



National Agromet Advisory Service Bulletin

Friday 31st May 2019

(For the period 31st May to 5th June 2019)



Issued by

India Meteorological Department

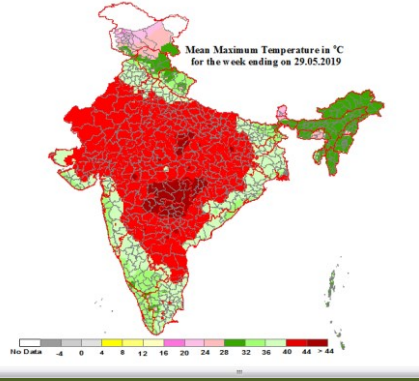
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District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

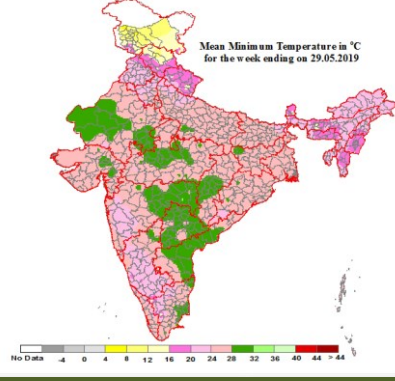
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 29.05.2019

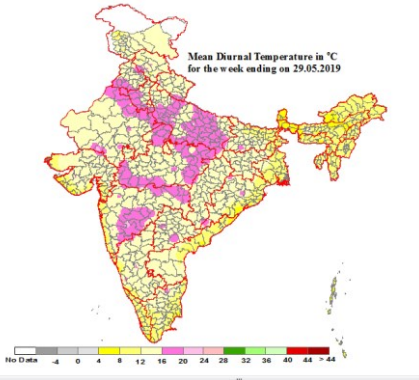
Mean Maximum Temperature (°C) for the week ending on 29.05.2019



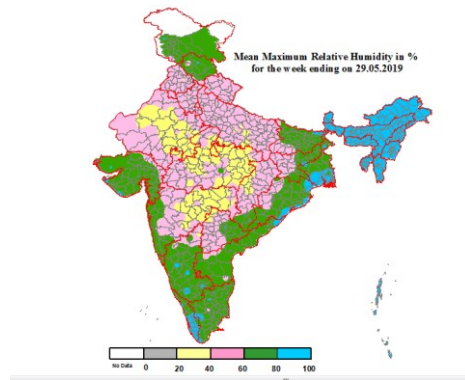
Mean Minimum Temperature (°C) for the week ending on 29.05.2019



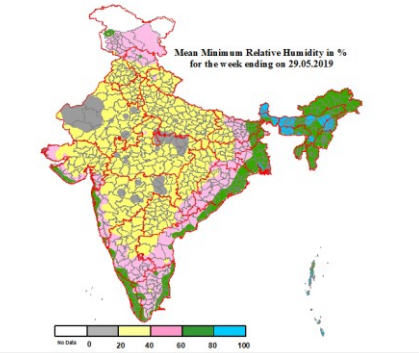
Mean Diurnal Temperature Variation (°C) for the week ending on 29.05.2019



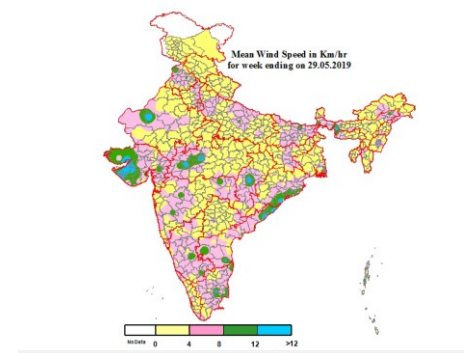
Mean Maximum Relative Humidity (%) for the week ending on 29.05.2019



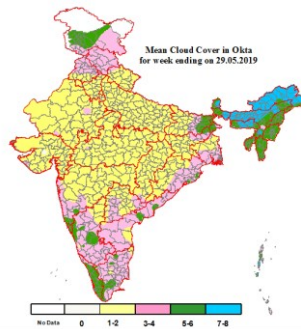
Mean Minimum Relative Humidity (%) for the week ending on 29.05.2019



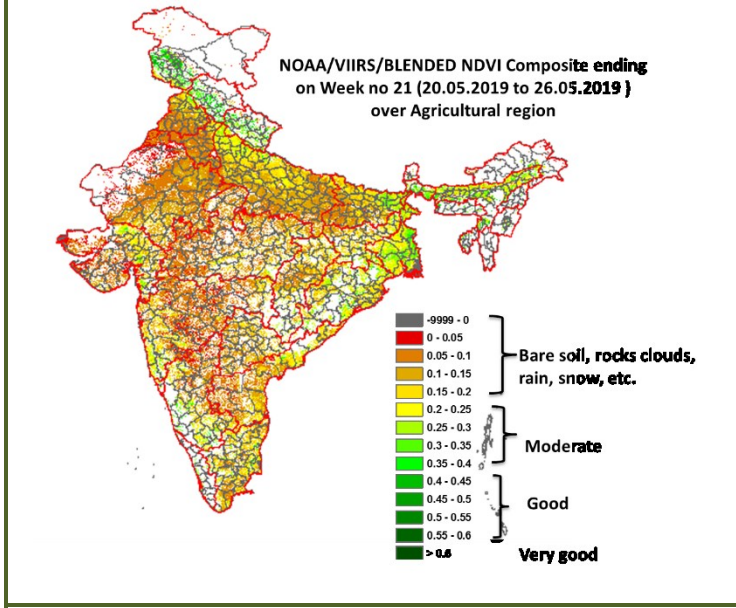
Mean Wind Speed (km/hr) for the week ending on 29.05.2019



Mean Cloud Cover (okta) for the week ending on 29.05.2019

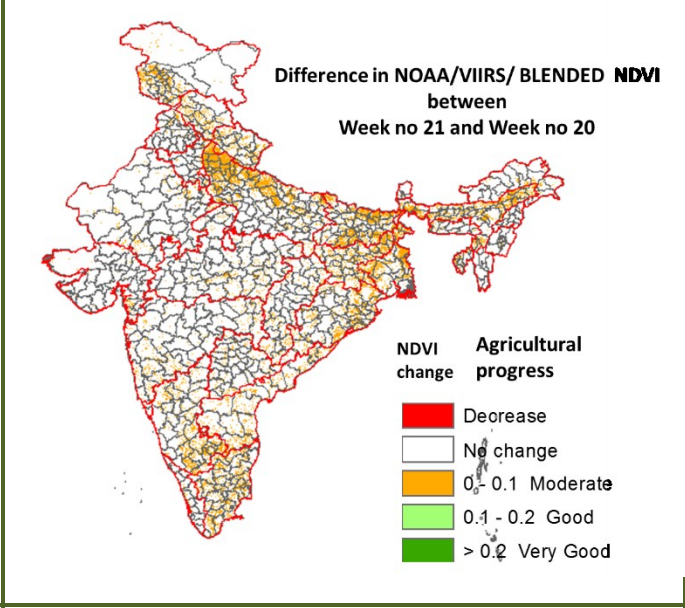


NOAA/VIIRS/BLENDED NDVI composite for the week number 21 (20.05.2019 to 26.05.2019) over Agricultural regions of India



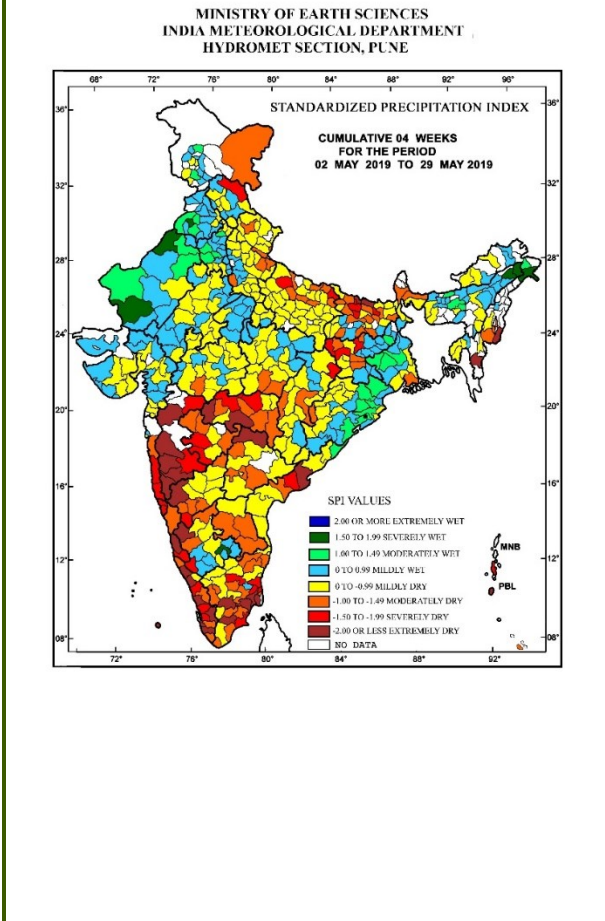
Agriculture vigour is good at few places over valley region of Jammu & Kashmir and isolated places over North Eastern States, Himachal Pradesh and Uttarakhand.

Difference in NOAA/VIIRS/BLENDED NDVI between week number 21 and week number 20



Moderate difference in agricultural vigour was noticed at most places over Tamilnadu, many places over Jammu & Kashmir, Uttar Pradesh, Bihar, Odisha, West Bengal, Jharkhand, North Eastern States and South interior Karnataka.

Standardised Precipitation Index Cumulative 4 weeks for the period 2nd May to 29th May 2019



- Extremely/severely wet conditions experienced in Changlang districts of Arunachal Pradesh; Dibrugarh, Tinsukia districts of Assam; Bangalore Rural district of Karnataka; Faridkot district of Punjab; Barmer, Sri Ganganagar districts of Rajasthan.
- Extremely/Severely dry conditions experienced in few districts of East Godavari, West Godavari, Adilabad districts of Andhra Pradesh; Darrang district of Assam; Madhubani, Muzaffarpur, Saharsa, Sitamarhi, Sheohar, Vaishali districts of Bihar; Lahaul & Spiti districts of Himachal Pradesh; Dakshin Kannada, Udupi, Belgam, Haveri, Kodagu, Shimoga districts of Karnataka; Alapuzha, Cannur, Ernakulam, Kottayam, Kozhikode, Malappuram, Kollam, Thrissur, Idukki districts of Kerala; Ratnagiri, Sindhudurg, Jalgaon, Kolhapur, Nashik, Pune, Sangli, Satara, Sholapur, Beed, Osmanabad, Amravati, Buldhana, Nagpur, Yeotmal districts of Maharashtra; Chandel districts of Manipur; Lunglei districts of Mizoram; Cuddalore, Dindigul, Nagapattinam, Pudukkottai, Ramanathapuram, Salem, Thanjavur districts of Tamilnadu.

Significant weather features

♦ As per 2nd Stage Long Range Forecast update for the 2019 Southwest Monsoon, rainfall over the country as a whole for the 2019 Southwest Monsoon season (June-September) is most likely to be normal (96% to 104%) of long period average (LPA). Quantitatively, Monsoon season rainfall for the country as a whole is likely to be 96% of the LPA with a model error of $\pm 4\%$. Region wise, the season rainfall is likely to be 94% of the LPA over Northwest India, 100% of LPA over Central India, 97% of LPA over South Peninsula and 91% of LPA over North-East India all with a model error of $\pm 8\%$. The monthly rainfall over the country as a whole is likely to be 95% of its LPA during July and 99% of LPA during August both with a model error of $\pm 9\%$. The current weak El-Nino conditions over Pacific are likely to continue during the monsoon season with some possibility of these conditions to turn to neutral ENSO conditions during the latter part of the monsoon season.

♦ **The Northern Limit of Monsoon (NLM) continues to pass through Lat. 5°N/Long. 75°E, Lat. 5°N/Long. 80°E, Lat. 10°N/Long. 87°E, Lat. 13°N/Long. 90°E and Lat. 16°N/Long. 94.5°E. Conditions are becoming favourable for further advance of Southwest Monsoon into extreme southern parts of Arabian Sea, some more parts of Maldive-Comorin Area, southwest, southeast and eastcentral Bay of Bengal during next 72 hours.**

Weather Forecast for next 5 days valid upto 0830 hours of 5th June 2019

Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.

Maximum temperatures are very likely to rise gradually by 2-3°C over major parts of northwest India during 48 hours. They are likely to remain above normal by 2-3°C over some parts of south peninsula during next 3 days. No significant change in maximum temperatures likely over rest of the country during next 24 hours.

5 Day Rainfall Forecast (Mid-day) 31st May 2019

	31-May Today	01-Jun Sat	02-Jun Sun	03-Jun Mon	04-Jun Tue
1. Andaman & Nicobar Islands	WS	WS	FWS	FWS	FWS
2. Arunachal Pradesh	FWS	SCT	FWS	FWS	FWS
3. Assam & Meghalaya	FWS	FWS	WS	WS	WS
4. N. M. M. & T.	FWS	FWS	WS	WS	WS
5. S.H. West Bengal & Sikkim	FWS	FWS	FWS	FWS	FWS
6. Gangetic West Bengal	ISOL	SCT	FWS	SCT	ISOL
7. Odisha	ISOL	ISOL	ISOL	ISOL	ISOL
8. Jharkhand	ISOL	ISOL	SCT	ISOL	ISOL
9. Bihar	ISOL	SCT	SCT	ISOL	ISOL
10. East Uttar Pradesh	DRY	ISOL	ISOL	ISOL	ISOL
11. West Uttar Pradesh	DRY	DRY	ISOL	ISOL	ISOL
12. Uttarakhnd	DRY	DRY	ISOL	FWS	SCT
13. Haryana, Chd & Delhi	DRY	DRY	ISOL	ISOL	ISOL
14. Punjab	DRY	DRY	ISOL	ISOL	ISOL
15. Himachal Pradesh	DRY	ISOL	ISOL	FWS	SCT
16. Jammu & Kashmir	ISOL	ISOL	SCT	FWS	FWS
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	ISOL	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	ISOL	DRY	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	ISOL	ISOL	ISOL	ISOL	ISOL
24. Madhya Maharashtra	DRY	DRY	ISOL	DRY	DRY
25. Marathwada	DRY	ISOL	ISOL	DRY	ISOL
26. Vidharbha	ISOL	ISOL	ISOL	ISOL	ISOL
27. Chhattisgarh	ISOL	ISOL	ISOL	ISOL	ISOL
28. Coastal Andhra Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
29. Telangana	ISOL	ISOL	ISOL	ISOL	ISOL
30. Rayalaseema	ISOL	SCT	SCT	ISOL	ISOL
31. Tamilnadu & Puducherry	ISOL	ISOL	ISOL	ISOL	SCT
32. Coastal Karnataka	ISOL	ISOL	ISOL	ISOL	ISOL
33. North Interior Karnataka	ISOL	ISOL	ISOL	ISOL	ISOL
34. South Interior Karnataka	FWS	FWS	SCT	SCT	ISOL
35. Kerala	SCT	SCT	SCT	SCT	FWS
36. Lakshadweep	SCT	SCT	ISOL	SCT	FWS

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather warning for fishermen

- Strong wind with speed reaching 40-50 kmph very likely to prevail over southwest Arabian Sea, southwest Bay of Bengal, Andaman Sea and adjoining southeast Bay of Bengal on 31st May and 1 June. Fishermen are advised not to venture into this area.

Salient advisories based on weather warning

- **Heat Wave** in most parts with **severe heat** wave conditions in some parts very likely over West Rajasthan on 31st May to 2nd June; **Heat Wave conditions in many parts with severe heat wave in isolated pockets** over Vidarbha on 31st May; Punjab, Haryana, Chandigarh & Delhi and Madhya Pradesh on 31st May & 1st June; **Heat Wave conditions in some parts with severe heat wave in isolated pockets** very likely over Uttar Pradesh and East Rajasthan on 31st May, 1st June, Vidarbha on 1st June, **Heat wave conditions in many parts** over Punjab, Haryana, Chandigarh & Delhi, Madhya Pradesh on 2nd June; West Rajasthan on 3rd & 4th June; **in some parts** very likely over Jharkhand on 31st May, Vidarbha on 2nd to 4th June, East Rajasthan, Madhya Pradesh on 3rd June to 4th June; **isolated pockets** over Madhya Maharashtra on 31st May, Jammu & Kashmir & Marathwada 31st May & 1st June, Himachal Pradesh, Uttarakhand, Chhattisgarh and North Interior Karnataka on 31st May, 1st June, 2nd June, Jharkhand 1st and 2nd June, Uttar Pradesh on 2nd & 3rd June, Punjab, Haryana, Chandigarh & Delhi on 3rd & 4th June, Uttar Pradesh, on 3rd June, East Uttar Pradesh, Telangana on 31st May, 1st June, 2nd June and 4th June. In above regions, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to high temperature; undertake mulching with straw to conserve soil moisture. Provide shade for protection of young fruit plants from scorching sun.
- **Heavy rainfall** at isolated places very likely over Nagaland, Manipur, Mizoram & Tripura on 31st May to 2nd June with **heavy to very heavy rainfall** at isolated places likely over Nagaland, Manipur, Mizoram & Tripura on 3rd & 4th. **Heavy rainfall** at isolated places very likely over Kerala on 31st May; Sub-Himalayan West Bengal & Sikkim, South Interior Karnataka & Andaman & Nicobar Islands on 31st May & 1st June and Assam & Meghalaya from 31st May to 4th June. In above regions, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields. Keep harvested produce (Boro rice, Green gram and Blackgram, Wheat and vegetables) at safer places.
- **Thunderstorm accompanied with squall (50-60 kmph)** at isolated places very likely over Gangetic West Bengal on 2nd June. **Thunderstorm & lightning accompanied with gusty winds (40-50 kmph)** at isolated places over East Madhya Pradesh and Vidarbha on 31st May; Rayalaseema and Tamilnadu & Puducherry on 2nd June; Haryana, Chandigarh & Delhi and West Uttar Pradesh on 3rd June; **with gusty winds (30-40 kmph)** at isolated places over Sub-Himalayan West Bengal & Sikkim, Odisha, Bihar, Jharkhand, Chhattisgarh, Vidarbha, Tamilnadu & Puducherry, Coastal Andhra Pradesh, Telangana and Rayalaseema on 1st June Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Odisha, Bihar, Jharkhand, Chhattisgarh, Vidarbha and Coastal Andhra Pradesh on 2nd June, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Bengal & Sikkim, Odisha, Bihar, Jharkhand, Chhattisgarh and Vidarbha on 3rd June, Jammu & Kashmir, Himachal Pradesh, Uttarakhand, West Bengal & Sikkim, Odisha, Chhattisgarh and Vidarbha on 4th June. **Thunderstorm/ Dust storm accompanied with squall (50-60 kmph)** at isolated places very likely over East Uttar Pradesh on 2nd and 3rd June; **with gusty winds (40-50 kmph)** at isolated places very likely over Haryana, Chandigarh & Delhi on 2nd to 4th June and West Uttar Pradesh on 2nd & 3rd June; **with gusty winds (30-40 kmph)** at isolated places very likely over Punjab on 2nd to 4th June. In the above regions, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane. Postpone application of plant protection measures and fertilizers to the standing crops during strong / squally / gusty winds.

Weather Outlook for subsequent 2 days from 5th to 7th June 2019

- Widespread rainfall over Northeast India with isolated heavy to very heavy falls likely over Tripura &

neighbourhood and isolated to scattered rainfall likely over Western Himalayan region, south Peninsular India and Islands.

- Dry weather likely over the rest of the country.

Detailed Agromet Advisories

SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]

Realised Rainfall: Rainfall occurred in all the districts of Kerala except Alappuzha, Kannur, Idukki, Kasaragod, Kollam district, Srikakulam district of Coastal Andhra Pradesh, Coimbatore, Dharmapuri, Nilgiris districts of Tamil Nadu, Dharwad and Gadag districts of North Interior Karnataka, in all districts of South Interior Karnataka except Ballari, Chikkamagaluru, Chitradurga, Davangere, Kolar and Shivamogga districts during the week. Weather remained mainly dry/dry over rest the region.

Kerala:

- Continue harvesting of matured *Puncha* rice. Undertake land preparation for sowing of *Virippu* rice and start sowing of direct sown paddy crop.
- In Northern Zone, undertake for transplanting of coconut seedlings.
- In Problem Area Zone, incidence of sucking pest in vegetables, spray Imidachlopid 3ml/ litre.

Andhra Pradesh:

- In North Coastal Andhra Pradesh, continue sowing of sesame utilizing realized rainfall.
- In North Coastal Andhra Pradesh high Altitude Tribal Zone continue sowing of green manure crops like Sunhemp @ 12-15 kg/ac, Dhaicha @ 10-12 kg/ac and Pillipesara @ 6-8kg/ac etc. to increase the soil organic carbon. Undertake land preparation for sowing of maize and planting of ginger and turmeric.
- In Rayalaseema's scarce rainfall zone, prevailing high temperatures may cause damage to the transplanted saplings of banana. Protect by covering mulch or any other measures.
- In South Coastal Andhra Pradesh undertake planting of sugarcane. In Nellore district undertake sowing of rice nurseries.
- In Southern zone of Andhra Pradesh, due to prevailing high temperatures the groundnut crop which is in flowering stage there is chance of occurrence of sucking pests. Spray monocrotophos @ 1.6 ml./L of water.

Telangana:

- In Southern Telangana, weather is congenial for incidence of Thrips and Mites in Chillies. To control, spray Diafenthiuron @ 1.5 g or Chlorfenapyr @ 2 ml per liter of water.
- In Northern Telangana, spray potassium nitrate @10g/lit during early hours to increase the fruit set and retention of fruits.

Tamil Nadu:

- In Cauvery Delta Zone, undertake sowing rice in nursery for kuruvai season.
- In Western Zone, complete pickings of summer irrigated cotton.
- In Southern Zone, Gray mould disease in tomato, spray Tebuconazole + Captan @ 100 ml + sticky agent @ 10ml with 10 litres of water. Also white fly on cotton, spray neem seed kernel extract 50 g & neem oil at 5 ml/l of water (or) Acetamiprid¹ 20% SP 100 g/ha.

Karnataka:

- In South Interior Karnataka, continue land preparation for sowing of pulses like cowpea, green gram, black gram, horse gram, field bean etc and undertake sowing of these crops where sufficient rains received,
- In North Interior Karnataka, undertake hoeing in inter row spacing of sugarcane crop to create dust mulch.
- In Coastal Karnataka, continue harvesting of matured mango fruits.
- In Coastal Karnataka, spray Blitox @ 2gm/litre or 1% Bordeaux mixture to manage crown rot in arecanut.

Animal Husbandry

- In Andhra Pradesh, as the day temperatures are increasing, farmers are advised to take necessary measures and protect livestock from heat stress. Provide the sheds with light & ventilation along with cool water for drinking. Provide drinking water to livestock at frequent intervals (4 times a day) to avoid dehydration. Provide the sheds with light & ventilation along with cool water for drinking. Arrest the ammonia smell in the sheds by arranging fans & coolers.
- In Telangana, prevailing weather conditions are congenial for the occurrence of Ranikhet disease in poultry. To prevent the diseases, vaccinate the birds. To protect the poultry birds arrange fans and foggers in sheds, cover the sheds with paddy straw and arrange sprinklers. Feed with wet mash to increase the feed intake and provide cool water for drinking.

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

Realised Rainfall: Rainfall occurred in all districts except Upper Siang and West Siang of Arunachal Pradesh; all districts except Darrang and N. C. Hills of Assam; all districts except Jaintia Hills of Meghalaya; Aizwal and Kolasib districts of Mizoram; Churachandpur and Imphal West districts of Manipur; Dimapur, Kephire and Kohima districts of Nagaland and all districts of Tripura.

Arunachal Pradesh:

- Undertake transplanting of rice and sowing of summer vegetables.

Assam & Meghalaya:

- In Assam, undertake nursery bed preparation for sowing of Sali rice and harvesting of green and black gram after spells of rain.
- In Hill Zone of Assam, continue land preparation and sowing of pigeon pea and cotton and planting of pineapple, banana, papaya etc. after spells of rain. Undertake harvesting of wheat and okra after spells of rain.
- In Lower Brahmaputra Valley of Assam, undertake land preparation and sowing of ground nut after spells of rain
- In Barak Valley Zone, undertake planting of lemon after spells of rain.
- In Meghalaya, continue sowing of maize at high and mid altitude region, undertake land preparation for new plantation of pineapple after spells of rain.
- Manipur, Mizoram, Tripura and Nagaland:
- In Nagaland, continue field preparation for TRC/WRC paddy and transplanting for chilli.
- In Manipur, drain out excess water in the nurseries of kharif rice. Undertake land preparation for transplanting of rice seedlings and preparation of nursery for early cauliflower in the upland area. Undertake sowing of kharif maize, soybean/ groundnut, black gram after spells of rain .
- In Tripura, to protect from strong wind and heavy rain harvest boro rice if 80 to 85 percent grain turned yellow and shift to safer place. Maintain good drainage to avoid stagnant water in the field of cowpea at pod formation stage. Due to extreme wet condition, incidence of Downy mildew disease may occur on cucumber, ridge gourd, pumpkin etc., spray Carbandazim and Chlorothalonil @ 1.5 gm or Matalaxyl and Mancozeb @ 2gm per liter of water.
- **Animal Husbandry:**
- In Nagaland and Manipur, pig should be vaccinated against all infectious diseases before the monsoon starts.
- In Barak Valley Zone of Assam, the cow shed may be infected by microbes, undertake vaccination for the cattle prior to monsoon season to protect from the disease like Anthrax and Foot Mouth Disease.

Fishery:

- In Mizoram, as heavy rainfall is forecasted during next 2-3 days, repair damaged dykes of fisheries ponds and take care so that fishes does not escape.
- In Barak Valley Zone of Assam, apply lime @ 6 kg per bigha of pond to control the bacterial diseases in the fishes.
- In Meghalaya, maintain proper drainage system and fix the net in the drainage pipe in the fish pond. Maintain of proper dyke.

EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]

Realised Rainfall: Rainfall occurred in all districts of Andaman & Nicobar Islands; in Kishanganj, Supaul, West Champaran districts of Bihar; Ramgarh, Sahebganj districts of Jharkhand, in Gajapati, Kandhamal, Nawarangpur , Rayagada and Sonepur districts of Odisha and in all the districts of Sub-Himalayan West Bengal and Sikkim Birbhum, Burdwan, Nadia districts of Gangetic West Bengal. Weather remained mainly dry over rest of the region.

Odisha:

- Undertake harvesting of summer rice and groundnut. Undertake land preparation for sowing of khariff rice in the already harvested fields.
- Undertake sowing of green manure crop where harvesting of rabi crop is completed. For green manuring cluster bean, daincha, senai, lobia etc may be sown and ensure proper moisture for proper germination and growth of the crop. Continue sowing of Jute
- Due to prevailing high temperatures , provide frequent irrigation and trash mulching to reduce moisture loss due to evaporation in sugarcane.
- Complete planting of Turmeric & Ginger by 1st week of June. After planting mulching should be done properly @15-20t/ha for proper germination, helps in water conservation, control high temperature & sunshine, check weed growth.

Bihar:

- In Bihar, complete harvesting of maize, black gram and green gram crops. Undertake land preparation for sowing of onion and nursery sowing of rice crop. Continue planting of turmeric. Maintain the proper soil moisture of litchi and mango orchard.

Jharkhand:

- In Jharkhand, complete harvesting/threshing of rice. Continue land preparation for sowing of early vegetables (long gourd, round gourd, bitter guard, sponge gourd, ridge gourd, cucumber and cowpea), ginger and turmeric. Undertake new planting of mango, guava and litchi.

West Bengal:

- In Sub-Himalayan West Bengal, undertake sowing of green manure crops like Dhaincha and sow them in the field selected for aman rice cultivation. Complete harvesting of Boro rice and store the produce in safer place. Undertake mulching to conserve soil moisture and to control weeds in large cardamom. Undertake planting of ginger.
- In Gangetic West Bengal, continue sowing of Olitorius jute. Undertake land preparation for sowing of Aman rice. In Chilli which is at fruit development stage there is a chance of occurrence of Die back and Fruit rot and Sucking pest, spray Carbendazim @ 1g/lit of water at clear weather condition for Die back and Fruit rot and spray Neem oil @ 5ml/lit of water for Sucking pest

Andaman & Nicobar Islands:

- Provide drainage in vegetables to avoid stagnation of water.
- In Andaman Islands, sow leafy vegetables like Marsa and poi and covered with banana leaves till germination. In Nicobar Islands, undertake sowing of sunnhemp @ 50g/basin as green manure crop.

Animal Husbandry:

- In Jharkhand, vaccinate cow, buffalo, goat and sheep against H.S & FMD.
- In West Bengal, feed the cattle at morning and evening time. Avoid mung mash and mustard cake in their food and supply arhar or black gram mash and sesame or linseed cake. Provide them more drinking water.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Weather remained dry over the region during the week.

Maharashtra:

- In Konkan region, continue nursery bed preparation for kharif rice, brinjal, chilli and tomato. Undertake land preparation for nagli, sowing of okra on ridges and furrows and gourd vegetables on soil mounts. Undertake vaccination for poultry birds against Ranikhet disease. Apply irrigation to newly planted mango and cashew orchards.
- In Madhya Maharashtra, Continue land preparation in harvested crop fields. To control stem borer in sugarcane, spray Chlorantraniliprole 18.5% S.C. @ 3 to 4 ml per 10 liter of water.
- In Maratwada, undertake land preparation for kharif crops like cotton, pigeon pea, black gram and groundnut and also apply light and frequent irrigation to orchards and vegetables.
- In Vidarbha, continue harvesting of groundnut and apply light and frequent irrigation to orchards and vegetables.
- Provide shade for protection of young fruit plants from scorching sun.

Gujarat:

- In North Gujarat, Continue land preparation for sowing of irrigated hybrid cotton and B.T. cotton crop. Complete harvesting of matured green gram crop. Continue picking of matured pods /fruits of vegetable crops.
- In Middle Gujarat, undertake harvesting of matured bajra and green gram crops. As there is increase in temperature, cover papaya fruits using gunny bags,
- In South Gujarat, to control water evaporation from sugarcane field spread dry leaves of sugarcane in between two rows of sugarcane crop. Continue nursery sowing of rice crop. Undertake sowing of leafy vegetables.
- In Saurashtra & Kutch, apply light irrigation in vegetable crops during morning or evening hours. Continue land preparation for sowing of irrigated hybrid cotton and B.T. cotton crop. Keep inputs ready for sowing of cotton, groundnut, sesame, pulses and pearl millet crops. Undertake sowing of groundnut crop with irrigation facility. Complete harvesting of green gram, black gram and sesame crops.

Animal Husbandry

- In Gujarat, for milch animals, follow schedule of 1 kg feed + 50 g mineral mixture per 2 liters of milk yield. Feed animals with a mixture of green grass + hay +minerals + dry feed.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in Bastar district of Chattisgarh. Weather remained mainly dry over the rest of region during the week.

Advisories:

Madhya Pradesh

- Continue harvesting cucurbitaceous vegetables and fruits in the state. Apply irrigation of green gram and black gram crops at 7-10 days interval.
- In Kymore Plateau and Satpura Hill Zone, undertake field preparation for sowing of vegetables.
- In the Vindhya Plateau Zone, harvest moong and urd.
- In the Central Narmada Valley Zone, spray Imidacloprid @ 5-7 ml per 15 litres of water for sucking pest in tomato,

brinjal, chilli, and cucurbit crops.

Chhattisgarh:

- In North Hill Zone, prepare nursery for sowing of long duration rice varieties, undertake summer ploughing for preparing land for kharif crops and also land preparation for vegetables.
- In Chattisgarh Plain Zone, increase the amount of water in the drip for banana, papaya and other crops as per evapo-transpiration rate. Also to cover the fruits by using leaves or Jute bags to protect from sun scorching.
- In Bastar Plateau Zone, powdery mildew on cucurbitaceous crops, spray Kerathan 1 gm powder dissolved in one liter water.

Animal Husbandry

- In Madhya Pradesh, there is a possibility of spread foot and mouth disease in animals for control vaccinate the animals.
- In Chhattisgarh, vaccinate animals against Hemorrhagic Septicaemia (H.S.), Black quarter (B.Q.), etc. To avoid dehydration, feed solution of 4-5 teaspoon sugar and one fourth amount of salt every half an hour to dairy animals.

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

Realised Rainfall: Rainfall occurred in Chamba, Kangra and Una districts of Himachal Pradesh and Anantnag, Bandipore, Baramulla, Doda, Ganderbal, Kupwara, Ramban, Reasi and Udhampur districts of Jammu & Kashmir. Weather remained mainly dry/dry over rest of the region.

Jammu & Kashmir:

- In Valley Temperate Zone, continue transplanting of rice. Transplant only 2 to 3 seedlings per hill. In areas where drainage is a problem, plant 5 to 6 seedlings per hill. Undertake gap filling in maize. For cutworm damage in maize at two leaf stage, carry out drenching with chlorpyrifos 20EC (0.02%) @ 2 ml per litre of water.
- In Sub Tropical Zone, continue land preparation for sowing of rice nursery. Due to high infestation of fruit and shoot borer in brinjal, clip off shoots/fruits infected with borer and bury them inside the soil. Spray mixture of Profenofos + Cypermethrin (4:40) @ 1ml/litre of water at 10 days interval after harvesting of fruit to control infestation of borers. To control tomato leaf curl, remove virus infected plants and spray imidacloprid @ 0.5ml/litre of water to check secondary spread of disease. Undertake sowing of turmeric.
- In Intermediate Zone, continue sowing of rice. Carry out hoeing operation in maize and vegetables. Apply light and frequent irrigation to vegetable crops.

Himachal Pradesh:

- In Mid and High hill regions of Sub Montane Zone, continue harvesting of wheat on clear days. To control downy mildew in garlic, spray Diathane M 45 2.5 g or Bavistin 1 g per litre.
- In High Hill Temperate Dry Zone, continue sowing of potato and barley.
- In Mid Hills Sub Humid Zone, apply irrigation to all the standing crops, especially the vegetable crops.

Punjab, Haryana and New Delhi

- In Punjab, complete sowing of summer moong, summer mash, cowpea and cucurbits. Undertake transplanting of vegetables (tomato, chilli, brinjal). Complete sowing of cotton including Bt cotton or desi Cotton and planting of turmeric. Undertake field preparation for nursery sowing of rice. Irrigate the vegetable crops.
- In Haryana, continue sowing of cotton, transplanting of matured seedlings of tomato, cauliflower, cabbage in prepared field and sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish. Undertake field preparation of nursery sowing of rice and land preparation for sowing for pulses i.e. green gram, lobia, moth and pigeonpea.
- In Delhi, continue sowing of vegetables, green gram, pigeon pea and cotton. Maintain optimum moisture level in cucurbitaceous crops by light and frequent irrigation.

Uttar Pradesh:

- Undertake harvesting of wheat and gram and sowing of spring season sugarcane.
- In East Uttar Pradesh apply irrigation in maize, urad, moong, vegetable and green manure crops. Undertake nursery preparation for Kharif onion.
- In West Uttar Pradesh, carry out land preparation for sowing of maize crop. Undertake harvesting of tomato, chilli, lady finger, bitter melon and cucumber.

Uttarakhand:

- In Hill Zone, give light irrigation to onion and garlic crop. Apply mulch for soil moisture conservation in ginger. Carry out earthing up, mulching and weeding operations in potato crop.

- In Bhabar and Tarai Zone, apply irrigation in sugarcane crop at an interval of 7-10 days. To control blight disease in potato crop in the mid and high hills region, spray Mancozeb @ 20g/litre of water.
 - In Sub-Humid Sub-Tropic Zone, undertake field preparation for rice nursery. Continue sowing of sugarcane crop. Maintain proper soil moisture in sugarcane field.
- Rajasthan:**
- In Irrigated North Western Plain Zone, undertake preparation of rice nursery.
 - In Semi Arid Eastern Plain Zone, undertake field preparation for sowing of irrigated groundnut. Bark eating caterpillar may attack Mango, Ber & Guava, spray Malathion 50 E.C. @ 1 ml per litre water.
 - In Sub Humid Southern Plain and Aravali Hill Zone, attack of fruit borer in Brinjal, Okra & Tomato, spray solution of spinosad 48 EC/ 1 ml lit water.

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