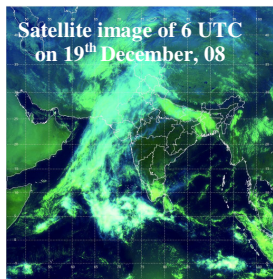




National Agromet Advisory Bulletin

Thursday, 18th December, 2008
(For the period 18th to 22nd December, 2008)



Forecast for South India (valid upto 1430 hours IST of 21st December 2008)

- Rain/thundershowers are likely at a few places over south Tamilnadu.
- Isolated rain/thundershowers are likely over South Interior Karnataka, north Tamil Nadu, Kerala, Lakshdweep and Andaman & Nicobar Islands.
- Mainly dry weather is likely over the rest region.

Status of Northeast Monsoon

Scattered to fairly widespread rainfall occurred over Andaman & Nicobar Islands, Tamil Nadu & Puducherry, Kerala and Lakshadweep on 11th, 13th to 16th and isolated on 17th December.

Advisories for Tamil Nadu

- As there was no significant rain during last week in the State except in Coimbatore, Nagappattinam, Ramanathapuram, Thanjavur and Thiruvavur districts and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to the crops. Postpone irrigation in the above districts as there was excess rainfall during last week.
- Undertake land preparation and transplanting of onion seedlings as conducive weather conditions prevail in north western zone.
- Due to fall in temperature in Nilgiris, protect the crops from cold injury by providing thatches.
- Ranikhet and E. coli incidences may spread among the poultry birds during these days in and around Namakkal. Consult veterinarian and undertake vaccination to prevent further spread.

Advisories for Kerala

- As there was no significant rain during last week in this State and no significant rain is likely to occur for next five days, farmers are advised to apply irrigation to the crops.
- As weather condition is favourable, complete sowing of *puncha* rice in Kottayam and particularly in Kuttanad area and undertake sowing of water melon and vegetable crops like bitter gourd (Preethi), snake gourd (Baby and Manusree) and cowpea (Lola and Anaswara) in and around Thrissur.
- Provide mechanical support to *neendran* banana as velocity of Easterly winds is increasing over Thrissur area.
- Protect black pepper less than three years of age by providing thatches and apply mulching.
- Protect young seedlings of coconut and arecanut from sun scorching by providing thatches.

Advisories for Jammu & Kashmir and Himachal Pradesh

- As rain/snow is likely to occur at many places during next three days, postpone irrigation to the crops. Arrange for drainage facilities as isolated heavy rain/snow is likely to occur during next 48 hours.
- Also protect the crops from snow by arranging smoke nearby the field.







Issued by

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

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

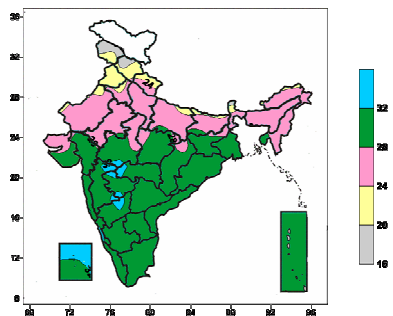
Comparison of weekly rainfall distribution (in % dep.) in different Met. Sub-divisions during past 5 weeks					
Sub-division	Cumulative Rainfall (% Dep.) for the period				
	19 th November	26 th November	3 rd December	10 th December	17 th December
A & N Islands	98	35	-55	-60	-98
Arunachal Pradesh	-100	-17	-99	-99	-89
Assam and Meghalaya	-100	-65	-99	-99	-97
NNMT	-100	-100	-100	-99	-100
SH West Bengal & Sikkim	-98	-85	-93	-84	-99
Gangetic West Bengal	-100	-100	-100	-100	-100
Orissa	-99	-87	-99	-100	-100
Jharkhand	-100	12	-100	-100	-100
Bihar	-100	-100	-100	-100	-94
East Uttar Pradesh	-22	-98	-100	-100	-92
West Uttar Pradesh	-11	367	-100	-100	-88
Uttarakhand	-100	43	-100	-100	-50
Haryana, Chandigarh and Delhi	-100	159	-100	-100	263
Punjab	-100	-86	-100	-89	-100
Himachal Pradesh	-100	-75	-100	-79	-100
J & K	194	-86	-99	340	-100
West Rajasthan	-100	-99	-100	346	-99
East Rajasthan	-42	-91	-92	-100	-99
West M. P.	347	-43	-97	-100	-100
East M. P.	-83	-20	-100	-100	-100
Gujarat region	-95	-100	93	-100	-100
Saurashtra & Kutch	-100	-100	2493	-100	-100
Konkan and Goa	-97	-98	31	-66	-100
Madhya Maharashtra	-96	-46	-26	-100	-100
Marathwada	-89	37	-87	-100	-100
Vidarbha	-99	-82	-87	-100	-100
Chhattisgarh	-100	-78	-100	-100	-100
Coastal A. P.	144	-42	1129	-100	-100
Telangana	51	-59	281	-100	-100
Rayalseema	109	-12	1018	-100	-100
TamilNadu & Pondicherry	-90	307	415	-35	15
Coastal Karnataka	-86	-97	221	-100	-100
N. I. Karnataka	158	-46	505	-100	-100
S. I. Karnataka	-60	-49	291	-99	-100
Kerala	-81	-33	73	-77	-47
Lakshadweep	-97	139	-73	188	207

The sub divisions like Assam and Meghalaya, Nagaland, Manipur, Mizoram, Tripura, West Bengal & Sikkim, Orissa, Bihar, East Uttar Pradesh, Punjab, Himachal Pradesh, East Rajasthan, East Madhya Pradesh, Vidarbha, Madhya Maharashtra and Chhattisgarh received scanty / deficient rain in all the 5 weeks; Arunachal Pradesh, Jharkhand, Uttarakhand, West Rajasthan, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, Konkan & Goa, Marathwada, Coastal and South Interior Karnataka and Kerala received scanty / deficient rain in 4 out of last 5 weeks; Andaman Nicobar Island, West Uttar Pradesh, Haryana, Chandigarh and Delhi, Jammu & Kashmir, Coastal Andhra Pradesh, Telangana and North Interior Karnataka received scanty / deficient rain in 3 out of last 5 weeks. Other subdivisions received normal or excess rain for at least 3 weeks out of last 5 weeks.

	(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

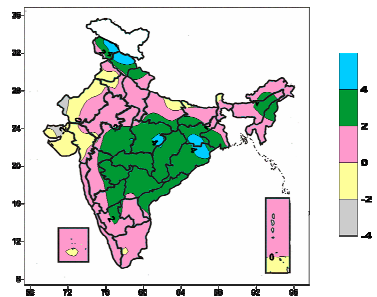
Contour maps for the week ending 17.12.08

Actual Mean Maximum Temperature (°C) in India for the week ending 17.12.08



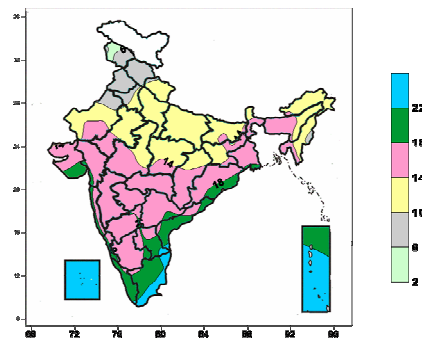
Actual Mean Maximum Temperature ranged between 32 to 36°C over some parts of West Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, North Interior Karnataka, Lakshdweep, 24 to 28°C over most parts of Haryana, Delhi, Rajasthan, Uttar Pradesh, Bihar, Sub Himalayan West Bengal, North East India, over some parts of Uttarakhand, Gujarat, Madhya Pradesh, Chhattisgarh, Jharkhand, 20 to 24°C over most parts of Punjab, most parts of Jammu & Kashmir, Uttarakhand, Himachal Pradesh, Haryana, Rajasthan, East Uttar Pradesh, Bihar, Sikkim, Arunachal Pradesh 18 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh, Sikkim and 28 to 32°C in remaining parts of the country.

Maximum Temperature (°C) Anomaly In India for the week ending 17.12.08



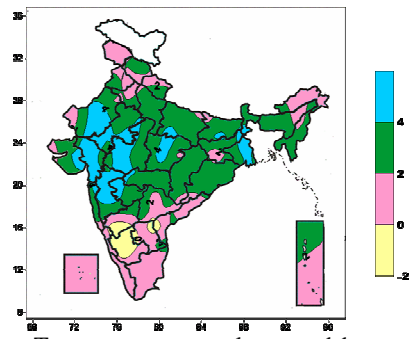
Maximum Temperature anomaly ranged between 4 to 6°C over some parts of Jammu & Kashmir, Himachal Pradesh, East Madhya Pradesh, Jharkhand, Orissa, 2 to 4°C over most parts of Central India, Orissa, Jharkhand, Marathwada, north interior Karnataka, Telangana, Coastal Andhra Pradesh, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, North East India, Bihar, Gangetic West Bengal, Rayalaseema, South Interior Karnataka, -2 to 0°C over most parts of Punjab, Gujarat, some parts of Haryana, West Rajasthan, East Uttar Pradesh, Bihar, Sikkim, Tamil Nadu, Lakshdweep, Andaman Nicobar Islands, -4 to -2°C over some parts of West Rajasthan, Saurashtra & Kutch and 0 to 2°C over remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 17.12.08



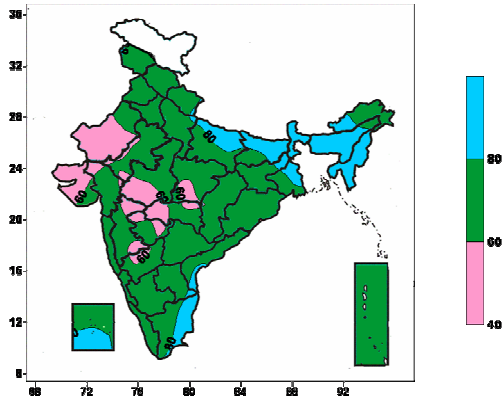
Actual Mean Minimum Temperature ranged between 22 to 26°C over some parts of Tamil Nadu, Coastal Andhra Pradesh, Raylaseema, most parts of Andaman Nicobar Islands, Lakshdweep 18 to 22°C over some parts of Telangana, Orissa, Gangetic West Bengal, Saurashtra & Kutch, Gujarat, Konkan & Goa, Coastal Karnataka, Andaman Nicobar, most parts of Raylaseema, Tamil Nadu, 10 to 14°C over some parts of Chattisgarh, Jharkhand, Sub-Himalayan West Bengal, Assam, most parts over Rajasthan, Uttarakhand, Uttar Pradesh, Bihar, Madhya Pradesh, Arunachal Pradesh, Nagaland Manipur, Mizoram, 6 to 10°C over some parts of Jammu & Kashmir, West Rajasthan, Uttarakhand, Haryana, most parts of Himachal Pradesh, Punjab, 2 to 6°C over some parts of Jammu Kashmir and 14 to 18°C over remaining parts of the country.

Minimum Temperature (°C) Anomaly In India for the week ending 17.12.08



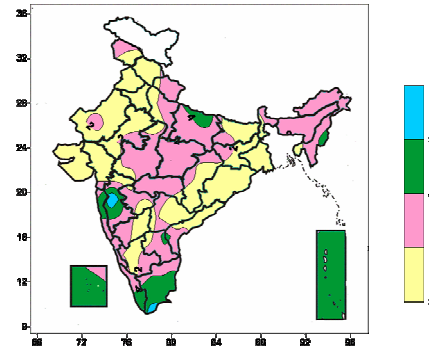
Minimum Temperature anomaly ranged between 4 to 6°C over some parts of Rajasthan, Madhya Pradesh, Saurashtra & Kutch, East Uttar Pradesh, Bihar, West Bengal, Maharashtra, 0 to 2°C over some parts of Punjab, Haryana, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Assam, Nagaland, Jharkhand, Bihar, Interior Karnataka, Saurashtra & Kutch, West Rajasthan, East Madhya Pradesh, Chattisgarh, Orissa, most parts of Jammu & Kashmir, Arunachal Pradesh, Andhaman Nicobar, Lakhsadweep, Kerala, Tamil Nadu, Andhra Pradesh, Coastal Karnataka, -2 to 0°C over some parts of North interior & Coastal Karnataka, Andhra Pradesh, over most parts of South Interior Karnataka and 2 to 4°C over remaining parts of the country.

Relative Humidity (%) over India for the week ending 17.12.08



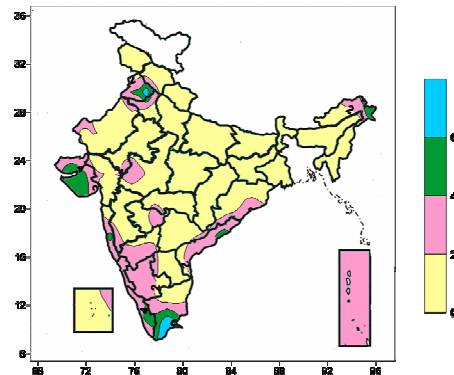
Relative humidity ranged from 80 to 100% over some parts of Uttarakhand, Uttar Pradesh, Jharkhand, Gangetic West Bengal, Arunachal Pradesh, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Lakshdweep, most parts over Bihar, Sub Himalayan West Bengal & Sikkim, Assam, Nagaland, Manipur, Mizoram, Tripura, 40 to 60% over some parts of Madhya Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, Gujarat, North Interior Karnataka, East Rajasthan, most parts of West Rajasthan and 60 to 80% over remaining parts of the country.

Cloud amount (okta) over India for the week ending 17.12.08



Cloud amount ranged from 6 to 8 okta over some parts of Madhya Maharashtra, Tamil Nadu, 4 to 6 okta over some parts East Uttar Pradesh, Manipur, Konkan & Goa, Madhya Maharashtra, Coastal Andhra Pradesh, Rayalaseema, Kerala, most parts of Tamil Nadu, 2 to 4 okta over some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal, Rajasthan, Chattisgarh, Konkan & Goa, Madhya Maharashtra, Interior Karnataka, Coastal Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Lakshdweep, most parts of Uttarakhand, Sikkim, Uttar Pradesh, Madhya Pradesh, Vidarbha, North East India, Coastal Karnataka, Rayalaseema, 0 to 2 okta remaining parts of the country.

Wind speed (knots) over India for the week ending 17.12.08



Wind speed ranged between 6 to 8 knots over some parts of Punjab, Tamil Nadu, 4 to 6 knots over some parts of Punjab, Haryana, Arunachal Pradesh, Saurashtra & Kutch, Konkan & Goa, Coastal Andhra Pradesh, Kerala, Tamil Nadu, 2 to 4 knots over some parts of Himachal Pradesh, Punjab, Haryana, Rajasthan, Gujarat, West Madhya Pradesh, Arunachal Pradesh, Assam, Madhya Maharashtra, Marathwada, Vidarbha, Orissa, Telangana, Tamil Nadu, Kerala, Lakshdweep, most parts of Konkan & Goa, Coastal Andhra Pradesh, Karnataka, Andaman & Nicobar Islands, 0 to 2 knots over remaining parts of the country .







Districts experiencing stress condition (% Departure of weekly rainfall) in South India

*** Most Stress					
State/Districts	19/11/08	26/11/08	03/12/08	10/12/08	17/12/08
Kerala					
Malappuram	-95	-61	-21	-100	-100
Palakkad	-97	-76	-89	-100	-100
Thrissur	-100	-96	-36	-99	-89
Wyanad	-71	-65	-39	-100	-100
Andhra Pradesh					
Coastal Andhra Pradesh					
Sirkakulam	-37	-100	-100	-100	-100
Visakhapatnam	77	-100	-57	-92	-100
Vizianagram	19	-100	-100	-100	-100
Telangana					
Adilabad	-100	-95	-95	-100	-100
Nizamabad	-72	-100	-21	-100	-100

** More Stress					
State/Districts	19/11/08	26/11/08	03/12/08	10/12/08	17/12/08
Tamil Nadu					
Tuticorin	-90	338	-27	-50	-22
Andhra Pradesh					
Telangana					
Karimnagar	-66	-17	-100	-100	-100

* Stress					
State/Districts	19/11/08	26/11/08	03/12/08	10/12/08	17/12/08
Karnataka					
Coastal Karnataka					
Dakshin Kannada	-95	-91	695	-100	-100
Udupi	-98	-99	254	-100	-100
Uttar Kannada	-74	-100	10	-100	-100
North Interior Karnataka					
Bagalkote	482	-23	223	-100	-100
Belgaum	3	-100	605	-100	-100
Bidar	-88	-98	-2	-100	-100
Bijapur	220	-9	213	-100	-100
Dharwad	303	-96	1086	-100	-100
Gadag	430	-86	1485	-100	-100
Gulbarga	44	46	421	-100	-100
Haveri	27	-100	342	-100	-100
Koppal	450	-1	169	-100	-100
Raichur	517	-13	38	-100	-100
South Interior Karnataka					
Bangalore Rural	-95	26	127	-100	-100
Bangalore Urban	-62	66	823	-100	-100
Bellary	357	-8	176	-100	-100
Chamarajnaragar	-86	-22	362	-91	-100
Chickmagalur	-78	-98	324	-100	-100
Chitradurga	-52	-81	459	-100	-100
Davangere	-62	-85	695	-100	-100
Hassan	-54	-51	312	-99	-100
Kodagu	-94	-70	56	-100	-100
Kolar	-81	-30	292	-100	-100
Mandya	-100	-57	279	-99	-100

Mysore	-100	-84	111	-100	-100
Shimoga	-81	-100	53	-100	-100
Tumkur	-44	-32	407	-100	-100
Kerala					
Alappuzha	-77	58	108	-48	-23
Kannur	-100	-95	51	-100	-75
Idukki	-58	-48	1	-86	-100
Kollam	-54	39	99	-62	-100
Pathanamthitta	-89	29	398	-51	-100
Thiruvananthapuram	-25	101	270	-57	-72
Tamil Nadu					
Chennai	-74	137	475	-89	-99
Dharmapuri	-92	27	746	-97	-100
Kanchipuram	-80	118	561	-61	-99
Kanyakumari	-56	157	166	-39	-51
Krishnagiri	-98	-4	586	-97	-100
Namakkal	-90	206	788	-71	-32
Salem	-97	120	753	-74	-59
Theni	-91	98	55	-81	-27
Tiruvallur	-55	112	652	-88	-100
Tiruvannamalai	-82	123	978	-67	-99
Vellore	-78	3	819	-96	-100
Villupuram	-85	327	741	-28	-76
Virudhunagar	-99	290	43	-55	-34
Andhra Pradesh					
Coastal Andhra Pradesh					
East Godavari	184	-100	178	-100	-100
Guntur	167	-91	2268	-100	-100
Krishna	893	-89	1587	-100	-100
Nellore	18	23	904	-100	-100
Prakasam	145	-30	2656	-100	-100
West Godavari	862	-89	345	-100	-100
Telangana					
Hyderabad	734	-84	650	-100	-100
Khammam	506	44	367	-100	-100
Mehabubnagar	-25	-100	580	-100	-100
Medak	-44	-56	106	-100	-100
Nalgonda	54	-100	1142	-100	-100
Rangareddy	3	-98	600	-100	-100
Rayalaseema					
Anantapur	313	-25	760	-100	-100
Chittoor	-20	5	907	-100	-100
Cuddapah	192	-2	1003	-100	-100
Kurnool	509	-98	3317	-100	-100

	(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

*** Most stress (more than 3 weeks continuously deficient to no rain)

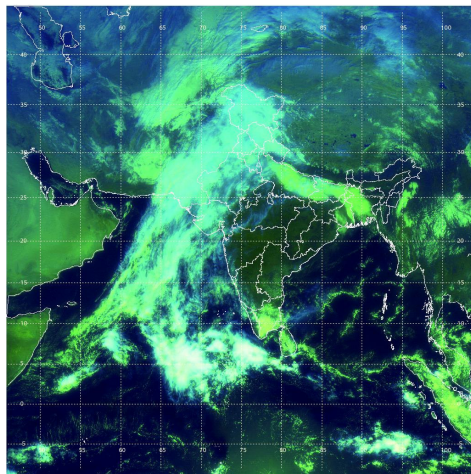
**More stress (3 weeks continuously deficient to no rain)

*Stress (2 weeks continuously deficient to no rain).

Chief Synoptic Feature (Based on 1430 hours IST observations of 18th December, 2008)

- Morning's western disturbance over northwest India now lies over Jammu & Kashmir and neighbourhood and likely to cause widespread rain/snowfall activity during next 24 hours. A trough in mid-tropospheric westerlies is approaching and the rain/snowfall to continue over Western Himalayan region during next 1-2 days.
- Minimum temperatures currently prevailing over northwest & adjoining west central India are above normal by 3-5°C except west Rajasthan and parts of Gujarat where these are above normal by 6-8°C. The current temperatures scenario is likely to continue over these regions during next 2-3 days and fall in minimum temperatures thereafter.
- Dense fog is prevailing over east Uttar Pradesh, Bihar, west Bengal and parts of northeastern states.

Satellite image of 6 UTC on 19th December 08



Zone-wise Forecast

NORTHWEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP] (Forecast valid upto 1430 hours IST of 21st December, 2008)

- Rain/snow is likely at many places over Jammu & Kashmir and Himachal Pradesh.
- Rain/snow are likely at a few places over Uttarakhand
- Isolated rain/thundershowers are likely over Punjab and Haryana.
- Mainly dry weather over west Uttar Pradesh

Quantitative District Weather Forecast for next five days:

- Rather moderate to moderate rain is likely to occur over Jammu & Kashmir and Himachal Pradesh, light to rather moderate rain is likely to occur over Uttarakhand, light rain is likely to occur over Punjab and Haryana, and mainly dry weather over rest region.

EAST INDIA [EAST UP, JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]
(Forecast valid upto 1430 hours IST of 21st December, 2008)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

NORTHEAST INDIA [Arunachal Pradesh, NMM & T, Assam, Meghalaya] (Forecast valid upto 1430 hours IST of 21st December, 2008)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

SOUTH INDIA [TN, AP, KERALA, KARNATAKA, LAKSHADWEEP, ANDAMAN & NICOBAR ISLANDS] (Forecast valid upto 1430 hours IST of 21st December, 2008)

- Rain/thundershowers are likely at a few places over south Tamilnadu.
- Isolated rain/thundershowers are likely over South Interior Karnataka, north Tamil Nadu, Kerala, Lakshdweep and Andaman & Nicobar Islands.
- Mainly dry weather is likely over the rest region.

Quantitative District Weather Forecast for next five days:

- Light to rather moderate rain is likely to occur over South Tamilnadu, light rain is likely to occur over South Interior Karnataka, North Tamil Nadu, Kerala, Lakshdweep and Andaman & Nicobar Islands and mainly dry weather is likely over the rest region.

WEST INDIA [GOA, MAHARASHTRA (OTHER THAN VIDARBHA), GUJARAT, RAJASTHAN] (Forecast valid upto 1430 hours IST of 21st December, 2008)

- Isolated rain/thundershowers are likely over Gujarat and Rajasthan.
- Mainly dry weather is likely over the rest region.

Quantitative District Weather Forecast for next five days:

- Light rain is likely to occur over Rajasthan, Gujarat and mainly dry weather is likely over the rest region.

CENTRAL INDIA [M.P., CHHATTISGARH, VIDARBHA] (Forecast valid upto 1430 hours IST of 21st December, 2008)

- Mainly dry weather is likely over the region.

Quantitative District Weather Forecast for next five days:

- Mainly dry weather is likely over the region.

Warning

- Isolated heavy rain/snow is likely over Jammu & Kashmir and Himachal Pradesh during next 48 hours.

Weather Outlook from 1430 IST of 21st to 1430 IST of 23rd December, 2008 (Based on numerical weather products):

- Decrease in rainfall activity over northwest India.
- Minimum temperatures are likely to fall over northwest, east & central India.

Zonewise Agromet Advisories

NORTH WEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, WEST UP]

Himachal Pradesh

- **Major Standing crops:** Vegetables (vegetative / flowering / fruiting / harvesting), tea (plucking), wheat, barley, oat and oil seeds (land preparation / sowing / early vegetative), cabbage, cauliflower and broccoli (sowing / transplanting / early vegetative), pea and knoll khol (sowing / transplanting / early vegetative), carrot, radish, turnip and the leafy vegetables like lettuce, methi, palak, dhania etc. (sowing / early vegetative).
- As rain is expected to occur at many places during next three days along with isolated heavy rainfall for next 48 hours over the State, postpone irrigation, intercultural operation and application of plant protection measures. Also arrange for draining out of excess water from the field.
- In view of prevailing weather condition, undertake sowing of wheat, barley, oat and oil seeds, sowing of radish, coriander, fenugreek, cauliflower, broccoli and Knol khol and transplanting of seedlings of cabbage, cauliflower and broccoli (if nurseries are 4-6 weeks old) after current spells of rain.
- Details of crop varieties are mentioned in Annexure I.

Poultry

- Climate is congenial for attack of Diarrhira and cocksedia, hence, consult the nearby veterinarian.
- Protect the birds from cold and increase the feed by 10%.
- Replace the poultry houses with fresh litter to avoid wetting and keep the houses clean and ensure clean drinking water to the birds.

Honeybees

- Due to winter season enough flora is not available for bees, therefore farmers are advised to give artificial feed of 50% sugar and 50% water solution to honey bees.
- Also ensure proper packing to the apiary to protect from cold.

Uttarakhand

- **Major Standing Crops:** Sugarcane (harvesting), maize (grain development) and groundnut (maturity), Lahi (pod formation/harvesting), wheat (early vegetative) and mustard (early vegetative).
- As no significant rainfall is likely to occur for the next five days, apply irrigation to the standing *rabi* crops.
- Farmers in Nainital and Udham Singh Nagar districts are advised to give first irrigation to wheat at 21-25 days after sowing (CRI). Protect the germinating seedlings/young seedlings of potato and onion crops from cold injury in nursery by providing light and frequent irrigation.
- Undertake sowing of potato, wheat, mustard, gram, pea and fodder crops in Haridwar, Dehradun and Pauri districts.
- Undertake intercultural operations and application of fertilisers in early sown *rabi* crops like wheat, gram, pea and lentil as favourable weather conditions prevail during these days.
- Undertake harvesting of potato and toria as conducive weather prevails during these days.
- Farmers are advised to continue transplanting of onion in Nainital district.
- Due to cloudy weather conditions, there are chances of mild attack of aphids in toria and mustard in Nainital district. Spray neem oil @ 2 ml/litre of water to control the pest.

Punjab

- **Major Standing Crops:** Horticultural crops (vegetative), Sugarcane (harvesting), maize (grain development), groundnut (pod development), sunflower (grain development/maturity), potato (early vegetative) and wheat, gram and lentil (germination/early vegetative). This is proper time for sowing of pea and vegetable crops like chilly, tomato, brinjal and onion.
- As there was no significant rainfall during last few weeks in most of the districts and no significant rainfall is likely for the next five days, farmers are advised to apply irrigation to the standing crops.

- Complete late sowing of wheat with recommended varieties. Details of crop varieties are mentioned in Annexure I. Reduce dose of Nitrogen to 1/4th so that vegetative phase may be restricted and harvesting may not suffer. Treat seeds with Bavistin 2.5g/kg for control loose smut/flag smut.
- Protect the germinating seedlings/young seedlings of vegetable crops from cold injury in nursery by providing light and frequent irrigation. In view of fall in temperature, cold injury may occur in sugarcane. Apply light and frequent irrigation to prevent the young crop.
- Farmers in Amristar, Fateihgar, Jalandhar, Ludhiana and Kapurthala districts are advised to undertake sowing of raya, pea and vegetable crops like chilli, tomato, brinjal, onion etc. Details of crop varieties are mentioned in Annexure I. African sarson PC-5 can also be sown during this month.
- Complete transplanting of sweet pepper and indeterminate tomato under net house.
- Continue harvesting of matured crops of sugarcane.
- Farmers are advised to continue sowing of desi varieties of radish, potato, palak and late season varieties of cauliflower with irrigation facilities in Central and Western plain zones.
- Weather conditions are favourable for mild incidences of dieback and fruit rot in chillies. Spray Indofil M-45 @ 750 g or Blitox in 250 litres of water per acre. Repeat spraying after 10 days.
- In view of expected fall in temperature farmers are advised to take care animal sheds for protection against cold and give 50 gm iodised salt along with 50 to 100 gm mineral mixture daily to keep them healthy.

Haryana

- **Major Standing Crops:** Sugarcane (harvesting), Horticulture crops (vegetative), Sunflower (grain development/maturity), cotton (picking stage), early sown wheat (germination/early vegetative).
- As there was no significant rainfall during last few weeks in most of the districts and no significant rainfall is likely for the next five days, farmers are advised to apply irrigation to the standing crops.
- In view of fall in temperature, cold injury may occur in sugarcane in Eastern and Western zones. Apply light and frequent irrigation to prevent the young crop. Protect the germinating seedlings/young seedlings of vegetable crops from cold injury in nursery by providing light and frequent irrigation.
- Continue planting of *spring* sugarcane in Eastern zone. Prepare the land for sowing of barseem.
- Complete late sowing of wheat with recommended varieties. Details of crop varieties are mentioned in Annexure I. Reduce dose of Nitrogen to 1/4th so that vegetative phase may be restricted and harvesting may not suffer. Treat seeds with Bavistin 2.5g/kg for control loose smut/flag smut.
- Farmers are advised to continue picking/harvesting of cotton, sunflower and bajra as favourable weather conditions prevail during these days.
- Farmers are advised to continue sowing of *desi* varieties of radish, peas, potato, palak and late season varieties of cauliflower and planting of fruit crops like sweet orange, lime, mango and guava with irrigation facilities in Eastern and Western zones.

Delhi

- **Major Standing crops:** Vegetables (vegetative), mustard, potato, gram (vegetative), wheat (sowing / CRI), *rabi* onion, tomato (transplanting).
- Under prevailing weather conditions farmers are advised to take control measures against weed in wheat. Late sowing of wheat may be completed. The seed rate should be 125 kg per hectare. As dry weather is prevailing for last few weeks and is also likely to prevail for next five days, farmers are advised to apply irrigation to wheat wherever the crops are at CRI stage.
- In mustard crops, farmers are advised to irrigate to facilitate proper branching.
- In gram, farmers are advised to irrigate the crop before flowering. Also, they are advised to prune the apical buds to facilitate growth of more number of lateral branches. Where pale spots are observed in the young leaves, farmers are advised to apply required amount of Zinc Sulphate, depending on the stage of crop.
- As dry weather is likely to prevail, the farmers, who have sown *toria* in time, are advised to harvest already matured crops.
- Present weather conditions are highly congenial for transplanting of *rabi* onion and tomato seedlings.

- This week also farmers are advised to regularly monitor mustard and cucurbitaceous crops for the attack of aphid as temperature and moisture range is highly congenial for their proliferation.
- Prevailing weather is highly conducive for the appearance of young mealy bug in Mango crop. To prevent climbing of the bugs in the mango tree, farmers are advised to stick 25-30 cm wide polythene (500 gauge) at 0.5 metre above the ground. They are advised to remove the dried bark of the tree, then stick 5 cm thick Tar coal pad to the polythene on both the side and then stick the polythene to the tree trunk. This will prevent climbing of young bugs.
- Present weather condition is favourable for infestation of early blight in potato and tomato. Farmers are advised to apply Mancozeb @ 2 g / litre of water to control the disease. Repeat the spray at 10-15 days interval, if required.
- Diamond Back Moth (DBM) attack is expected to rise in the prevailing weather. Farmers are advised to regularly monitor their knolkhol and cabbage crop. Where attack is found it is recommended to spray Nuwan @ 150 ml. per litre of water.
- Details of crop varieties are mentioned in Annexure I.

Uttar Pradesh

- **Major Standing crops:** Summer sugarcane (grand growth), Mango (fruit setting), *Rabi* rai, mustard, gram, pea and lentil (vegetative). Early sown wheat(early vegetative)
- As mainly dry weather is likely to prevail for the next five days, apply irrigation to sugarcane and standing *rabi* crops.
- Complete sowing of late varieties of wheat at seed rate of 125 Kg/hectare after purification of seeds by carbendazim or Thiram. Details of crop varieties are mentioned in Annexure I. Use 25% more seeds from normal for sowing wheat varieties KAL-203, Raj-2007 and Lokuan etc. in barren land.
- Undertake weeding, intercultural operations, application of fertilizers and pesticides in the standing crops like gram, pea, lentil, toria, rai, mustard, garlic, onion and potato as conducive weather conditions prevail during these days.
- Continue picking of vegetable crops depending upon the market demand.
- Weather conditions are favourable for mild incidences of mealy bug in mango and Jhulsa disease in potato in Bahraich, Balrampur, Gonda, Kushinagar, Siddharthnagar, Maharajganj and Lalitpur districts; spray Folidol @ 250 g/ha for mealy bugs in mango and Mancozeb @ 250 g/ha for Jhulsa disease in potato.

J & K

- **Major Standing Crops:** Wheat (vegetative), pulses (vegetative), mustard (vegetative). This is proper time for sowing of wheat and barley (lower belts) and planting of vegetable crops in Jammu and Kashmir divisions, planting of spinach, beet and mongol in Leh and sowing of wheat in Rajouri.
- As rain/snow is likely to occur at many places during next three days, postpone irrigation to the crops. Arrange for drainage facilities as isolated heavy rain/snow is likely to occur during next 48 hours.
- Also protect the crops from snow by arranging smoke nearby the field.
- Undertake intercultural operations in brown sarson, pulses and wheat in Srinagar, mustard in Jammu division and mustard, berseem, pulses and vegetable crops in Rajouri division after current spells of rain to keep the field weed free
- Complete planting of onion and garlic in Kashmir divisions. Also continue transplanting of root crops.
- Continue sowing late varieties of wheat and barley and transplanting of knoll-khol in Jammu division.
- Undertake planting of beet, mongol and spinach in Leh division.
- Undertake sowing of wheat and barley and transplanting of cauliflower in Jammu division.
- Sowing may be undertaken after current spells of rain.
- Details of crop varieties are mentioned in Annexure I.
- Weather conditions are favourable for wilt and little leaf in brinjal and black rot in cabbage and cauliflower in Jammu division. Undertake plant protection measures after spells of rain.

Bihar

- **Major Standing Crops:** Sugarcane (vegetative), *Rabi* maize, pulses, potato and sunflower (early vegetative). Early sown wheat(crown root initiation).
- As mainly dry weather is likely to prevail for the next three days, apply irrigation to the standing crops.

North West alluvial plain zone:

- Farmers are advised to undertake sowing of late sown wheat. Continue sowing of rapeseed and mustard. Select among Rajendra rai, Pichheti, Rajendar, Anukul and Rajendar Sufalam.
- Undertake intercultural operations in early sown rapeseed, mustard and wheat crop.
- Avoid moisture stress in wheat and maize crop by maintaining adequate soil moisture as moisture stress at this stage affects the yield of the crops.

North East alluvial plain zone:

- Farmers are advised to complete sowing of wheat with irrigation facilities.
- Undertake intercultural operations, application of fertilizers and pesticides in early sown maize, rai, toria and mustard as favourable weather conditions likely to prevail during these days.
- Give first irrigation in November sown maize. Prefer late sown wheat varieties for December sowing.
- Undertake thinning and light irrigation followed by top dressing with adequate dose of Nitrogen in rai and toria.
- Complete harvesting of rice and thresh it properly and safe at around 10% moisture level.

South Bihar:

- The farmers, who have not sown wheat are advised to sow the late varieties of wheat, which can be sown up to 30th December.
- The wheat crop sown 20 -25 days earlier is in crown root initiation stage. During this stage light irrigation is essential for proper growth, tillering and yield. So irrigate the crop and top dress with Urea @ 88 Kg/ ha. Before irrigation remove weeds from the crop manually or by spraying with chemical like Isoproturon i.e. @1kg/ha dissolved in 700 – 800 liter of water, 30 to 35 days after sowing.
- Maize, potato and sunflower sown 30 to 35 days earlier should also be top dressed with Urea @ 88 Kg/ha and earthing up must be done for proper growth. After earthing up, irrigate the crop in such a manner that only 2/3rd of the ridge could wet.
- Undertake intercultural operations, irrigation, application of fertilizers and pesticides in early sown maize, pulse, potato, sunflower and vegetable crops like tomato, brinjal, cauliflower and cabbage etc. as per the need.

Jharkhand

- **Major Standing Crops:** Arhar and maize (grain formation).
- As mainly dry weather is likely to prevail for the next five days, apply irrigation to the standing crops.
- Farmers are advised to complete sowing of wheat. Select among K 9107, HUW 468, PBW 343, HD 2402, HUW 468 and C 306 for irrigated conditions in midland and C 306, K 8027 and WR 544 for unirrigated condition.
- Farmers are advised to undertake weeding, intercultural operations in potato and early sown wheat.

Orissa

- **Major Standing crops:** *Kharif* rice (harvesting), Sugarcane (vegetative), vegetables (vegetative / flowering / fruiting), potato (germination/early vegetative).
- As mainly dry weather is likely to prevail for the next five days, apply irrigation to the standing *rabi* crops. The wheat crop is at CRI stage(15 days in coastal areas and 18 days in inland areas). The crown root initiation stage is the most critical period for irrigation. Care should be taken for irrigating the

crop. First top dressing should be given with 50% Nitrogen of the recommended dose of fertilizer after irrigation.

- Undertake nursery sowing of summer rice within last week of December.
- Farmers are advised to continue sowing of pea. Select among Rachana, Arkel, etc. Complete sowing of *rabi* groundnut and gram.
- Undertake sowing of coriander. Select high yielding variety like CO-1, CO-2, CO-3, Swati, Sadhana, Ram Selection and Udi.
- Undertake transplanting of onion in the main field. Transplant the seedling of 8-10 weeks old in winter.
- Farmers in Balasore, Bhadrak and Jajpur districts are advised to undertake planting of marigold.
- The farmers interested in Dalua paddy, may go for land preparation for raising nursery.
- Undertake intercultural operations, application of fertilizers and pesticides in early sown *rabi* crops.
- Weather conditions are congenial for infestation of aphid and *Crocidolomia* in rainfed mustard. To control *Crocidolomia* and saw fly spray 200 ml. Ithofenprox or Deltamethrin per acre.

West Bengal

- **Major Standing Crops:** Sugarcane (cane development), mustard, gram and lentil (early vegetative / vegetative), wheat (germination / early vegetative / tillering) and potato (land preparation / planting / early vegetative / vegetative).
- As there was no significant rain during last few weeks in most of the districts of the State and mainly dry weather is likely to prevail over the State during next five days, apply irrigation to mustard, gram, lentil, wheat, vegetables and potato.
- As there is no possibility of significant rainfall, farmers are advised to undertake intercultural operation to keep the fields weed free.
- As weather condition is favourable, undertake wet nursery bed preparation of *boro* rice near an assured source of irrigation. Seeds should be treated with Agrosan @ 100 g per 50 kg seeds to prevent seed borne diseases.
- To protect the seedlings from cold, cover the nursery bed of *boro* rice with polythene or keep stagnant water in the nursery bed especially for the night-time. Irrigate the nursery bed regularly. Keep 2 to 3 cm stagnant water.
- Start preparation of the main field for transplanting of *boro* rice.
- The farmers, who like to cultivate potato after harvesting of *aman* rice, use suitable recommended variety Kufri Jyoti. The seed weight varies from 200 – 270 kg per bigha according to the size of the seed tuber.
- High humidity and fog for the last few days may cause incidence of early blight disease in potato in Coastal Saline zone. Thus spray the crop with Copper oxichloride @ 4g / litre of water at 7-10 days intervals, if disease symptom is appeared.
- In the present situation, some black spot in the leaves are observed in potato which may be caused by mite or thrips. To control this apply Acephate-75%WP @ 0.75 gm per litre of water.
- In this weather condition, attack of early blight may be severe in potato. To control the disease, apply 2.5 g mancozeb per litre of water. If required, apply the same again after 10 to 12 days.
- Details of crop varieties are mentioned in Annexure I.

Sikkim

- **Major Standing Crops:** Orange (fruiting/harvesting), rice (grain maturity/harvesting), large cardamom (harvesting and nursery). This is proper time for sowing of *rabi* wheat. Early sown *rabi* crops like mustard, potato and vegetable crops are at vegetative stage.
- As there was no significant rainfall during last week in the state and mainly dry weather is likely to prevail for the next five days, apply irrigation to the vegetable crops, early sown wheat, orange and large cardamom.

- Undertake intercultural operations in early sown *rabi* mustard and vegetable crops like potato, cabbage, cauliflower, carrot, Chinese cabbage, knol-khol, garden peas, radish, turnip, lettuce, celery, spinach, etc., in medium and low hills as conducive weather prevails during these days.
- Continue harvesting of rice and large cardamom as conducive weather prevails during these days.
- Continue sowing of wheat.
- After the harvest of capsules of large cardamom, maintain sucker nursery; apply FYM and undertake intercultural operations.
- **Plant Protection:** Weather conditions are congenial for mild incidences of
- Caterpillar / shoot borer / shoot fly in large cardamom; hand pick and destroy the larva mechanically. Spray 1% Bordeaux mixture or Copper oxy chloride @ 3gm/ltr of water to protect from fungal diseases.
- fruit fly and trunk borer in orange. Monitor the trees and undertake plant protection measures to control the pests.
- bacterial wilt in ginger in medium and low hills; collect and destroy the affected plants completely to prevent further spread of the disease.

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

Assam

- **Major Standing crops:** Arhar (pod formation / maturity), *Sali* rice (harvesting), black gram and green gram (pod maturity / harvesting), cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot (vegetative / flowering / fruiting), mustard, lentil and pea (early vegetative / vegetative), wheat (crown root initiation / tillering stage), potato (early vegetative / vegetative) and *boro* rice (nursery preparation).
- As there was no significant rain over the State during last few weeks and no significant rain is expected for next five days, farmers are advised to apply irrigation to arhar (at pod formation stage) and vegetable crops like cauliflower, cabbage, raddish, brinjal, tomato, knolkhol, onion and carrot and also to wheat (at CRI stage), mustard, lentil, pea and potato.
- As there is less possibility of occurrence of rain, farmers are advised to undertake intercultural operation to keep the fields weed free.
- Under prevailing dry weather condition, farmers are advised to harvest already matured crops of *sali* rice, black gram and green gram.
- As weather condition is favourable, sowing of wheat may be continued. The optimum seed rate is 13-16 kg per bigha of land.
- As the temperature is favourable for germination, nursery bed preparation and sowing of *boro* rice seeds in nursery bed should be started immediately.
- Due to favourable weather saw fly infestation may be seen in early sown *toria* crop. To control the pest Endosulphon 35 EC @ 1 ml/lit of water or Malathion 50 EC @ 2 ml/lit of water may be sprayed.

Poultry

- Considering the occurrence of bird flu in different districts of lower Assam, poultry farmers are advised to be extra vigilant. Any unnatural and sudden death of their poultry birds should immediately be reported to veterinary officials.

Arunachal Pradesh

- **Major Standing crops:** *Rabi* vegetables (vegetative), wet seeded rice (harvesting), millets (harvesting), wheat (vegetative), mustard, pea (vegetative), *rabi* maize (vegetative), potato (vegetative).
- As there was no significant rainfall in most of the districts during last few weeks and no significant rain is likely to occur during next five days, apply irrigation to *rabi* vegetables, wheat, mustard, pea, *rabi* maize and potato.

- As dry condition is prevailing, farmers are advised to continue harvesting of matured crops of wet seeded rice and millets.
- Regular monitoring for insects/ pests may be carried out.

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

Andhra Pradesh

- **Major Standing Crops:** Groundnut, Jowar, Bajra, Ragi and Maize (all harvesting), Sugarcane (grand growth), Rice (grain formation), Chilly (late vegetative).
- Apply irrigation to the crops as there was no rainfall during last week and mainly dry weather is likely to prevail for the next five days.

Coastal AP

Plain Land

- Farmers in Krishna, West Godavari, Guntur and Prakasam districts are advised to undertake sowing of rice fallow maize and rice fallow pulse crops during these days. Details of varieties are given in Annexure I.
- Farmers in West Godavari, Krishna, Guntur and Praskasam districts are advised to undertake intercultural operations in *rabi* pulse crops like green gram. Apply 25 kg urea and 10 kg potash per acre to cotton if sufficient moisture is available in the soil.
- **Plant Protection:** Weather conditions are congenial for the incidences of
- blast and cut worm in rice, ring spot and rust in sugarcane, *Spodaptera* in cabbage and cauliflower, thrips and mites in chilly and tea mosquito bug in cashew in Srikakulam, Vishakappattinam and Vijayanagaram districts; undertake plant protection measures.
- white fly in cotton, stem borer in maize, pod borer in red gram, white fly, mites and fruit rot in chilly spotted pod borer in black gram and green gram in Krishna, West Godavari, Guntur and Prakasam districts; undertake plant protection measures.

High Altitude Areas

- Farmers in high altitude regions of Srikakulam, East Godavari, Vijayanagaram, Visakappattinam and Khammam are advised to undertake intercultural operations in *rabi* crops like wheat, mustard, gram and sunflower to conserve moisture in the soil.
- Farmers are advised to complete harvesting of rice, rajma and red gram.

Rayalaseema

- Undertake intercultural operations and application of fertilizers and pesticides in *rabi* crops like sunflower, maize and Bengal gram in Anantapur and in rice in Chiththoor as conducive weather conditions prevail.
- **Plant Protection:** Weather conditions are congenial for the incidences of
- blast and sheath blight in rice, pod borer in red gram and downy mildew in ber; undertake plant protection measures.

Telangana

- Farmers in Karimnagar, Nizamabad and Adilabad districts are advised to undertake intercultural operations in early sown *rabi* crops as conducive weather conditions prevail.
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- thrips in chillies, leaf spot in turmeric, wilt in chick pea, stem and fruit borer in brinjal, late BPH in rice and necrosis in onion in Karimnagar, Nizamabad, Warranagl and Medak districts; undertake plant protection measures.

Karnataka

- **Major Standing Crops:** Annual sugarcane (grand growth). Early sown *rabi* crops are at vegetative stage.
- As there was no significant rainfall during last week in the state and isolated rain/thundershower is likely to occur over South Interior Karnataka and mainly dry weather is likely to prevail over rest of Karnataka for the next five days, apply irrigation to the crops.

North Interior Karnataka

- Farmers in Bidar region are advised to undertake transplanting of vegetable crops like brinjal, tomato, cabbage and cauliflower in the main field.
- Farmers in Dharwad, Bijapur and Raichur are advised to undertake intercultural operations in *rabi* crops like wheat, gram and safflower.
- Farmers in Raichur are advised to undertake harvesting of red gram and early sown sunflower. Arrange proper storage for harvested produce.
- **Animal Husbandry:** Due to cold weather in and around Dharwad sneezing is noticed indicating respiratory problem. Consult with the nearby veterinary doctor.

Plant Protection: Weather conditions are favourable for mild incidences of:

- *Heliothis* in gram and red gram in Dharwad and Raichur; undertake plant protection measures.

South Interior Karnataka

- Farmers in Bangalore, Kolar, Tumkur, Chitradurga and Shimoga are advised to undertake intercultural operations and application of fertilizers in early sown crops.
- Farmers in Shimoga are advised to undertake harvesting of rice and maize. Arrange proper storage for harvested produce

Plant Protection: weather conditions are favourable for

- leaf spot in sugarcane, *Sigatoka* leaf spot in banana, powdery mildew in bhindi and grey blight in coconut in Shimoga; undertake plant protection measures.

Coastal Karnataka

- Farmers in Udupi and Dakshin Kannada districts are advised to undertake intercultural operations and application of fertilizers and pesticides in plantation crops.

Kerala

- **Major Standing Crops:** *Mundakan* rice (tillering), vegetable (vegetative/flowering) and plantation crops (Coconut, Arecanut, Pepper and Cashew). This is proper time for sowing *summer* vegetable crops.
- As there was no sufficient rain during last week in the state and rain/thundershower is likely to occur at isolated places for the next five days, farmers are advised to apply irrigation to the crops.
- Complete sowing of *puncha* rice in Kottayam and particularly in Kuttanad area.
- Undertake sowing of water melon and vegetable crops like bitter melon (Preethi), snake gourd (Baby and Manusree) and cowpea (Lola and Anaswara) in and around Thrissur.
- Provide mechanical support to *nendran* banana as velocity of Easterly winds is increasing in Thrissur.
- Protect young seedlings of coconut and arecanut from sun scorching by providing thatches in Thrissur.
- Protect black pepper under three years of duration by providing thatches and apply mulching.
- Undertake intercultural operations and application of fertilizers and pesticides in rice in Kottayam, banana in Thrissur and in coconut and banana in Thiruvananthapuram and plantation crops (coconut, arecanut, pepper and cashew), in general, as conducive weather conditions prevail.
- **Animal Husbandry:** Flies menace may occur in cattle due to present weather conditions in Kasaragod, Kozhikode, Kannur and Malappuram. Maintain sanitation and consult veterinarian to prevent flies attack. Protect young animals from decrease in temperature.

Plant Protection:

- Weather conditions are favourable for the attack of

- white stem borer in coffee, thrips in cardamom and burrowing nematode, pollu beetle and quick wilt in pepper in Wayanad.
- leaf roller and sheath blight in rice and downy mildew in vegetables in Thiruvananthapuram.
- *mahali* disease in arecanut in Thrissur, Malappuram, Kasargod, Kozhikode and Kannur districts; apply 1% Bordeaux mixture.
- tea mosquito bug in cashew in Thrissur.
- red palm weevil, rhinoceros beetle, bud rot and stem bleeding in coconut in Kasaragod and Wayanad.
- white fly and aphids, fruit and shoot borer in bhindi and brinjal in Kottayam.
- Undertake plant protection measures.

Tamilnadu

- **Major Standing Crops:** Special season sugarcane (grand growth stage), Cotton (boll maturity/picking stage). *Rabi* crops like rice, pulses, millets and oilseeds are at vegetative stage.
- As there was no sufficient rain during last week in the state except in Coimbatore, Nagappattinam, Ramanathapuram, Thanjavur and Thiruvarur districts and rain/thundershower is likely to occur at a few/isolated places for the next five days, farmers are advised to apply irrigation to the crops. Postpone irrigation in the above districts as there was excess rainfall during last week.
- Undertake intercultural operations, application of fertilizers and pesticides in rice, banana, sugarcane, cotton, maize, sorghum and pulse crops. Intercultural operations may be undertaken on a non rainy day in south Tamil Nadu.
- Continue harvesting cereals and pulses in Erode district as conducive weather prevails during these days. Arrange for proper storage after the harvest of crops.
- Due to fall in temperature in Nilgiris, protect the crops from cold injury by providing thatches.

Animal Husbandry:

- Ranikhet and *E. coli* incidences may spread among the poultry birds during these days in and around Namakkal. Consult veterinarians and undertake vaccination to prevent further spread.

Plant Protection:

- Present weather is conducive for mild incidences of
- Leaf folder and stem borer attack in rice in Namakkal; spray 5% neem seed kernel extract.
- Stem borer in rice in Coimbatore; spray Monocrotophos @ 1 litre/ha.
- Sucking pests in cotton, maize and jowar. Spray Imidachlorpid @ 0.5ml/litre of water.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT, RAJASTHAN]

Maharashtra

- **Major Standing Crops:** Sugarcane (pre-seasonal & suru) (cane maturity / harvesting), irrigated & *kharif* cotton (picking in final stage), *tur* (pod maturity), *rabi* jowar (vegetative / flag leaf initiation in Pune, Nashik, Kolhapur & Aurangabad divisions & vegetative in other divisions), *rabi* sunflower (floral bud initiation in Kolhapur & Vegetative in other divisions), maize (vegetative), gram (flowering / pod formation in Pune & Kolhapur divisions and branching / flowering in other divisions), wheat (germination / crown root initiation in Pune, Kolhapur, Aurangabad, Nashik, Amravati & Nagpur divisions, early sown crop is at tillering stage in Pune & Kolhapur divisions), safflower (head formation/ flowering in Kolhapur, Pune & Aurangabad divisions and head formation in other divisions).
- As there was no significant rain in all the districts of the State during last few weeks and no significant rain is likely to occur during next five days, apply irrigation to the standing *rabi* crops.
- As dry weather is prevailing, farmers are advised to undertake harvesting of sugarcane and complete the picking of fully opened cotton boll.
- As there is no possibility of rainfall, farmers in Madhya Maharashtra & Marathwada are advised to complete final earthing up in 16 to 20 weeks old *adsali* sugarcane crop and also to apply 160 kg N, 85 kg P₂O₅ & 85 kg K₂O / ha at the time of earthing up followed by light irrigation.
- Apply second dose of Nitrogen @ 60 kg / ha at the time of irrigation to early sown crops in Sub Montane zone & Western Maharashtra Plain zone.

- Banana & grape orchards may be protected from cold by making smoke during the night.

Plant protection

- Onion Crop is likely to be affected by blast in pockets due to rain / cloudy weather conditions prevailed during earlier weeks. For the control, spray Dithane M-45 @ 1250 gm / ha in 500 liters of water.
- Under prevailing weather condition gram is likely to be infested by pod borer in Sub Montane zone & Western Maharashtra Plain zone. For control spray 35 EC Endosulphan @ 15 ml in 10 litres of water for the control of pod borer in early sown crops.

Gujarat

- **Major Standing Crops:** Sugarcane (maturity / harvesting), *Kharif* cotton (boll formation / boll maturity / picking), castor (spike formation / maturity / picking), mustard (vegetative), vegetables (sowing / transplanting / early vegetative), potato (sprouting / early vegetative / vegetative) and wheat and cumin (germination / early vegetative / CRI).
- As there was no significant rain during last few weeks over the State and rain is likely to occur only at isolated places during next five days, apply irrigation to *kharif* cotton, castor, mustard, wheat, potato and vegetables.
- As there is less possibility of rain, undertake intercultural operation in above mentioned crops to keep the fields weed free.
- Prevailing weather is conducive for harvesting of already matured crops of castor and picking of *kharif* cotton.
- Under prevailing weather condition farmers are advised to apply top dressing of Nitrogen @ 40 kg / ha before initiation of tasseling of maize in Middle Gujarat zone.
- As weather condition is favourable, complete land preparation and sowing of isabgul varieties Gujarat Isabgul-1 or Gujarat Isabgul-2 in Middle Gujarat zone and also complete transplanting of onion seedling in North Gujarat zone. Farmers are advised to use seed rate of 4 kg / ha for isabgol.
- Prevailing weather condition is favorable for out break of early blight in early sown potato (before 40 days) in North Gujarat zone. For the control of this disease spray Mancozeb 0.2% @ 25 g plus 25 ml of concentrated *desi* soap solution in 10 litres of water. Spray second dose after 10 to 15days.

Rajasthan

- **Major Standing Crops:** This is proper time for sowing *rabi* crops. Early sown *rabi* crops (wheat, mustard, gram, vegetable crops, etc.) are at vegetative stage.
- As there was no significant rainfall during last week in the state and rain/thundershower is likely to occur at isolated places for the next five days, apply irrigation to the crops.

East Rajasthan

- Undertake intercultural operations in mustard, gram, onion and garlic in Alwar, Bharatpur, Dholpur, Karauli and Sawai Madhepur districts as conducive weather conditions prevail.
- Undertake land preparation and sowing of cumin, fenugreek, isabgol, garlic and radish in Ajmer, Dausa, Jaipur and Tonk districts.
- Farmers in Banswara district are advised to complete sowing of wheat and maize at the earliest as suitable temperature is prevailing for sowing. Undertake thinning in early sown crops and maintain optimum plant population.
- Complete land preparation and planting of fodder oats slips.
- Farmers in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts are advised to complete sowing of wheat. Also complete sowing of radish and cauliflower.
- Details of varieties are given in Annexure I
- **Plant Protection:** Weather conditions are favourable for mild incidences of
- white fly and jassids in cotton in Alwar and Dholpur; spray Dimethoate or Methyl Demeton @ 1 litre/ha.

- cut worm in gram in Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts, dust Endosulphan 4 % or Methyl Parathion 2%.
- aphids attack in mustard, barley, cauliflower and radish in Ajmer, Dausa, Tonk and Jaipur districts; spray Dimethoate 30 EC or Methyl Demeton 25 EC @ 1 litre per hectare.
- pod borer in pea (at pod formation stage) in Ajmer, Dausa, Tonk and Jaipur districts; spray Endosulfan 35 EC or Melathion 50 EC @ 1 ml per litre water is suggested.
- blight, white rust and powdery mildew in mustard, in Ajmer, Dausa, Tonk and Jaipur districts; spray Blitox-50 @ 3 gm or Mencozeb 2 gm per litre of water.
- loose smut in wheat, stem borer in maize, aphids in mustard, pod borer in gram and leaf spot, blight and black rot in cauliflower and cabbage in Banswara. Undertake plant protection measures as conducive weather conditions prevail.

West Rajasthan

- Farmers in Bikaner and Jaisalmer are advised to complete sowing of *rabi* crops like wheat, oats and methi crops.
- Undertake sowing of sweet gourd, cucumber, pumpkin, bitter gourd, tinda, tomato and ladies finger in Barmer, Churu, Jalore and Jodhpur. Also undertake sowing of cumin.
- Farmers in Pali are advised to complete sowing of wheat and cumin at the earliest
- Farmers in Jodhpur, Barmer, churu, Jalore and Pali are advised to undertake planting of onion.
- Details of varieties are given in Annexure I.

Plant Protection: Weather conditions are favourable for mild incidences of

- leaf eating caterpillar in fruits and vegetable crops in Barmer, Churu, Jalore and Jodhpur; spray Qunalphos @ 1.5 kg or Endosulphan @ 4.25 kg/hectare.
- white fly in sugarcane in Sriganganagar and Hanumangarh; undertake plant protection measures.
- fruit fly in ber in Pali; spray Monocrotophos @ 1 ml + Endosulphan @ 1 ml/litr of water.

CENTRAL INDIA [M.P., CHHATTISGARH]

Madhya Pradesh

- **Major Standing Crops:** Sugarcane (grand growth), soyabean (pod development/maturity), maize (cob development/maturity), cotton (boll development) and vegetable crops (transplanting/vegetative). This is proper time for sowing of *rabi* crops.
- As there was no significant rainfall during last week and dry weather is likely to prevail over the state for the next five days, apply irrigation to the standing crops.
- Complete land preparation and planting of vegetable crops like mid cauliflower, cabbage, radish, onion and carrot and sowing of coriander in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts.
- Farmers in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh are advised to undertake planting/sowing of potato, onion, garlic and pea. Also undertake sowing of wheat with late varieties in areas where wheat crop could not be sown earlier.
- Farmers in Sehore, Bhopal, Damoh, Raisen, Sagar, Vidisha are advised to undertake planting of sugarcane.
- Undertake sowing of potato, berseem, garlic, pea, coriander, spinach and methi in Chhindwara and Betul districts with irrigation facilities. Also undertake planting of *autumn* sugarcane and onion.
- Due to favourable weather conditions, farmers in Tikamgarh, Datia and Chattarpur are advised to complete land preparation and sowing of wheat and alsi. Do seed treatment before sowing. Undertake transplanting of radish, carrot, spinach, methi and cabbage.
- Farmers in Jhabua are advised to undertake land preparation and sowing of *rabi* crops like wheat, gram and maize

- Also undertake transplanting of winter vegetables i.e. tomato, brinjal, chilli, cauliflower, cabbage etc. Berseem and sowing of vegetable pea (Arkil) in Jhabua.
- Details of varieties are given in Annexure I.
- **Animal Husbandry:** Provide proper ventilation and clean water to cattle and arrange for vaccination to save them from infectious disease in Jabalpur, Katni, Panna, Rewa, Satna, Seoni and Sidhi districts. Create smoke during the night in cattle shed to prevent cattle from mosquitoes and bees.
- Undertake vaccination in cattle against Anthrax, Galgotu, Black quarter and FMD in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh. Also undertake deworming.
- Cattle should be kept in aeration condition and in dry place, provide balanced and nutrient rich feed having protein, carbohydrate, fat vitamins and antibiotics in Jhabua
- **Plant Protection:** Weather conditions are favourable for
- agathi in tomato in Chhindwara and Betul districts. Spray Dithane-M-45 @ 2.5 g/litre of water.
- red pumpkin beetle in cucurbits, sucking pest and powdery mildew in vegetables in Indore, Mandsaur, Ratlam, Neemuch, Shajapur, Ujjain and Rajgarh districts. Apply Methyl parathion @ 2% dust before fruiting to control red pumpkin beetle, spray Dimethoate @ 1.5 ml/litre of water to control sucking pests and spray Carbendazim @ 1 g/litre of water to control powdery mildew in vegetables.
- pod borer in red gram in Damoh, Bhopal, Sagar, Raisen, Sehore and Vidisha districts. Spray Endosulphan 35 EC or Malathian @ 2 ml/litre of water to control the pests. Also leaf spot on ginger and turmeric. Spray Mecozeb 2.5 to 3 g/litre of water.
- agathi or pacheti and zalsa in potato in Morena, Bind, Gwalior, Shivpuri, Guna, Sheopur and Ashoknagar districts; spray Mancozeb @ 2 kg in 600 lit water.
- pod borer in early sown gram in Jhabua and Dhar districts; spray Endosulphon 35 EC @ 2 ml/litre of water.

Chhattisgarh

- **Major Standing Crops:** Sugarcane (vegetative), pigeon pea (early maturity / maturity), wheat (sowing / germination / CRI), gram, pea, mustard, berseem, pigeon pea and linseed (germination / early vegetative / vegetative), potato (planting / early vegetative / vegetative), vegetables (early vegetative / vegetative).
- As there was no significant rain during last few weeks over the State and mainly dry weather is likely to prevail during next five days, apply irrigation to the standing crops.
- As dry condition is likely to prevail, undertake intercultural operation to keep the fields weed free.
- The temperatures are favourable for the sowing of wheat, but further delay in sowing of wheat may result in significantly low productivity. Hence, wherever, sowing of wheat crop is not yet done, farmers are advised to complete the sowing at the earliest. GW-273, Kanchan, GW-173, Amar, Lok-1, Ratan and HD-2329 are suitable varieties for Chhattisgarh Plains zone. For sowing of wheat seed rate should be 125 kg / ha for all the varieties.
- Wheat crop sown during November is at crown root initiation stage. This stage of the crop is critical for moisture and nutrient stress. Hence, as dry condition is likely to prevail, farmers are advised to go for first top dressing of N and irrigate the fields.
- Presently early sown mustard and gram are at branching stage. Looking to the above normal day temperature, irrigation at this stage is required for proper vegetative growth of these crops. Avoid water logging in the fields. Use of sprinkler should be encouraged for irrigation.
- Weather conditions are favourable for sowing of Sunflower. Sowing of leafy vegetables can also be done during this week.
- Weather conditions are favorable for incidence of Diamond Back Moth in Cole crops. Hence it is advised to spray Endosulphan or Trizophos @ 1.5 ml / liter of water to control the insect.

Annexure I

Crop varieties of Punjab

- **Wheat:** PBW 373, 1210 for irrigated areas.
- **Raya:** PBR-210, RLM-619, PBR-91, RL-1359 under irrigated conditions and PBR-97 under rainfed conditions.
- **Pea:** Punjab –87, P6-88, P6-89 and Mitthi Phalli.

Crop varieties of Haryana:

Wheat: PBW 373, 1210 for irrigated areas.

Crop varieties of Uttar Pradesh:

Wheat: Malviya-234, Narendra 236, TWT-343

Crop varieties of Delhi

- **Late varieties of wheat:** HD 2932, DVW 16 etc.
- **Onion:** Pusa Red, Pusa Madhabi, Agrifound Light Red.

Crop varieties of West Bengal

- **Boro rice:** IET - 1444, IET – 4786 (Satabdi), IET – 4094, Lalat, MTU - 1010, JGI –1798 etc.
- **Potato after aman rice:** Kufri Jyoti.

Crop varieties of Himachal Pradesh

- **Wheat:** HPW-89,147, VL-738 and HS-240.
- **Barley:** HBL-316 and Dolma.
- **Oat:** Palampur-1.
- **Cabbage:** Snow ball K-1, Palam Uphar, Golden Acre.
- **Knol khol:** White Vienna.
- **Broccoli:** Palam Kanchan, Palam Vichitrta and Palam Samridhi.
- **Cauliflower:** Pride of India.
- **Raddish:** Japani white and Early Mino White.
- **Peas:** Agad, Lincoln and Priya.

Crop varieties for Jammu

- **Late varieties of wheat:** Raj-3077, PBW-226, Raj 3765, WH-542, PBW-373 & PBW-435

Crop varieties for Rajasthan

East Rajasthan:

- **Fenugreek:** RMT 1 and RMT 14
- **Cumin:** RS 1, RZ 209 and RZ 19
- **Garlic:** G-1, G-41, G-50, G-282 and G-313

- **Radish:** Pusa Deshi and Japoni White
- **Cauliflower:** Pusa Hybrid-2, Pusa Snowball-1, Pusa Snowball K- 1 and Pusa Snowball K-25
- **Wheat:** Lok-1, Raj-1972, HD-2236, HD-2329, WH-147, PBW-343 and CPAN-3004 (Alwar, Dholpur, Bharatpur, Karauli and Sawai Madhepur districts).

West Rajasthan:

- **Wheat:** Raj 3765, Raj 3077A and KRL 19 (Pali)
- **Cumin:** RC 19 and GC 4
- **Wheat:** Raj-3765, Raj-3077 , HD-2285 and PBW-373 (Sriganganagar and Hanumangarh districts).

Madhya Pradesh:

- **Wheat:**
 - **Unirrigated/ Semi-irrigated:** JWS-17, HW-2004, HI-1500, Malav Ratna (HD-4672) and Malav Shri (HI-8381).
 - **Irrigated:** GW-273, Kanchan (DL-803-3), WH- 147, GW- 190, GW- 322 and Malav Shakti (HI-8498).
- **Gram:** JG- 412, JG- 226, JG- 11 and JG- 130.
- **Maize:** JM- 421, JM- 8, JM- 12, Chandan makka- 3, Ganga- 3, Ganga- 4 and HPQM – 1.

Andhra Pradesh:

- **Black gram:** LBG 402, 648, 645, 685, 709 and 752.

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