02% and Taktic(12.5%) 0.02 % on the animals as well as on the sheds and repeat the spray after 10-15 days.
 - In semi-arid eastern plain zone of Jaipur in Rajasthan, livestock may be attacked by external parasites like ticks. These parasites causes blood parasite diseases like Babesia & Thelaria. In this disease frequent fever come in animals. Treat animal immediately if symptoms are seen.

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

- **Realised Rainfall:** Coastal Karnataka, many districts in Tamil Nadu, most of the districts in Kerala except Wyanad, Bangalore Urban, Kodagu, Ramnagara and Shimoga in South Interior Karnataka, East Godavari, Srikakulam, Vishakapatnam, Vizianagram and West Godavari in Coastal Andhra Pradesh, Karimnagar, Khammam and Warangal in Telangana and Chittoor in Rayalseema received good rainfall. No significant rainfall occurred in North Interior Karnataka and the remaining parts of the region.
- **Rainfall Forecast:** Rain / thundershowers is likely at many places over Coastal Karnataka and Kerala. Isolated / scattered rain/thundershowers would occur over remaining subdivisions in the region. Isolated heavy rainfall would occur over coastal Karnataka and Kerala during next 48 hours.
- **Advisories:**
 - Due to continuous dry spell, the June sown groundnut crop in the districts of Anantapur and Kurnool which is at pod development stage, crop damage is reported. In the districts of Chittoor and Cuddapah also, crop damage due to deficient rainfall during the last two weeks is noticed. Farmers

are advised to arrange for supplementary irrigation to groundnut and already sown contingent crops like redgram and short duration pulse crops in the region.

- As there was sufficient rainfall in Coastal Karnataka, most of the districts in Tamil Nadu, most of the districts in Kerala except Wyanad, Bangalore Urban, Kodagu, Ramnagara and Shimoga in South Interior Karnataka, East Godavari, Srikakulam, Vishakapatnam, Vizianagram and West Godavari in Coastal Andhra Pradesh, Karimnagar, Khammam and Warangal in Telangana and Chittoor in Rayalseema, postpone irrigation to the crops. Apply irrigation to the crops in the regions where there was no significant rainfall. Provide drainage facilities in Coastal Karnataka and Kerala as isolated heavy rainfall is expected during next 48 hours.
- Farmers in the North Dry Zone of Karnataka are advised to keep the land ready for sowing rabi crops like sorghum, safflower, continue sowing of desi cotton, horse gram, sunflower, since light to moderate amount of rainfall is expected at many places in the district. Plant protection measures should be taken up only after five days or adhesive gum should be added to the spray mixture before spraying so as to prevent washing away of chemical.
- Farmers of North Transition Zone of Karnataka are advised to provide protective irrigation at the critical stages of crops, wherever possible, undertake plant protection measures to prevent the crop withering from the biotic stress (sucking pests in cotton and defoliators in groundnut, soybean and other crops.) and uproot and destroy the heavily infested and infected crops with insects and diseases.
- Farmers in the Coastal Zone of Karnataka are advised to drain out excess water in rice, as flooded situation are noticed in paddy field due to heavy rain splashes in low land area in last few days. Farmers are advised to drain the paddy field, pull the rope across the crop by holding rope ends on either side of the field and spray the Quinolphos 2ml/lit of water. Farmers are also advised to apply second dose of fertilizers to arecanut, cashew and coconut, after spells of rain.
- Farmers in the Hill Zone of Karnataka are advised to take up sowing in areas where sufficient amount of rainfall is received.
- Farmers in the North East Dry Zone of Karnataka are advised to avoid water stagnation, since rainfall is forecasted in the coming days. They are also advised to harvest green gram and black gram wherever it is possible, prepare land for sowings of rabi crops like safflower, bengal gram, rabi jowar.
- Farmers in the Krishna Godavari Zone of Andhra Pradesh are advised to undertake precautionary measures against pest and diseases and deficiency of iron.
- Since light to moderate rainfall is forecasted in the Cauvery Delta Zone of Tamil Nadu for the next five days, farmers are advised to arrange for proper drainage and harvest should be planned accordingly.
- Farmers in the South Zone of Tamil Nadu are advised to prepare the field by adopting land configuration techniques like broad bed and furrows, compartmental bunding and ridges and furrows in order to do sowing in time.
- Farmers in the North Western Zone of Tamil Nadu are advised to take up weeding using the recent rains so as to get growth of the standing crops and yield.
- Farmers in the High Rainfall Zone of Tamil Nadu are advised to give stacking for banana and rubber plants and apply fertilizers to all horticultural crops.
- Land preparation for early mundakan may be started in the central zone of Kerala and continue manuring in coconut, ginger, turmeric and vegetables.
- Farmers in the Northern Zone of Kerala are advised to plant coconut seedlings (Seedlings with 10-12 cm girth and 6-8 leaves are ideal for planting). Sufficient drainage should be ensured in the coconut garden and to continue planting of cashew grafts. This is the appropriate time for second dose of fertilizer application in rainfed coconut. Apply fertilizers @ 500g Urea, 600g Rock phosphate and 800g Potash per plant.

- In the northern zone of Kerala attack of blue beetle is found in the paddy fields. They feed on chlorophylls and fold the leaves. Application of carbaryl 50EC @4g/L of water added with a wetting agent will control the attack.
- In the scarce rainfall region of Rayalaseema of Andhra Pradesh sucking pests, mainly leaf miner was noticed in groundnut. To control Leaf minor spray Chlorpyrifos @2.0 ml and Nuvan @1.0 ml in lit of water.
- Farmers in the western zone of Tamil Nadu are advised to monitor the thrips and leafhopper infection in cotton and take the appropriate management measures.
- Due to congenial weather condition in the southern dry zone of Karnataka, tomato crop is severely affected by late blight disease, ragi crops by finger blast, cotton crop by mites and red cotton bug and Avare and cauliflower crop by leaf eating caterpillar. Spray Macozeb @ 2 gm/ltr. of water or Chlorothalonil @ 2gm/ltr of water to control late blight disease, carbon daizim @ 0.5 gm or eripinphost @ 1ml/ltr of water or captaphal @ 2 gm or mancozeb @ 2.5 gm or zainab@ 2.5 gm/ltr of water to control finger blast, oxidemeton methyl 25 EC @ 2ml or Phosphamidin-100 EC @ 0.5 ml or Dymithoate 30 EC or Phorate-10 G or Disulphaton 5 G@ 0.5 ml or imidachloprid 17.8 SL to control mites, Penthoate or Phosolon-35 EC @ 2 ml/ltr of water to control red cotton bug and 25 kg Carbaryl 25% dust or 25 kg Phenvalarate 4% dust or 25 kg Melathian 5% dust/ha to control leaf eating caterpillar . Repeat the dust two times at an interval of 15 days
- The late planted paddy crop was infested with thrips in the Coastal Zone of Karnataka. Hence farmers are advised to spray Monocrotophos @ 1.5 ml/lit of water to control them.
- Since cloudy weather encourages attack of pests and diseases, farmers in the Hill Zone of Karnataka are advised to undertake plant protection measures.
- Undertake plant protection measures after spells of rain in Kerala and Coastal Karnataka.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised rainfall:** Significant rainfall occurred in most of the districts of Gujarat region, Saurashtra and Kutch, Konkan and Goa, Kolhapur district in Madhya Maharashtra and many districts in Vidarbha (except Amravati, Buldhana, Wardha and Washim districts) during last week.
- **Rainfall forecast:** Fairly widespread rainfall over Konkan and Goa, scattered rainfall over Madhya Maharashtra and Marathwada and isolated rainfall over Gujarat State would occur during the period. Fairly wide spread rainfall would occur over Vidarbha during next 24 hours and decrease thereafter.

Advisory:

- As there is possibility of fairly widespread rainfall over Konkan and Goa and Vidarbha during the period, farmers are advised to postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops.
- Farmers are advised to continue plucking of already matured pods of green gram and black gram on a non-rainy day.
- For better growth of cotton boll and control of red leaf in cotton, spray Magnesium Sulphate 1 kg + DAP @ 4 kg/acre. Spray 2% Urea or DAP at flowering stage on soyabean in East Vidarbha. Undertake application after current spells of rain.
- Farmers of Madhya Maharashtra and West Vidarbha are advised to apply 1 goni of urea and half goni of Potash per acre on a non-rainy day on *vapsa* condition in cotton.
- For better pollination (seed setting) forehead covered with woolen cloth may be rubbed gently over the floral disk of sunflower during morning hours preferably between 7 am to 11 am.
- As weather is favourable, farmers in Madhya Maharashtra are advised to undertake sowing of *rabi* sorghum after 15th September. Apply second dose of Nitrogen after 6 to 8 weeks of planting of *adsali* sugarcane in Madhya Maharashtra and Marathwada on a non-rainy day.
- Taking the advantage likely dry condition, farmers in Bhal and Coastal zone of Gujarat State are advised for harvesting of matured pods of pulses and matured fruits of vegetables. Carry out transplanting of horticultural crops.
- In case of failure of *kharif* crop due to heavy rain, farmers in Middle Gujarat Zone and North Gujarat Zone are advised for sowing of semi *rabi* sesame as a contingency planning.

- Spraying of 100 g Ferrous Sulphate and 10 g Citric acid in 10 liters of water is advised for yellowness in groundnut crop in North and South Saurashtra Zones of Gujarat and South Gujarat Heavy rainfall Zone.
- Taking the advantage of prevailing weather, farmers in North Saurashtra Zone of Gujarat and North Gujarat Zone are advised to apply 40 kg N / ha in cotton. Carry out transplanting of new grafted material if required and harvest the matured fruits in North Gujarat Zone.
- Farmers in South Gujarat Zone are advised to drain out excess water from maize, sugarcane, green gram, black gram, ginger, turmeric and vegetable crop fields.
- Suitable varieties of the crops for sowing are mentioned in Annexure II.
- Weather is congenial for attack of tikka and rust disease on groundnut crop in Pune and Kolhapur region. For control of this diseases, spray Mancozeb 25 g per 10 liters of water.
- There may be attack of leaf eating caterpillar and semilooper on soybean in Western Maharashtra Scarcity Zone; use S.L.N.P.V 10 ml or Indoczacarb 14.5 EC @ 6 ml per 10 litres of water for leaf eating caterpillar and for semilooper, use Chloropyriphos 20 EC @ 30 ml or Quionolphos 25 EC @ 30 ml per 10 litres of water.
- Weather is favourable for attack of blast disease in rice in Pune and Konkan region; apply Carbendazim 10 g or Copper Oxychloride 25 g per 10 litres of water.
- There may be attack of leaf roller on Tur in Marathwada. Spray Monocrotophos @ 20 ml and Dimethoate 15 ml in 10 litres of water.
- Due to cloudy weather in South Gujarat Zone, there are chances of incidence of sucking pests in cotton. Farmers are advised to spray 1.7 ml Roger or 1.5 ml Metasystox + 2.5 ml Dicofol per liter of water after current spells of rain to control the pests.
- Due to forecast of partly cloudy sky and light rain / thundershowers in North Gujarat Zone, there is a possibility of sucking pests in green gram, castor and cluster bean. Farmers are advised to spray Acephate @15 g / 10 liters of water.
- Stages of major crops are mentioned in Annexure I.

Animal Husbandry

- For the control of fly and Mosquito in cattle shed in Gujarat, spray Malathian dust and clean the shed frequently.

CENTRAL INDIA[M.P., CHHATTISGARH]

- **Realised Rainfall:** Good rain occurred during last week in Madhya Pradesh and Chattisgarh.
- **Rainfall Forecast:** Rainfall is likely at many places in Madhya Pradesh and in Chhattisgarh during next three days. There are also chances of isolated heavy rainfall over Chhattisgarh during next 48 hours
- **Advisory:**
 - As fairly widespread rain occurred over Madhya Pradesh and Chhattisgarh during last week, postpone irrigation to the crops.
 - Farmers in Kymore Plateau and Satpura Hill Zones in Madhya Pradesh are advised to transplant cauliflower in main fields and prepare nursery for medium duration varieties.
 - Farmers in Central Narmada Valley, Vindhya Plateau and Malwa Plateau Zone of Madhya Pradesh are advised for proper drainage of water in field of *kharif* crops and vegetables. Also prepare cabbage and cauliflower nursery in Central Narmada Valley and Vindhya Plateau Zone.
 - Farmers in Malwa Plateau Zone of Madhya Pradesh are advised for preparation for planting of potato..
 - Farmers in Chattisgarh Plain Zone are advised for proper drainage in vegetables, pulses and oilseed crops. In North Hill of Chattisgarh, farmers are advised for sowing of Ramtil and prepare nursery for tomato, cabbage, chilly and cauliflower.
 - Farmers in Bastar Plateau Zone are advised for sowing of niger, Kulthi (horegram) and toria after field preparation by ploughing in the fields in Chattisgarh in the marhan and tikra farming situation (upland situations). Also farmers in Chattisgarh Plain Zone in Chattisgarh are advised for sowing of nursery of early varieties of cauliflower, tomato, brinjal, chilly.

- Weather is congenial for leaf blight in paddy crop, leaf and fruit borer in Sesame crop in Bundelkhand Zone of Madhya Pradesh, farmers are advised to spray Mencozeb @ 2.5 ml/litre or Corbandazim @ 1.5 ml/litre of water for paddy and Monocrotophos 36 E.C @ 1.0 ml. or Quinolphos 20 E.C. 1-1.5 ml /liter of water for sesame crop.
- Weather is congenial for stem borer, sucking pests in soybean, maize, cotton etc. in Satpura Plateau Zone of Madhya Pradesh, spray Quinolphos 25 EC @ 2 ml for sucking pests and Carbofuron @ 3 g in 10 litre of water for stem borer.
- Weather is congenial for Semi-looper and tobacco caterpillar in soyabean and black gram crop, sucking pests i.e. jassid, aphid and white fly in Cotton in Jhabua Hill Zone in Madhya Pradesh, spray Trizophos 40 EC @ 2.0 ml/l of water for soyabean and black gram and spray Thiomithaxam 0.3 g/l (5.0 g/pump) of water.
- Weather is congenial for blast disease in rice in Baster Plateau Zone of Chattisgarh, Kitazine @ 0.6 grams/ litre of water or beam @ 1 gram/ litre of water.
- Weather is congenial for blast in rice in Chattisgarh Plain Zone of Chattisgarh, farmers are advised to keep watch over the crop and if the incidence is more spraying of Tricyclozole (Beam, Ban or Sevic) 6 g/10 litre of water or Saaf @ 1 ml/litre of water is advised in open weather condition.
- Undertake plant protection measures after spells of rain
- Stages of major crops are mentioned in Annexure I.
- **Animal Husbandry & Poultry**
 - Provide the animals clean water, balanced and nutrients rich food in Malwa Plateau Zone of Madhya Pradesh. Do vaccination in goats and other cattles and provide neat, clean, dry and well shaded place for animals. Insure vaccination to protect animals from infections/diseases like Black Quarter and FMD etc.
 - Arrange for vaccination for Foot and Mouth disease and anthrax in Kymore Plateau and Satpura Hill and Central Narmada Valley Zone. Use Potassium Permanganate @ 5 ml per liter of water for infected animals.

Annexure I Major Crops

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

- Sugarcane (vegetative), rice (tillering / panicle initiation / flowering / grain formation), *kharif* maize, *kharif* arhar, sesame, sorghum, jowar, lobia for green fodder, mishrikand (vegetative), onion, radish (sowing), cauliflower, fruit trees (transplanting) and sweet potato (planting) in Bihar.
- Kulthi and niger (sowing), rapeseed (sowing), tomato, cabbage, cauliflower (transplanting), sugarcane (vegetative), papaya (transplanting), turmeric, ginger (vegetative / rhizome formation stage), elephant foot yam (vegetative / tuber development stage), rice (vegetative), rainy season vegetables like bhindi, bean, tomato, french bean, cauliflower, cabbage etc. (vegetative / flowering / fruiting/ harvesting), maize, pigeon pea, urd, moong bean, groundnut (vegetative) and sweet potato (transplanting / vegetative) in Jharkhand.
- Arhar and maize (sowing / early vegetative), papaya, marigold, tuberose (planting), cowpea (sowing / early vegetative), *kharif* vegetables (vegetative / flowering / fruiting), sugarcane (vegetative), *kharif* rice (tillering / panicle initiation / flowering / grain formation), groundnut (vegetative / flowering / pegging / pod formation), ragi (vegetative), turmeric and ginger (planting / early vegetative), yam (sowing), sesamum, green gram, black gram, niger, other pulses (sowing / early vegetative), mango, banana, lemon, cashew nut and marigold (planting) in Orissa.
- *Aman* rice (tillering / panicle initiation), tomato, cauliflower (nursery preparation / transplanting), *aus* rice (grain formation), *kharif* maize (tasseling / silking stage), jute (harvesting), mango, coconut, guava, banana (planting) and *kharif* vegetables (vegetative / flowering / fruiting / harvesting), winter vegetables (nursery preparation) in West Bengal.
- Large cardamom (capsule formation / transplanting of suckers from nursery / grain maturity), *kharif* vegetables (fruiting / harvesting), orange (fruiting.), ginger (vegetative;), rice (tillering / flag leaf initiation), maize (harvesting), seed potato (maturity / harvesting), orange (fruiting) in Sikkim.

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

- Sugarcane (vegetative), *sali* rice (transplanting / tillering), *olitorius* jute (maturity / harvesting / retting / fiber extraction), capsularis jute (retting / fiber extraction), maize (vegetative), sesame (vegetative), groundnut (vegetative), arhar, radish, knnolkhol and brinjal (early variety), sesamum, Dolichos bean (sowing / early vegetative / vegetative), tea (planting) and jute (for seed production) (early vegetative), early cauliflower (seedling / transplanting), winter vegetables (nursery sowing), ginger / turmeric (vegetative), black gram / green gram (sowing / vegetative), cowpea (sowing / vegetative) and khasi mandarin (vegetative / flowering) in Assam.
- Rice (harvesting), tuber crops (vegetative), soyabean and groundnut (grain filling), cabbage, cauliflower, knolkhol etc. (nursery preparation), ginger and turmeric (rhizome formation) and maize (harvesting) in Arunachal Pradesh.
- Soyabean (pod formation / maturity), groundnut (pod formation / maturity), *kharif* rice (flowering / grain filling), ginger and turmeric (rhizome formation), early cauliflower (transplanting / vegetative), tomato (nursery raising), cabbage (vegetative), lemon (fruiting / harvesting), onion (nursery), brinjal (flowering / fruiting) in Manipur.
- *Ahu* rice (flowering / grain filling), arhar (flowering / pod formation), *sali* rice (panicle initiation / flowering), maize (cob formation), early cauliflower and cabbage (transplanting / vegetative), ginger and turmeric (rhizome formation / maturity), *toria* (vegetative), groundnut (vegetative / fruiting), *Khasi* mandarin (flowering / fruiting), banana (vegetative) in Meghalaya.
- Rice (panicle initiation / booting / milking), groundnut (pegging / pod formation), soyabean (flowering / pod formation), okra (fruiting / harvesting), ginger and turmeric (vegetative / rhizome formation), *khasi* mandarin (vegetative / fruiting), French Bean, rice bean, urd and moong bean (pod formation / maturity), banana (vegetative / fruiting / maturity), cucurbits (flowering / fruiting), passion fruit (vegetative / maturity), cole crop and tomato (nursery preparation) in Mizoram.
- Soyabean (flowering / pod formation), groundnut (vegetative), green gram and black gram (sowing / vegetative), finger millet (flowering), rice (transplanting), okra (flowering / fruiting), lowland rice (panicle initiation), upland rice (maturity / harvesting), banana (fruiting), colocasia (flowering), turmeric (vegetative), cucurbits (harvesting), cabbage (nursery sowing), cowpea (vegetative), mandarin (planting) and papaya (transplanting) in Nagaland.
- *Aus* or *kharif* rice (grain formation), *aman* rice (tillering), groundnut (flowering), upland / jhum rice (milk), cucurbits and other vegetables (flowering / fruiting), maize (tasseling / silking / cob formation), cauliflower (early), radish, brinjal (early) (sowing) and sesame (vegetative / flowering / pod formation) in Tripura.

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

- Rice (vegetative), brinjal, tomato, chilli, cauliflower, cabbage, radish, spinach, coriander, onion (vegetative), cucurbits crops (flowering/fruiting), lentil (pod formation), maize, hybrid cluster bean, baby corn, Pigeon pea (sowing/ vegetative), green gram and black gram (flowering / pod formation), cotton (sowing), Sugarcane (planting), bajra (grain filling), Soyabean (flower initiation) 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 (vegetative), cucurbits (vegetative / flowering/maturity), onion (seed bed preparation), capsicum, chilli, brinjal, raddish, carrot, turnip, cauliflower, cabbage, broccoli (vegetative / fruiting), early sown maize (initiation of tassel emergence / grain development), maize (silking / grain filling and development), *kharif* pulses, mash (flowering / pod development), moong (pod

formation/ maturity / harvesting), rice (panicle initiation/ milking / grain filling), *Kharif* oilseed (groundnut, sunflower, summer brassica etc.) (vegetative/ flowering / seed development, groundnut – pegging initiation stage), toria (sowing / emergence), citrus, guava, apple (fruiting), pear (maturity) 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 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), toria (nursery sowing) in Uttar Pradesh.
- *Spring* sugarcane (sprouting), berseem (vegetative), vegetables (sowing/fruiting), sugarcane(grand growth), *Kharif* pulses, sesamum (flowering/pod formation/picking), cotton (boll initiation / boll opening), okra (sowing/vegetative), rice /panicle initiation/heading), maize (knee height stage/tasseling), pearl millet (grain/fodder) (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 Sriganganagar), sweet potato(sowing), pearl millet, sorghum, maize, soybean, chilli, moong, cowpea, urd, sorghum and cluster bean (vegetative) in Rajasthan.

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

- Kuruvai rice (maturity), Samba rice (nursery), cotton (flowering), vegetables (nursery / transplanting/ fruiting), sugarcane (vegetative/ grand growth/maturity), groundnut (pod development / maturity stage), maize (vegetative/flowering), sorghum (vegetative), black gram (flowering/ harvest) in Tamil Nadu.
- Sugarcane (ratooning/vegetative), cotton (sowing / vegetative), hybrid jowar, maize, ragi, sunflower, groundnut, red gram, early planted paddy crop (flowering stage), late planting paddy (tillering stage), green gram/black gram (maturity), pigeon pea (vegetative) and horticultural crops (vegetative) in Karnataka.
- Maize (Sowing to seedling stage), jowar, cotton (vegetative), sugarcane and pulse crops like green gram (maturity), red gram (late vegetative/flowering), rice (nursery / tillering), groundnut (Early sown- pod maturity stage/Late sown crop - pod development stage) in Andhra Pradesh.
- Virippu rice (maturing), black pepper (berry development), ginger (vegetative), turmeric and vegetable crops (flowering to harvesting stage), Mundakan rice (nursery sowing) in Kerala.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (new *adsali* – sprouting / old *adsali* – grand growth / elongation), sugarcane (pre-seasonal) (grand growth), sugarcane (*suru*) (vegetative), *Kharif* rice (tillering / panicle initiation (in early maturing varieties) in Konkan, Kolhapur and tillering in Pune, Nashik division, early tillering / tillering in East Vidarbha), jowar (vegetative / ear head emergence), soyabean (pod formation / pod maturity), groundnut (pegging / pod development) cotton (vegetative / floral bud initiation), red gram (branching) and green gram (pod maturity / harvesting).

- *Kharif* bajra (vegetative), vegetables (flowering / fruiting / harvesting), sugarcane (vegetative), groundnut (vegetative / flowering / pegging), *kharif* pulses (flowering / pod development / maturity), maize (vegetative), cotton (vegetative / flowering), rice (tillering / panicle initiation / flowering) in Gujarat.

CENTRAL INDIA[M.P., CHHATTISGARH]

- Sugarcane (vegetative), vegetables (flowering and fruiting), moong, urad, maize, soybean, sesame, groundnut, jowar groundnut, pigeon pea (grain development), kharif onion, brinjal, tomato and chilli etc. (vegetative), rice (tillering / flowering) in Madhya Pradesh.
- Rice (tillering), sugarcane
- e (planting), maize (flowering), groundnut, arhar, green gram and sesame (vegetative), ginger, turmeric, papaya, mango and guava (vegetative) in Chhattisgarh.

Annexure II List of Varieties

Orissa

Arhar:

Early duration- Prabhat, Upas-120, ICPL-86012, ICPL-87.

Medium duration - Asha, Visakha, DA-11, C-11 etc.

Papaya: Honey Dew, Kurg Honey Dew, Co-1, Co-2, Pusa Delicious, Pusa Majestic, Pusa Dwarf and Pusa Giant.

Cow pea:

Bush type – Pusa Phalguni, Pusa Komal, SEB-2, Pusa Barsati.

Runner type – American Long and Banarasi Long.

Other improved varieties – Russian Giant, EC-4316, NP-3, C-152, UPC-286, UPC-5286 and IGFI-450.

Ginger: Suprava, Suruchi, Surabhi.

Turmeric: Roma, Surama, Rang, Rashmi etc.

Maize: Navjot, Shakti, Decan-107, Decan-109.

Green gram: T-9. Pant-U-9.

Black gram: B-3-8-8 and Pant-U-30.

Sesame: Prachi, Nirmala, Kanak, Kalika, Vinayak, Uma and Usha.

Niger: Deomali.

Horsegram: 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: Pusadepali, Pusachetaki

Tomato: Baisali, Indam1116, Akash

Jharkhand

Sweet Potato: Birsa Sakarkand-1 and Sri Bhadra.

Potato: Kufri Ashoka and Kufri Kanchan.

Kulthi : Birsa Kulthi-1.

Niger: Birsa Niger-1, Birsa Niger-1.

Papaya: Pusa Giant, Pusa Dwarf, Honeydew, Pusa Majesty.

Rapeseed: T-9 or P.T.-303.

Tomato: Pusa Ruby, Swarna Sampda, Swarn Lalima.

Cabbage: Golden Acre, Pride of India, Early Drum Head.

Cauliflower: Pusa Depali, Patna Early, Hazipur Extra Early, Pusa Ketki.

Bihar

Onion: N-53, Agrifound Dark Red and Baswant 780.

Tomato: DBRT-2, Arka Vikash, Pusa Gaurav, Labonita, Marglov, Punjab Kesri, Sweet 72, Pant Bahar and hybrid varieties such as Vaishali, Rupali, Navin, Ratna, ARTH-3.

Brinjal: Rajendra Baigan-2, Rajendra Annapurna, Pant Baigan, Pusa Anmol, Pusa Purple Long, Arka Navneet, Pusa Hybrid-5.

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, Pusa, Patna Main, Pusa Shuvra.

Toria: RAUTS-17, PT-303, Bhawani and Panchal

Assam

Short duration varieties of *sali* rice (90-95 days) for flood affected areas: Luit, Kapili, Culture-I etc.

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-13.

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.

Knolkhol: 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.

Tea: TV 1, TV 22, TV 23, TS 462, TS 463, TS 464, Tinali 17, 1, 54.

Meghalaya

Arhar: T-21.

Manipur

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

Pea: Arkel, Azad.

Cabbage: Rare Ball.

Cauliflower: White Flash.

Onion: Nasik Red.

Tripura

Brinjal : Pusa Kranti, Pusa Purple Long.

Mizoram

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

Cabbage: Golden Acre, Ryozekei, Harnil.

Broccoli: Pushpa, Pusa Broccoli, Aishwarya and Fiesta.

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

Karnataka

Ragi : Indaf-7,9 and 15

Sunflower : Modern, KBSH-41,42&44

Field bean : HA-3,4

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

Maize : GANGA-11,Deccan-103

Cowpea : KBC-1,KM-5

Horse gram : KBH-1,PHG-9

Delhi

Hybrid cluster bean: Pusa Komal, Pusa Sukamol,

Baby corn: HM-4.

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

Late varieties of Cotton: H-777, H-974, H-1098.

Pigeonpea - Pusa 2001, Pusa991, Pusa992, Paras manak, UPAS 120.

Soybean: Pusa-9712, Pusa-9814, and Pusa-16.

Fodder Sorghum: Pusa chari-9, Pusa chari-6.

Sarson Saag- Pusa Saag-1;

Radish- Pusa Chatki, Versa Kee Rani, Long Chetaki;

Spinach- All Green;

Coriander- Pant Haritama, Hybrids;

Turnip- Pusa Swati

Early Pea: Pusa Pragati

Carrot: Pusa Rudhira and Pusa Kesar

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,

Cabbage: GA, POI

Punjab

Paddy : Pusa Basmati 1, Pusa 1121, Punjab Basmati 2, Punjab Mehak and Super Basmati during these days and Basmati 370 and Basmati 386, PAU 201, PR 120, PR 118, PR 116, PR 114, PR 113, PR 111, PR 115 etc.

Okra : Punjab 7 / Punjab 8

Radish: Punjab Ageti, Pusa Chetk

Toria: PBT 37/ TL 15

Early Varieties: radish (Punjab Pasand & Punjab Safed), turnip (L-1 & 4-white), carrot (PC-34), pea, potato and palak (Punjab Green).

Late season varieties of 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 Arke

Garlic :VL-Garlic or DARL-52

Toria : Pant Toria 2002-25, Pant Toria-30, Pant Toria-303, Type -9 etc

Tomato : Pant T-3, Pusa Gaurav, Pusa Bahar, Pusa Hybrid-2 etc

Uttar Pradesh:

Toria: Pitambri kanti type-9(black). Type-36(yellow), PT-303, PT30, Bawani, T9, PT303

Rajasthan

Cluster bean: Improved varieties - RGC 936, RGC 986, RGC 1002, RGC 1003, RGC 1017, and HG 365.

Sesamum: Improved varieties - Pratap, TC 25, RT 46, RT 54, RT 103, RT 125 and Tt 13.

Ground nut: Improved varieties - GG 2, GG 7, HNG 10, Prakash and M 13.

Guar: HG 75, RGC 936, RGC 197, RGC 966, RGC 1017, RGC 1002 and RGC 1003 a

Moth bean: RMO-40, RMO-435, RMO-225, RMO 257, RMO 423

Cowpea : FS-68, RC-19 and 101, C-152, JC-5, JC-10, C-52, RS-9, FS-68, RC-19, RC-101 and RCP-27

Maize: Sagar Ganga white 2, Sagar Ganga 5, Pratap maize 2, 5, PEHM-2 and Mahi Kanchan

Arhar: Prabhat, Gwalior-3, UPAS 120, ICPL 87, 151, ICPH-8.

Early Pea: Arkil, Hara bona, VL-3, Jawahar Matar-4, Matar Ageti-6 are improved varieties

Late sown cauliflower : Pusa Snow ball, K-1, Hissar-1 Dania and selection-7, Golden Acre, Pride India & Mitra (Hybrid)

Soyabean: MACS 58, 450, JS 80-21 335, 93-0, PS16, PK472, NRC-12, Pratap soya 2, RKS24.

Groundnut : RSB 87, RS 138, JL 24, RG 14,

Cowpea: Tomato: Pusa Ruby, Pusa early dwarf, Roma

Brinjal: Pusa long, Meghdoot, ArkaBahar, Pusa summer and prolific round

Fodder grass : Desmodium, Muslai, Gold, Penicum Koleratum.

Vegetables:

Cucumber: Balam, PusaSahyog, **Radish :** Pusa Chetki, Pusa Rashmi, **Cauliflower :** Improved Japanese, Pusa hybrid-2 & Himjyoti.

Guava: Allahabad safeda and Lucknow 49, **Pomegrante:** Ganesh, Jhalore and Seedless, **Orange:** Nagpur and Kinnoo, **Lime:** Kagzi and Baramasi, **Aonla:** Banarshi, Krishana, Kanchan, Chakaiya, NA7, NA9 and NA10, **Ber:** Sonor, Thornless, Katha Alwar, Gola, and Seb

Sweet potato: Pusa Safed, Pusa Lal, Pusa Sunhari & L-20

Ashwaghandha: Ashwaghandha-20 and Ashwaghandha-134

Taramira : T-27, I.T.S.A.

Toria: T-9, Sangam

Mustard : Irrigated - EJ17, Pusa Mahak and kanti

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

Gujarat

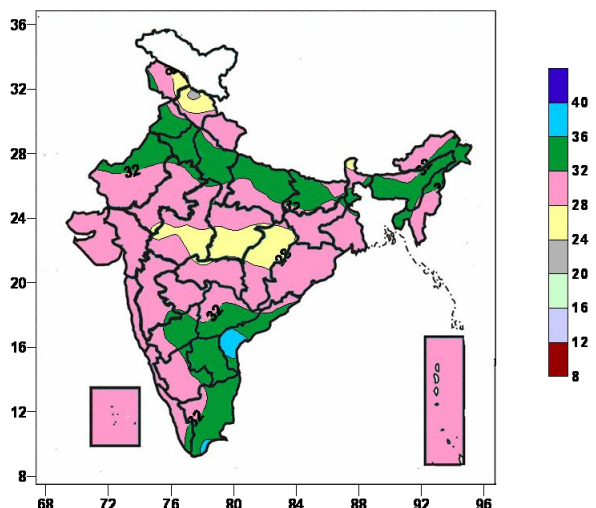
Sesame: Purva-1.

Maharashtra

Rabi sorghum: Phule Vasudha, Phule Revati, Phule Yashodha , Mauli (medium soil), Phule Revati, Phule Vasudha (black soils)

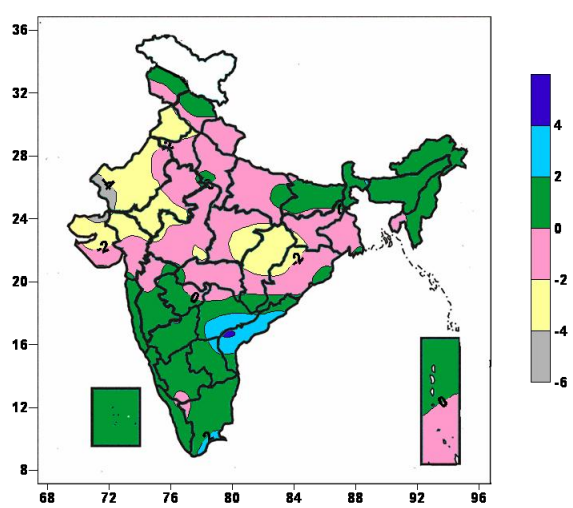
Annexure III Contour maps for the week ending 14.09.2011

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 14.09.11



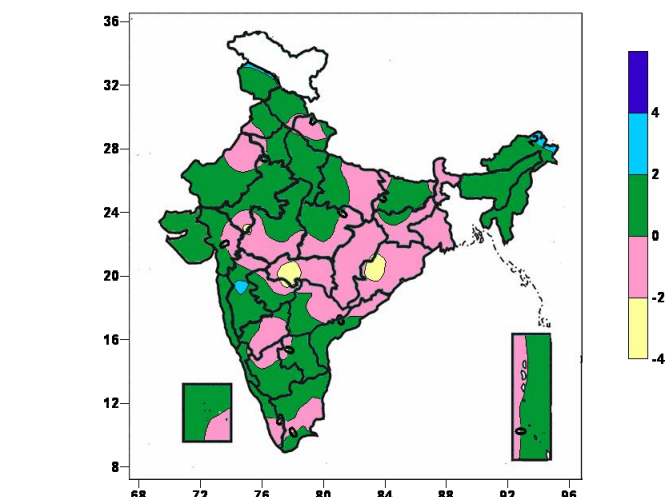
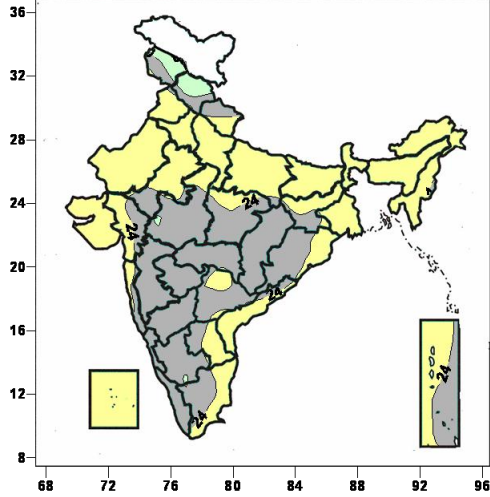
Actual Mean Maximum temperature ranged between 36 to 40 $^{\circ}\text{C}$ over some places of Coastal Andhra Pradesh, 32 to 36 $^{\circ}\text{C}$ over most parts of Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Assam, Nagaland, Tripura, Andhra Pradesh, Tamil Nadu, North Interior Karnataka, some parts of Jammu & Kashmir, Sub-Himalayan West Bengal, Arunachal Pradesh, Manipur, Rajasthan, South Interior Karnataka, Kerala, 24 to 28 $^{\circ}\text{C}$ over most parts of Chattisgarh, Madhya Pradesh, some parts of Jammu & Kashmir, Himachal Pradesh, 20 to 24 $^{\circ}\text{C}$ some parts of Himachal Pradesh, 28 to 32 $^{\circ}\text{C}$ over remaining parts of the country.

Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 14.09.11



Actual Mean Maximum temperature anomaly between 2 to 4 $^{\circ}\text{C}$ over most parts of Coastal Andhra Pradesh, some parts of Telangana, Raylaseema, 0 to 2 $^{\circ}\text{C}$ over most parts of Bihar, Sub-Himalayan West Bengal & Sikkim, North East India, Raylaseema, Tamil Nadu, Kerala, Karnataka, Konkan & Goa, Madhya Maharashtra, Marathwada, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Gangetic West Bengal, Orissa, Chattisgarh, Telangana, Vidarbha, Gujarat, -4 to -2 $^{\circ}\text{C}$ over most parts of West Rajasthan, Punjab, Chattisgarh, Saurashtra & Kutch, some parts of Haryana, Jharkhand, Orissa, Gujarat, Madhya Pradesh, -6 to -4 $^{\circ}\text{C}$ over some parts of West Rajasthan, -2 to 0 $^{\circ}\text{C}$ over remaining parts of the country.

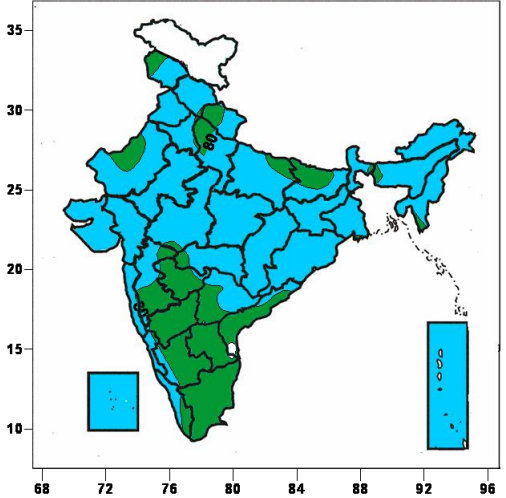
Actual Mean Minimum Temperature (°C) in India for the week ending 14.09.11 Minimum Temperature (°C) Anomaly in India for the week ending 14.09.11



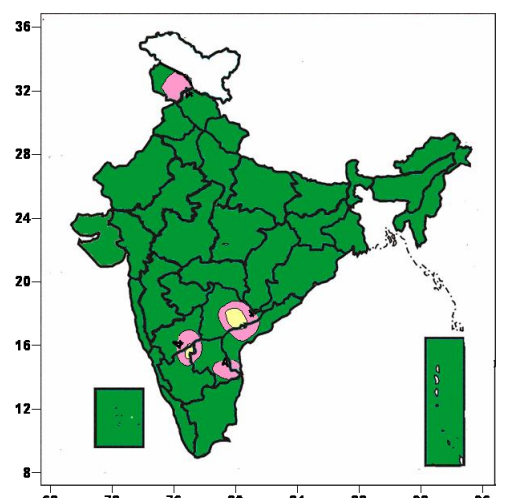
Actual Mean Minimum Temperature ranged between 20 to 24°C over most parts of Chattisgarh, Orissa, Madhya Pradesh, Maharashtra, Telangana, Karnataka, Tamil Nadu, Kerala, Gujarat, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Rajasthan, Jharkhand, Rayalaseema, 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, 24 to 28°C over remaining parts of the Country..

Minimum Temperature anomaly ranged between 2 to 4°C over some parts of Arunachal Pradesh, Madhya Maharashtra, -2 to 0°C over most parts of East Uttar Pradesh, West Bengal & Sikkim, Jharkhand, Orissa, Chattisgarh, Vidarbha, some parts of Himachal Pradesh, Uttarakhand, Punjab, Rajasthan Bihar, Andhra Pradesh, Tamil Nadu, Kerala, North & South Interior Karnataka, Marathwada, Gujarat, Madhya Pradesh, Lakshadweep, Andaman & Nicobar Islands, -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 14.09.11



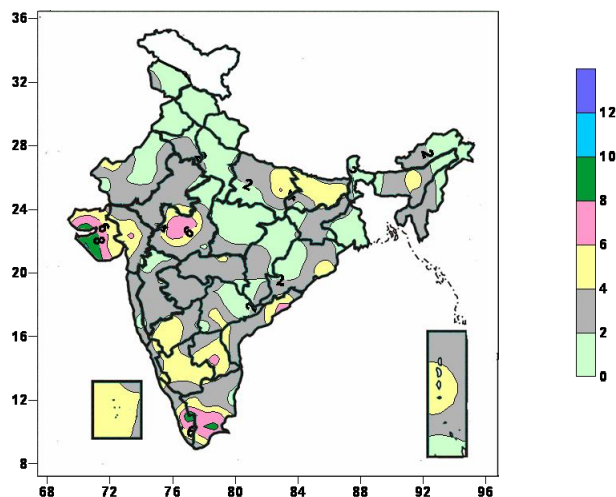
Cloud amount (okta) over India for the week ending 14.09.11



Relative humidity between 60 to 80% over most parts of Andhra Pradesh, Tamil Nadu, South & north Interior Karnataka, Madhya Maharashtra, Marathwada, some parts of Jammu & Kashmir, Uttarakhand, Haryana, Delhi, Uttar Pradesh, Bihar, Assam, Tripura, Vidarbha, West Madhya Pradesh, 80% and above over remaining parts of the country.

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