



National Agromet Advisory Service Bulletin

Friday 28th June 2019

(For the period 28th June to 2nd July 2019)



Issued by

India Meteorological Department

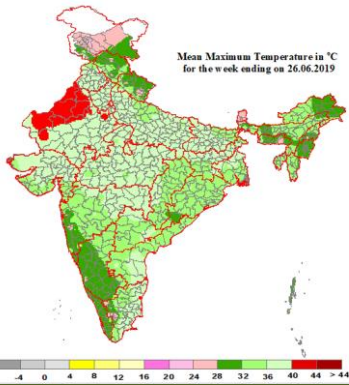
Weblink For

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

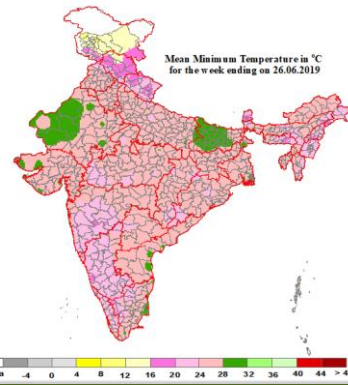
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 26.06.2019

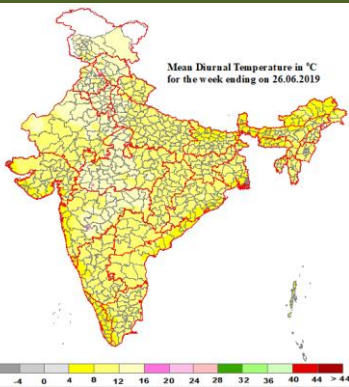
Mean Maximum Temperature (°C) for the week ending on 26.06.2019



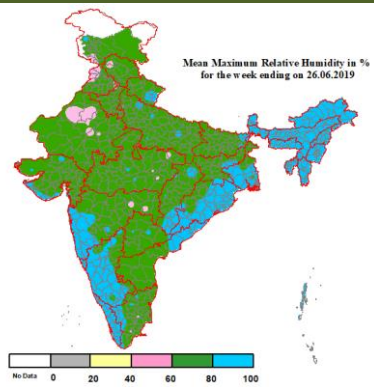
Mean Minimum Temperature (°C) for the week ending on 26.06.2019



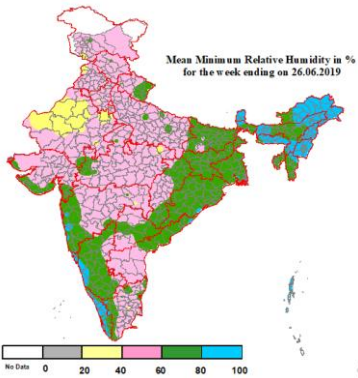
Mean Diurnal Temperature Variation (°C) for the week ending on 26.06.2019



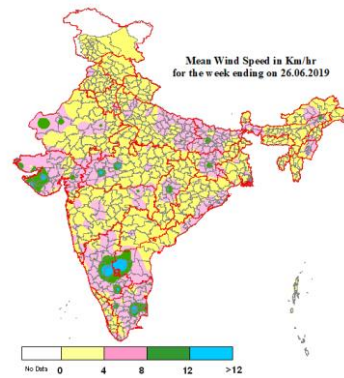
Mean Maximum Relative Humidity (%) for the week ending on 26.06.2019



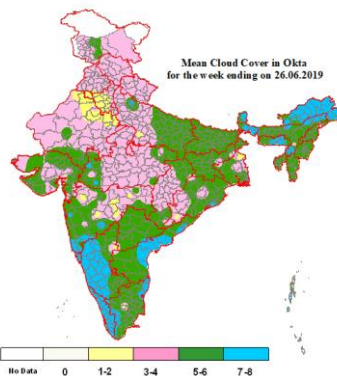
Mean Minimum Relative Humidity (%) for the week ending on 26.06.2019



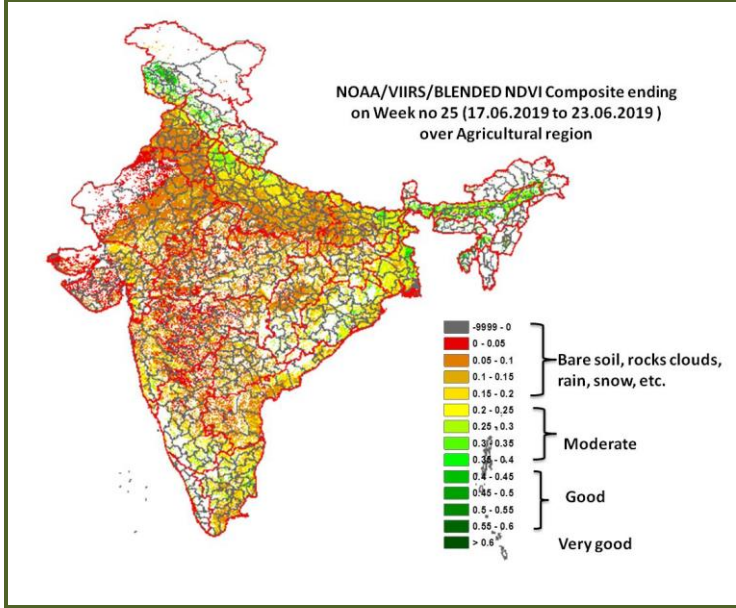
Mean Wind Speed (km/hr) for the week ending on 26.06.2019



Mean Cloud Cover (okta) for the week ending on 26.06.2019

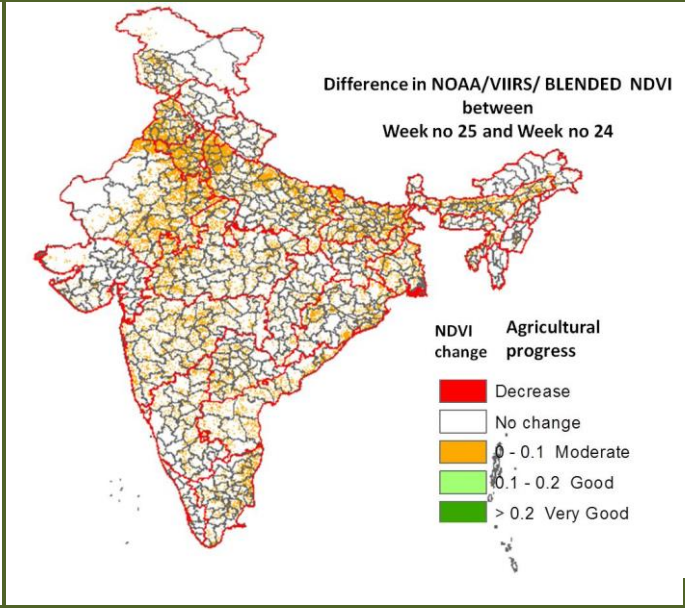


NOAA/VIIRS/BLENDED NDVI composite for the week number 25 (17.06.2019 to 23.06.2019) over Agricultural regions of India



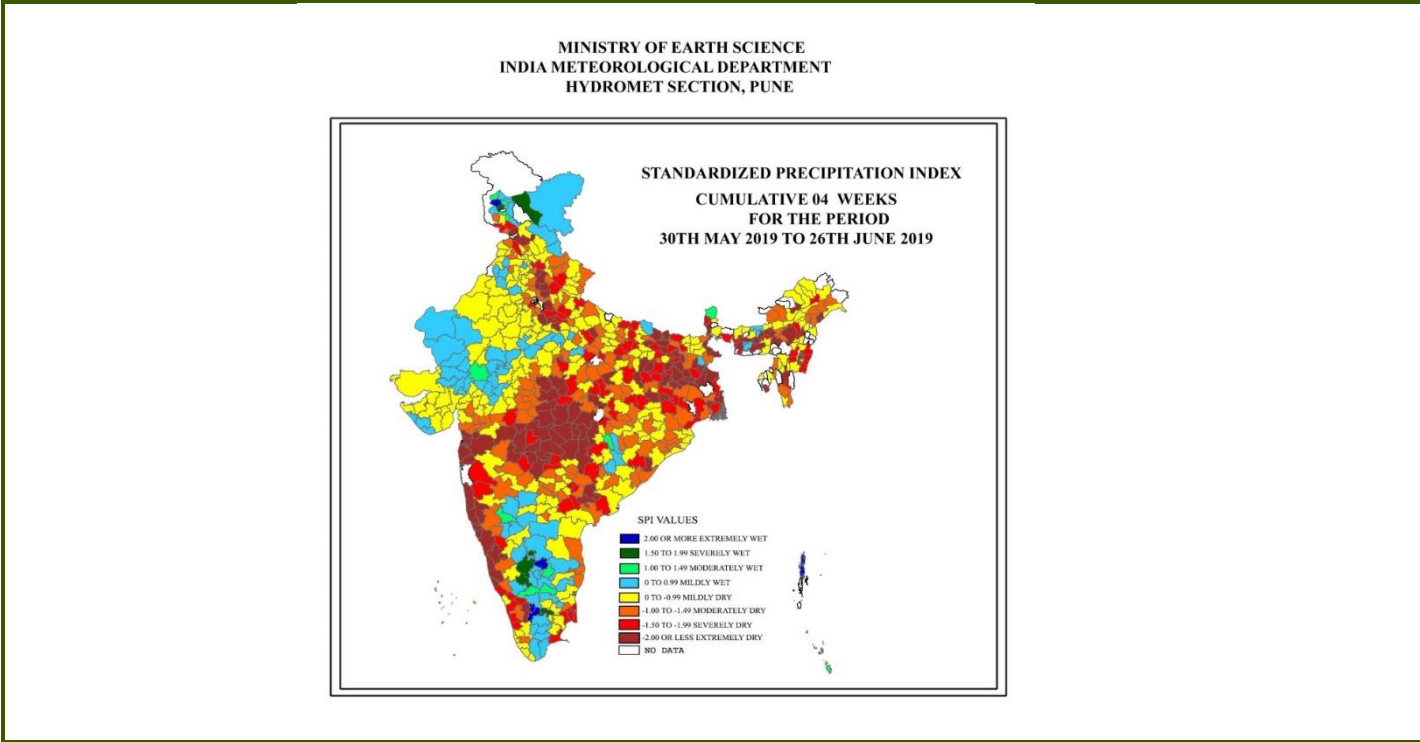
Agriculture vigour is good at a few places over valley region of Jammu & Kashmir and at isolated places over North Eastern States, Himachal Pradesh, Uttarakhand and West Bengal.

Difference in NOAA/VIIRS/BLENDED NDVI between week number 25 and week number 24



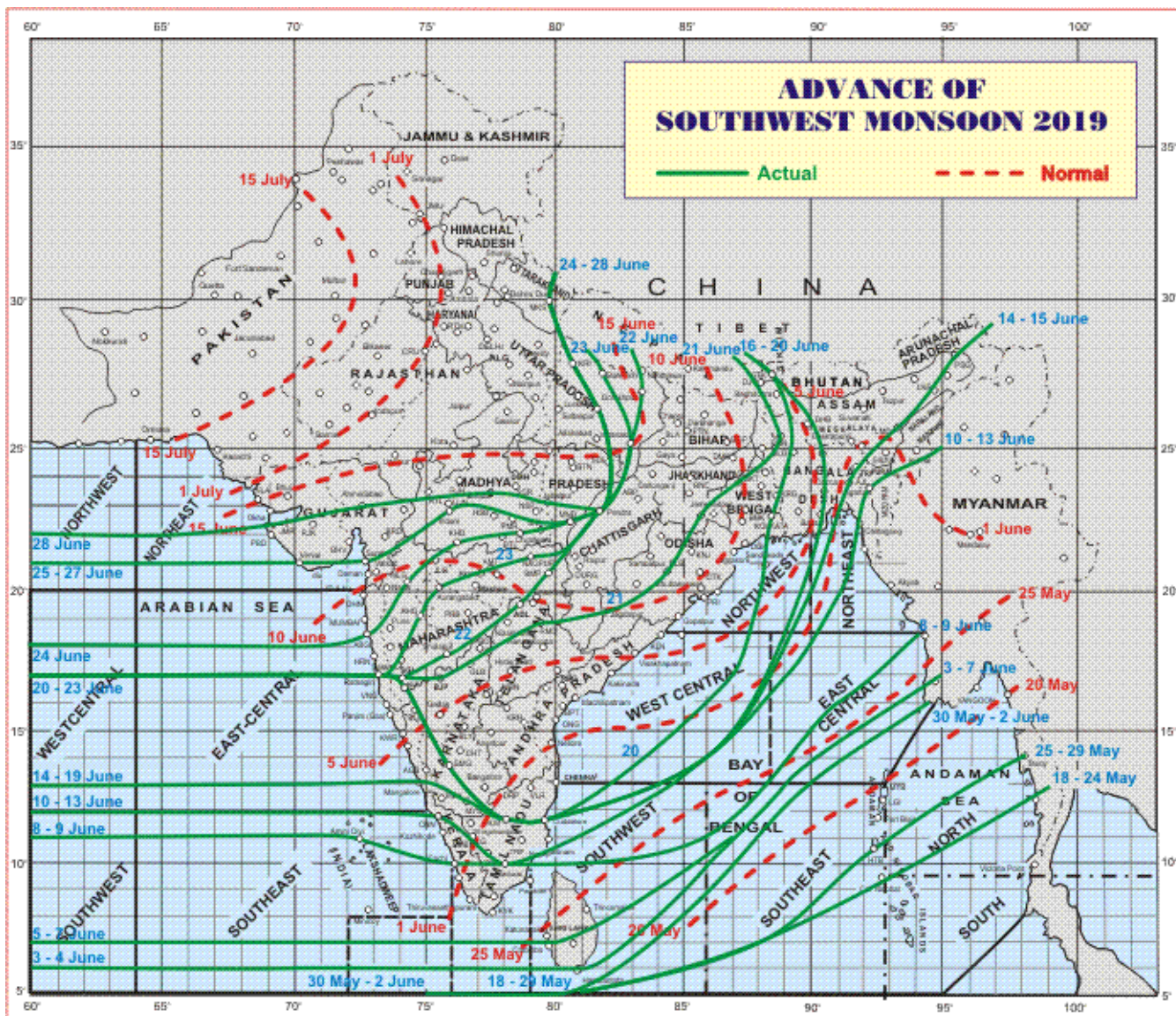
Moderate difference in agricultural vigour was noticed mostly over Punjab & Haryana and at many places over Jammu & Kashmir, Uttar Pradesh, Bihar, Gangetic West Bengal, North Eastern States, Odisha, Rajasthan, Andhra Pradesh, Maharashtra and Coastal Tamilnadu.

**Standardised Precipitation Index
Cumulative 4 weeks for the period 30th May to 26th June 2019**



- Extremely/severely wet conditions experienced in Baramula, Badgam, Kargil districts of Jammu & Kashmir, Mandya, Chickballapur districts of Karnataka, Karur, Tirupur districts of Tamilnadu, North & Middle Andaman district of Andaman & Nicobar islands.
- Moderately wet conditions exists in Kupwara, Srinagar, Ramban, Kulgam districts of Jammu & Kashmir, Tumkur, Bagalkote, Chamarajanagar, Kolar districts of Karnataka, Udaipur district of Rajasthan, Dharmapuri district of Tamilnadu, North Sikkim district of Sikkim, Dhamtari districts of Chhattisgarh.
- Extremely/Severely dry conditions exists in West Godavari districts of Andhra Pradesh, East Siang, Lower Subansiri, Tirap districts of Arunachal Pradesh, Darrang, Goalpara, Kamrup, Dhubri, Karbi Anglong, Morigaon, Golaghat, Kamrup Metro. districts of Assam, Aurangabad, Begusarai districts of Bihar.
- Moderately/ mildly dry conditions experienced in remaining districts in the country.

Advance of SouthWest Monsoon 2019



- ♦ Southwest monsoon has further advanced into some more parts of north Arabian Sea, Gujarat & Madhya Pradesh. Northern Limit of Monsoon (NLM) passes through Lat. 22°N/Long. 60°E, Lat. 22°N/Long. 65°E, Dwarka, Ahmedabad, Bhopal, Jabalpur, Pendra, Sultanpur, Lakhimpur Kheri, Mukteshwar and Lat. 31°N/Long. 80°E.
- ♦ A Low Pressure Area is very likely to form over north Bay of Bengal & neighbourhood around 30th June, which is likely to become more marked and concentrate into a Depression during the subsequent 48 hours.

- ◆ In association with this, conditions are likely to become favourable for further advance of Southwest Monsoon into remaining parts of central India and some more parts of West & northwest India during 1st-3rd July.
- ◆ Likely westward movement of the above mentioned low pressure system may cause widespread rainfall with isolated heavy to very heavy & extremely heavy falls over Odisha on 1st July and south Chhattisgarh, Vidarbha and adjoining districts of Telangana on 2nd July

Weather Forecast for next 5 days valid upto 0830 hours of 3rd July 2019

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- ◆ No significant change in maximum temperatures likely over major parts of the country during next 3 days.

**5 Day Rainfall Forecast (MID-DAY)
28 June 2019**

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

% Station Reporting Rainfall

% 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 during next 5 days

28 Jun (Day 1): ♦ Thunderstorm accompanied with gusty winds (30-40 kmph) at isolated places very likely over Madhya Pradesh, Uttar Pradesh, Haryana, Chandigarh & Delhi and Rajasthan; **accompanied with lightning** at isolated places very likely over West Bengal & Sikkim, Bihar, Odisha and Jharkhand.

♦ **Heavy to very heavy rainfall at a few places with extremely heavy rainfall** at isolated places very likely over Konkan & Goa; **Heavy to very heavy rainfall** at isolated places over Madhya Maharashtra, Gujarat State, Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya and **heavy rainfall** at isolated places over Marathwada, Coastal Karnataka, East Rajasthan, West Madhya Pradesh, Chhattisgarh, Gangetic West Bengal, Odisha, Nagaland, Manipur, Mizoram & Tripura and Andaman & Nicobar Islands.

♦ **Heat wave** conditions in isolated pockets very likely over East Uttar Pradesh.

♦ **Rough to very rough sea conditions** (with wind speed reaching 40-50 Kmph) are likely to prevail over westcentral & adjoining southwest Arabian Sea, south & adjoining eastcentral Bay of Bengal and Andaman Sea. Fishermen are advised not to venture into these areas.

29 Jun (Day 2): ♦ Thunderstorm accompanied with gusty winds (30-40 kmph) at isolated places very likely over Uttar Pradesh, Rajasthan, Punjab and Haryana, Chandigarh & Delhi; **accompanied with lightning** at isolated places very likely over Jharkhand and Bihar.

♦ **Heavy rainfall at a few places with very heavy rainfall at isolated places** very likely over Konkan & Goa; **Heavy to very heavy rainfall** at isolated places over Gujarat Region and **heavy rainfall** at isolated places over Madhya Maharashtra, Marathwada, Coastal Karnataka, East Madhya Pradesh, Chhattisgarh, Odisha and Andaman & Nicobar Islands.

♦ **Rough to very rough sea conditions** (with wind speed reaching 40-50 Kmph) are likely to prevail over westcentral & adjoining southwest Arabian Sea, south & adjoining eastcentral Bay of Bengal and Andaman Sea. Fishermen are advised not to venture into these areas.

30 Jun (Day 3): ♦ Thunderstorm accompanied with gusty winds (30-40 kmph) at isolated places likely over East Rajasthan, Punjab and Haryana, Chandigarh & Delhi.

♦ **Heavy to very heavy rainfall** at isolated places likely over Konkan & Goa, Odisha and Coastal Karnataka and **heavy rainfall** at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh and Coastal Andhra Pradesh & Yanam.

♦ **Rough to very rough sea conditions** (with wind speed reaching 40-50 Kmph) are likely to prevail over westcentral & adjoining southwest Arabian Sea, central & north Bay of Bengal. Fishermen are advised not to venture into these areas.

01 July (Day 4): ♦ Thunderstorm accompanied with gusty winds (30-40 kmph) at isolated places likely over West Uttar Pradesh and East Rajasthan; **accompanied with lightning** at isolated places very likely over Uttarakhand.

♦ **Heavy to very heavy rainfall at a few places** with extremely heavy rainfall at isolated places very likely over Odisha; **Heavy to very heavy rainfall** at isolated places likely over Konkan & Goa, Chhattisgarh, Coastal Karnataka and Jharkhand and **heavy rainfall** at isolated places over East Madhya Pradesh, Vidarbha, South Interior Karnataka, Coastal Andhra Pradesh & Yanam, Telangana, Kerala & Mahe and Gangetic West Bengal.

♦ **Rough to very rough sea conditions** (with wind speed reaching 40-50 Kmph) are likely to prevail over westcentral & adjoining southwest Arabian Sea, central & north Bay of Bengal. Fishermen are advised not to venture into these areas.

02 July (Day 5): ♦ Thunderstorm accompanied with gusty winds (30-40 kmph) at isolated places likely over West Uttar Pradesh and East Rajasthan; **accompanied with lightning** at isolated places very likely over Uttarakhand.

♦ **Heavy to very heavy rainfall at a few places with extremely heavy rainfall** at isolated places very likely over Vidarbha and Chhattisgarh; **Heavy rainfall at a few places with isolated very heavy rainfall** likely over Coastal Karnataka; **Heavy to very heavy rainfall** at isolated places likely over Konkan & Goa, Telangana, East Madhya Pradesh and Kerala & Mahe and **heavy rainfall** at isolated places over Uttarakhand, East Rajasthan, Jharkhand, Odisha, Gangetic West Bengal. Marathwada, interior Karnataka and Tamilnadu, Puducherry &

Karaikal.

◆ **Rough to very rough sea conditions** (with wind speed reaching 40-50 Kmph) are likely to prevail over southwest & westcentral Arabian Sea. Fishermen are advised not to venture into these areas.

Weather Outlook for subsequent 2 days from 3rd to 5th July 2019

◆ Widespread rainfall with isolated heavy to very heavy falls likely over north Maharashtra, south Madhya Pradesh and Gujarat Region on 3rd July and over Gujarat State on 4th July. Widespread rainfall with isolated heavy to very heavy falls are also likely along the west coast.

◆ Scattered to Fairly widespread rainfall likely over the rest of the country outside east coast, where rainfall is likely to be at isolated places.

Salient advisories

- Southwest monsoon has further advanced into Gujarat & Madhya Pradesh. A Low Pressure Area is very likely to form over north Bay of Bengal & neighbourhood around 30th June, which is likely to become more marked and concentrate into a Depression during the subsequent 48 hours. In association with this, conditions are likely to become favourable for further advance of Southwest Monsoon into remaining parts of central India and some more parts of West & northwest India during 1st-3rd July.
- Utilizing the reliased and expected rainfall, continue transplanting of *Virippu* rice in **Kerala**. In **Coastal Karnataka**, undertake transplanting of rice where seedlings are ready. In **South Interior Karnataka**, continue sowing of groundnut, maize, red gram, cowpea, green gram, black gram, horse gram, field bean etc, ragi, sesame, sunflower, cotton, castor, minor millets crops and undertake transplanting of rice crop where seedlings are ready. In **North Interior Karnataka**, undertake sowing of groundnut, green gram, black gran, jowar, soybean, pigeon pea, sunflower, Bt. cotton, bajra, maize, sesamum, soybean, and crops in areas which received sufficient rain. In **Telangana**, continue land preparation for sowing of rained crops and undertake sowing of rainfed crops like Soybean, Jowar, Maize, Redgram, Greengram, Cotton etc., only after receiving cumulative rainfall of 50-60 mm in light soils and 60-75 mm in heavy soils. In Assam, continue nursery bed preparation / nursery sowing of *Sali* rice. In **Konkan**, continue nursery sowing of rice and nagli.
- In **Odisha**, continue nursery raising for *Kharif* rice. Undertake sowing of cotton, maize, arhar, ragi and groundnut. Continue nursery sowing of long duration rice varieties and undertake field preparation and sowing of soybean, maize, groundnut in **Chhattisgarh**. In Central Narmada Valley Zone of **Madhya Pradesh**, continue nursery sowing of early and medium duration varieties of rice. Undertake land preparation and sowing of soybean and maize. In **South Gujarat**, continue nursery preparation for rice crop.
- As rain/thundershowers likely at most places over **Coastal Karnataka** during the period, at most/many places over Kerala from 29th June to 2nd July, over **Coastal Andhra Pradesh** and **Telangana** from 30th June to 2nd July, at many places over **North & South Interior Karnataka** on 1st & 2nd July along with **Heavy rainfall at a few places with isolated very heavy rainfall** likely over Coastal Karnataka on 1st & 2nd July, heavy/heavy to very heavy rainfall at isolated places over Kerala on 1st & 2nd July, rain/thundershowers likely at most/many places over Odisha during the period, over Sub-Himalayan West Bengal and Sikkim from 28th to 30th, over Gangetic West Bengal from 29th June to 2nd July and over Jharkhand from 30th June to 2nd July along with heavy to very heavy rainfall at isolated places likely over Sub-Himalayan West Bengal and Sikkim on 28th June, **Heavy to very heavy rainfall at a few places** with extremely heavy rainfall at isolated places very likely over Odisha on 1st July; avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Odisha and Sub-Himalayan West Bengal and Sikkim.
- As rain/thundershowers likely at many places over **Gujarat region** on 28th & 29th June, at most places over Konkan & Goa, at most/many places over over **Chhattisgarh**, Madhya Maharashtra and Vidarbha during the period, over Marathwada on 28th & 29th June, 1st & 2nd July along with **Heavy to very heavy rainfall at a few places with extremely heavy rainfall** at isolated places very likely over Vidarbha and Chhattisgarh on 2nd July, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.

Provide adequate drainage in standing crop fields in Vidarbha and Chhattisgarh.

- **Thunderstorm accompanied with gusty winds (30-40 Kmph)** at isolated places very likely over Uttar Pradesh and Rajasthan on 29th, over Punjab, Haryana, Chandigarh & Delhi on 29th & 30th June and over West Uttar Pradesh on 1st July and over east Rajasthan on 30th June and 1st July, **Thunderstorm accompanied with lightning** at isolated places very likely over West Bengal and Sikkim and Odisha on 28th, over Bihar and Jharkhand on 28th & 29th June, provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in Uttar Pradesh, Odisha, Punjab and Haryana.

Detailed Agromet Advisories

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

Realised Rainfall: Rainfall occurred in all districts of Kerala, Nilgiris in Tamilnadu, all districts of Coastal Karnataka, in all districts of North Interior Karnataka except Dharwad, Haveri, Koppal and Raichur districts, in Chikaballapur, Chikkamagaluru, Kodagu and Shivanogga districts of South Interior Karnataka during the week. all the districts of Andhra Pradesh except Nellore, Yanam, Anantpur, Cuddapah districts in Rayalaseema, all the districts of Telangana except Khammam, M. Malkajgiri, Mahabubnagar, Ranjanna Sircilla, Suryapet, Vikarabad, Wanaparthy. Weather remained mainly dry over rest of the region during the week.

Advisories:

- As rain/thundershowers likely at most places over Coastal Karnataka during the period, at most/many places over Kerala from 29th June to 2nd July, over Coastal Andhra Pradesh and Telangana from 30th June to 2nd July, at many places over North & South Interior Karnataka on 1st & 2nd July along with **Heavy rainfall at a few places with isolated very heavy rainfall** likely over Coastal Karnataka on 1st & 2nd July, heavy/hevy to very heavy rainfall at isolated places over Kerala on 1st & 2nd July, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields Coastal Karnataka, and Kerala.

Kerala:

- Continue transplanting of *Virippu* rice and continue sowing of direct sown paddy crop. Continue planting of new seedlings of coconut and banana.
- In Northern Zone, undertake planting of coconut seedlings.
- In Central Zone, due to monsoon rains, there is a chance of attack of Sigatoka disease in banana, spray 2 ml Hexaconazole or 1 ml Propiconazole per one litre of water by mixing it with a sticker and spray on both the surface of the leaf.

Andhra Pradesh:

- In Southern Zone of Andhra Pradesh, undertake sowing of groundnut after receipt of 50-60 mm rainfall in light soils and 60-70 mm in heavy soils.
- In North Coastal Andhra Pradesh, undertake nursery sowing of rice and land preparation for rainfed sugarcane.
- In Scarce rainfall Zone of Rayalaseema, undertake land preparation for sowing of groundnut and take up sowing only after receiving 50mm rainfall for red soils and 75 mm rainfall for black soils. Also prepare the land for sowing of red gram.
- In Krishna Godavari Zone of Andhra Pradesh, undertake nursery preparation for sowing of rice and complete the sowing of green manure crops.

Telangana:

- In Southern Telangana, continue land preparation for sowing of rained crops. Undertake sowing of rainfed crops like Soybean, Jowar, Maize, Redgram, Green gram, Cotton etc., only after receiving cumulative rainfall of 50-60 mm in light soils and 60-75 mm in heavy soils or the soil should be wet up to top 15-20 cm after onset of South-West monsoon rains.
- In Northern Telangana, undertake land preparation for sowing of rainfed crops like maize, soybean, redgram, green gram and cotton etc and undertake sowing when soil should be wet up to top 15-20 cm.
- In Southern Telangana, the prevailing weather conditions are congenial for incidence of sucking pests in vegetables. To control, spray Fipronil @ 2ml or Thiomethoxim @ 0.3g per litre of water. Prevailing weather conditions are congenial for the incidence of Shoot & Fruit Borer in Brinjal. To control, spray Flubendiamide @ 0.4 g or Chlorantriliprole @ 0.2ml per liter of water two times at weekly interval. Prevailing weather conditions are congenial for the incidence of Thrips in Tomato. Monitor the pest, if noticed control it by spraying Dimethoate @ 2 ml per liter of water on a non rainy day.

Tamil Nadu:

- In Cauvery Delta Zone, undertake transplanting of kuruvai season rice.
- In Western Zone, considering the anticipated rainfall, sowing of small millets may be taken up in the foothills of western Ghats areas.
- In Coastal Zone, as an alternate crop for kuruvai rice, transplanting of ragi (TRY 1) can be done utilizing a seed rate of 5 kg/ha in clay textured soil and direct sowing may be done in coarse textured soil.
- In North Western Zone, give foliar spraying with Groundnut rich @ 2 kg / acre in 200 liters of water along with sticking agent twice @ flowering and peg formation stage in order to control the nutrient deficiency in plants as well as to improve the yield of Groundnut.

Karnataka:

- In South Interior Karnataka, continue sowing of groundnut, maize, red gram, cowpea, green gram, black gram, horse gram, field bean etc, ragi, sesame, sunflower, cotton, castor, minor millets crops and undertake transplanting of rice crop where seedlings are ready.
- In Coastal Karnataka, undertake transplanting of rice crop where seedlings are ready.
- In North Interior Karnataka, undertake sowing of groundnut, green gram, black gram, jowar, soybean, pigeon pea, sunflower, Bt. cotton, bajra, maize, sesamum, soybean, and crops where sufficient rain occurred and planting of fruit trees. Intercropping of bajra+ groundnut (bunch) in 2:4 row proportion; bajra + red gram in 2:1 row proportion; groundnut (bunch) + red gram in 3:1 or 4:2 row proportion, red gram + sesamum in 1:2 or 2:4 row proportion is suggested. Continue sowing of sorghum, maize (African tall), cowpea, short-duration bajra for fodder purpose.

Animal Husbandry

- In Karnataka, keep cattle in shed during rainfall period. Vaccinate the animals.
- In Southern Zone of Tamilnadu, due to the prevailing weather condition, Enterotoxaemia disease may affect the Goats. The main symptom of the disease causes sudden death in young growing kids. Mucous diarrhea may also seen during death. To prevent this disease, do not feed on young grass, allow the goat for grazing one hour after the sunshine. Vaccinate the animals once in a year before the onset of monsoon

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

Realised Rainfall: Rainfall occurred in all districts except Kurung Kumey, Lower Subansari, Tawang and Tirap of Arunachal Pradesh; all districts except Darrang, Kamrup (Rural), Kamrup (Metro), Karbi Anglong, Morigaon and Nagaon of Assam; all districts of Meghalaya; all districts except Mamit of Mizoram; Churachandpur, Imphal West, Senapati and Tamenglong districts of Manipur; Dimapur, Kohima, Mokokchung, Mon, Paren, Tuensang and Zunheboto districts of Nagaland and Dhalai and North Tripura districts of Tripura.

Advisories:

- As rain/thundershowers likely at most/many places over **Arunachal Pradesh, Assam & Meghalaya** on 28th & 29th June, 1st & 2nd July, over **Nagaland, Manipur, Mizoram & Tripura** on 28th, 30th June, 1st & 2nd July along with heavy to very heavy rainfall at isolated places likely over Assam & Meghalaya on 28th July, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Assam & Meghalaya.

Arunachal Pradesh:

- Continue transplanting of kharif rice.
- To control infestation of leaf blast & leaf spot in jhum rice, spray Carbendazim @2g/litre water after current spells of rain.

Assam & Meghalaya:

- In Assam, continue the main field preparation and undertake transplanting of *Sali* paddy.
- In Hill Zone of Assam, continue sowing of pigeon pea and cotton.
- In Central Brahmaputra Valley of Assam, continue sowing of arhar. Harvesting and retting of jute should be done preferably at pre-flowering stage (120days after sowing) to get better quality fibre. At present the water temperature in the retting tanks is ideal for retting of jute. Early and timely sown capsularis jute may be harvested during this week and kept in the field in standing position for 3-4 days before retting for proper defoliation.
- In Upper Brahmaputra Valley Zone of Assam, present weather is favourable for occurrence of Ganoderma disease in the coconut and arecanut plantations. As prophylactic measure against the disease make provisions for proper drainage and sanitation in the orchards.
- In Meghalaya, continue nursery raising and main field preparation for transplanting of low land *Sali* rice. Maintain proper drainage in the field of ginger, turmeric and maize fields.

Manipur, Mizoram, Tripura and Nagaland:

- In Nagaland, undertake nursery raising of TRC/WRC rice. Undertake harvesting of green gram during clear days and land preparation for sowing of soyabean.
- In Manipur, continue main field preparation and transplanting of kharif rice. Apply Bordeaux mixture (5:5:50) or Captan @ 1.5 g/litre of water against leaf spot in turmeric after current spells of rain.
- In Mizoram, continue sowing of maize, green gram, black gram and planting of ginger and turmeric.
- In Tripura, continue transplanting of Aus rice and maintain 2 to 5cm of water after 30 days of transplanting. Continue nursery sowing and main field preparation for transplanting of *Aman* rice. Continue sowing of groundnut. Complete the sowing of maize in upland and medium upland. Maintain good drainage to avoid stagnant water in the field of cowpea at pod formation stage.

Animal Husbandry:

- In Nagaland and Manipur, pig should be vaccinated against all infectious diseases before the monsoon starts.
- In Assam, immunizations against FMD, HS and BQ in cattle & buffaloes and swine fever in pigs may be carried out during monsoon season. During monsoon season the calves are infected more by the worms. To reduce the problem, it is advised to give Piperzine or Mebendazole at recommended dose in consultation with veterinary doctor.
- In Barak Valley Zone of Assam, vaccinate the poultry with R2B @ 0.5 ml against Ranikhet disease by eye drop route. Changing weather condition could lead to viral diseases to the birds. So farmers may provide sufficient water with 1% salt and mineral mixture. Farmers are also advice to clean the sanitary condition of poultry. Provide balanced feed, fresh water.
- In Meghalaya, avoid water logging in and around the animal house. Store sufficient dry feed for the rainy period for sufficient feeding.

Fishery:

- In Meghalaya, maintain proper drainage system and fix the net in the drainage pipe in the fish pond. Maintain of proper dyke.
- In Upper Bramhaputra Valley Zone of Assam, as water has already started to accumulate in the ponds, farmers are advocated to go for stocking with fingerlings or carried over seeds of 15 cm size @ 5000 per hectare of water surface area.
- In Barak Valley Zone of Assam, due to prevailing rainfall the ponds are getting filled up with the rain water so, in this situation there may be chances of bacterial disease in fishes. To control the diseases apply lime @ 6 kg per bigha of pond.

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

Realised Rainfall: Rainfall occurred in all districts of Andaman & Nicobar Islands; in Arwal, Bhabua, Buxar, Gaya, Gopalganj, Jahanabad, Kagadia, Kishanganj, Nalanda, Purnea, Samastipur and West Champaran districts of Bihar; in Bokaro, Dhanbad, Dumka, East Singhbhum, Giridih, Hazaribagh, Latehar, Lohardagga, Palamu, Ramgarh, Ranchi, Sahebganj, Saraikela, Simdega and West Singhbhum districts of Jharkhand; in all districts of Odisha except Kalahandi, Kandhamal, and Kendrapada; in Bankura, East Midnapore, Hooghly, Kolkata, Nadia, Purulia and West Midnapore districts of Gangetic West Bengal and in all districts of Sub-Himalayan West Bengal and Sikkim except Malda, North Dinajpur and South Dinajpur. Weather remained mainly dry over rest of the region.

Advisories:

- **Thunderstorm accompanied with lightning** at isolated places very likely over West Bengal and Sikkim and Odisha on 28th, over Bihar and Jharkhand on 28th & 29th June, provide mechanical support to banana, young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane in Odisha.
- As rain/thundershowers likely at most/many places over Odisha during the period, over Sub-Himalayan West Bengal and Sikkim from 28th to 30th, over Gangetic West Bengal from 29th June to 2nd July and over Jharkhand from 30th June to 2nd July along with heavy to very heavy rainfall at isolated places likely over Sub-Himalayan West Bengal and Sikkim on 28th June, **Heavy to very heavy rainfall at a few places** with extremely heavy rainfall at isolated places very likely over Odisha on 1st July; avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Odisha and Sub-Himalayan West Bengal and Sikkim.

Odisha:

- Complete sowing of direct seeded rice. Continue nursery sowing of kharif transplanted rice, mainly in the medium land dry bed nursery for early transplanting of seedlings. Carry out sowing of maize, arhar, ragi and groundnut after the current spells of heavy rainfall. Provide adequate drainage in vegetable fields.
- In present weather conditions, carry out rouging of viral infested chilli. Infected plants should be uprooted and buried in the soil. After rouging, spray Imidacloprid @ 0.3 ml per litre of water. There is a possibility of leaf spot

disease attack on green gram and black gram. To control, spray Carbendazyme+ Mancozeb @ 2g/ litre of water. Apply plant protection methods on a non rainy day.

Bihar:

- Complete the nursery sowing of medium duration varieties of paddy. Take up sowing of kharif vegetables such as lady's finger, pumpkin, cucumber, sponge gourd, bottle gourd, etc. Continue land preparation for sowing of pigeon pea (arhar), sesamum (til), sunflower and kharif vegetable crops. Continue land preparation for kharif maize and kharif onion. Harvest early sown green gram and black gram immediately during clear weather.
- Regular monitoring of pests is advised in vegetables crops.

Jharkhand:

- Continue land preparation for timely sowing of direct seeded upland rice. Complete the sowing of upland rice. Prevent water stagnation in the nursery bed. Construct channels around the seed bed for drainage. Keeping in mind of irregularities of rainfall, farmers may prefer cultivation of crops having least water requirement like arhar, urd (blackgram), marua (finger millet), jowar, bajra, soybean, etc.

➤ **West Bengal:**

- In Sub-Himalayan West Bengal, provide drainage in Mandarin orange, ginger and turmeric fields. Take up sowing of early cauliflower seeds. Undertake field preparation for transplanting of Aman rice.
- For management of fruit fly on cucurbitaceous vegetables, install pheromone traps @ 6-8/ha and apply bait spray in spots @ 30 nos./ha.
- In Gangetic West Bengal, complete the sowing of dry seeded long duration paddy after proper tillage operation like ploughing, weeding, etc. Before sowing, treat seeds with Diethane M-45. Prepare bed for wet seeded Aman rice and start sowing seeds. Strengthen fencing to protect betel vine against string winds. Prepare pit for plantation of saplings of mango, guava and coconut after getting sufficient rainfall.

Andaman & Nicobar Islands:

- In Andaman & Nicobar Islands, keep the main field bunds open to drain out excess water as heavy rain is expected. Transplant already grown vegetable seedlings of brinjal and chilli in upland area with drainage facility. Plant dwarf varieties of coconut (king- orange, yellow and green) in the upland area with spacing of 7.5 X 7.5 m.

Animal Husbandry:

- In Bihar, vaccinate cattle against Anthrax, BQ and HS diseases.
- In Odisha, if animals do not have access to green fodder, they should be given Vitamin A injections as per the requirement.
- In West Bengal, clean cattle shed regularly during rainy season with bleaching powder or calcium carbonate.
- In Andaman & Nicobar Islands, keep sufficient feed and fodder in the shed for dairy animals as heavy rainfall is expected during next five days. Remove the wet litter from poultry shed and put dry fresh litter for enhanced production and to avoid growth of any pathogens.

Fishery:

- In Odisha, maintain 5 ft water depth in the pond wherever it is possible. Apply CaO @ 40 kg/ ac.m size of pond to maintain the clarity of water.
- In the Andaman & Nicobar, Indian Major Carps breeding works can be initiated through selection of matured brooders.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Rainfall occurred in Aravalli, Banaskantha, Chhota Udepur, Dahod, Kheda, Mahisagar, Panchmahal, Sabarkantha and Tapi districts of Gujarat Region, in Junagarh district of Saurashtra & Kutch, all the districts of Konkan except Mumbai and Thane, in Nashik, Pune and Solapur in Madhya Maharashtra, in all districts except Hingoli and Nanded Marathwada, in Washim, Akola, Amravati and Buldhana districts of Vidarbha.

Advisories:

- As rain/thundershowers likely at many places over Gujarat region on 28th & 29th June, at most places over Konkan & Goa, at most/many places over Madhya Maharashtra and Vidarbha during the period, over Marathwada on 28th & 29th June, 1st & 2nd July along with **Heavy to very heavy rainfall at a few places with extremely heavy rainfall** at isolated places very likely over Vidarbha on 2nd July, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Vidarbha.

Maharashtra:

- In Konkan region, continue transplanting of 20 to 22 days old paddy seedlings having 12 to 15 cm height and 6 leaves. Continue land preparation for sowing of groundnut. Continue nursery sowing of *kharif* vegetables like chilli, brinjal, tomato, okra, cucumber, bitter gourd, snake gourd and ridge gourd etc after current spells of heavy rain
- In Madhya Maharashtra, complete land preparation and undertake sowing of *kharif* groundnut, green gram, jowar and soybean. Continue nursery sowing of rice and nagli. Undertake nursery sowing of tomato. During preparation of nursery bed apply neem cake/ castor cake @ 5 Kg/2R for protection against nematode. For control of shoot

borer and termites, undertake soil drenching with Chlorpyrifos 20 EC @ 1 litre in 1000 litres of water per hectare

- In Maratwada, undertake land preparation for sowing of kharif crops and undertake sowing wherever sufficient soil moisture is available. Undertake sowing of vegetable crops with receipt of sufficient rainfall.
- In Vidarbha, sowing of *kharif* crops like pigeon pea, cotton, green gram, black gram and soyabean should be undertaken only after receipt of sufficient rainfall. Undertake nursery sowing of *kharif* vegetables like chilli, tomato and brinjal etc. Continue land preparation for sowing of pigeon pea. Continue nursery bed preparation for rice in East Vidarbha. Undertake seed treatments with 3 % brine salt solution (300 g in 10 lit. of water) before nursery sowing.

Gujarat

- In South Gujarat, continue nursery preparation for rice crop. Undertake sowing of pigeon pea, green gram and black gram crops where sufficient rainfall occurred. Sowing of densely planted two rows of pigeon pea or maize around the cotton field and also as intercrop of 1-2 rows of maize after 5 to 6 rows of cotton is suggested for control of mealybug in cotton. Postpone intercultural operations, application of irrigation, fertilizers and plant protection measures to the crops.
- In Saurashtra & Kutch, where sufficient rainfall is received, undertake sowing of groundnut, cotton, sesame, pulses and pearl millet crops; in remaining districts undertake sowing after receipt of sufficient rainfall. Undertake nursery preparation for tomato, chilli, brinjal and early cauliflower and undertake transplanting where seedlings are ready.
- In Middle Gujarat, continue nursery sowing of rice and vegetable crops (tomato, chili, etc). Continue land preparation for pearl millet, groundnut crops and undertake sowing after receipt of sufficient rainfall. Continue sowing of Bt. cotton.
- In North Gujarat, carryout gap filling and intercultural operations in early sown Hybrid / B.T. cotton. Undertake land preparation for sowing of groundnut and other *kharif* crops. Carry out picking of matured pods/ fruits of vegetable crops and harvesting of mango papaya, sapota, lemon and pomegranate etc.

Animal Husbandry

- In Gujarat, provide 30-35 gm mineral mixture in daily diet of animals. Care should be taken in rainy days for cattle and stored dry fodder.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in Anuppur, Katni, Mandla and Singurli districts in East Madhya Pradesh; Alirajpur, Barwani, Dewas, Dhar, Gwalior, Indore, Jhabua, Morena, Ratalam, and Ujjain districts in West Madhya Pradesh; in all districts except Rajnandgaon, Bemetara, Bijapur districts of Chhattisgarh.

Advisories:

- Rain/thundershowers likely at most/many places over Chhattisgarh during the period along with **Heavy to very heavy rainfall at a few places with extremely heavy rainfall** at isolated places very likely over Chhattisgarh on 2nd July, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.

Madhya Pradesh

- In Central Narmada Valley Zone, continue nursery sowing of early and medium duration varieties of rice. Undertake land preparation and sowing of soybean and maize. Farmers are advised to start digging of pit of appropriate size and distance for new orchard establishment.
- In Malwa Plateau Zone, continue field preparation for sowing of pigeon pea and cotton. Farmers are advised to procure good quality seeds from certified source. Prepare the fields and undertake planting of ginger and turmeric.
- In Kymore Plateau and Satpura Hill Zone, undertake field preparation for sowing of vegetables.
- In Satpura Plateau Zone, undertake land preparation and sowing of soybean and maize.
- **Chhattisgarh:**
- In North Hill Zone, prepare nursery for sowing of long duration rice varieties and undertake land preparation and sowing of vegetables. Undertake digging of pit for the planting of fruit crops i.e. Papaya, Guava, Mango, Litchi, and Pomegranate etc.
- In Chhattisgarh Plain Zone, undertake nursery sowing and direct seeding of rice crop, rice seeds should be treated with 17 % salt solution before sowing. Undertake field preparation and sowing of soybean, maize, groundnut crops.
- **Animal Husbandry**
- In Madhya Pradesh, dairy farmers are advised to arrange the vaccines to protect the animals from FMD and jahari fever disease.
- 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 Fatehgarh Sahib, Ludhiana and Ropar districts in Punjab, Mandi,

Shimla, Sirmour and Solan districts in Himachal Pradesh; Baramula district in Jammu & Kashmir and Armora, Bageshwar, Champawat, Dehradun, Garhwal Tehri, Nainital, Pithorgarh, Udham Sing Nagar and Uttarkashi districts of Uttarakhand, Ambedkarnagar, Amethi, Bahraich, Ballia, Balrampur, Deoria, Faizabad, Gazipur, Gonda, Gorakhpur, Hardoi, Kanpur, Kushinagar, Maharajganj, Mirzapur, Pratapgarh, Shrawasti, Sitapur and Sultanpur districts of East Uttar Pradesh and Auraiya, Bareilly, Hamirpur, Moradabad, Rampur and Shahjanpur districts of West Uttar Pradesh during the week. Weather remained mainly dry/dry over rest of the region.

Advisories:

- **Thunderstorm accompanied with gusty winds (30-40 Kmph)** at isolated places very likely over Uttar Pradesh and Rajasthan on 29th, over Punjab, Haryana, Chandigarh & Delhi on 29th & 30th June and over West Uttar Pradesh on 1st July and over east Rajasthan on 30th June and 1st July, it is advised to provide mechanical support to young fruit plants, staking of vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds.

Jammu & Kashmir:

- In Sub Tropical Zone, undertake transplanting of rice seedlings. Undertake sowing of maize.
- In Valley Temperate Zone, continue transplanting of rice. Use light traps for management of cut worm in maize crop where the seedling stage is over. Undertake sowing of kharif pulses. Continue harvesting of rabi pulses like lentils, pea and red gram. Continue harvesting of oilseeds. Avoid over ripening to prevent shattering of seeds from the pods.
- In Intermediate Zone, continue land preparation for transplanting of rice. Continue sowing of maize. Carry out intercultural operations like weeding and hoeing in tomato, brinjal and chilli.
- In Cold Arid Zone, apply irrigation at regular interval in wheat and barley to maintain proper soil moisture. Carry out regular pruning of extra foliage in tomato for larger and good quality fruits.

Himachal Pradesh:

- In Mid Hills Sub Humid Zone, in case of attack of aphids on pomegranate, apply Imidacloprid @ 60ml/200 litres of water. Spray Fenazaquin (50ml) or Propargite (200ml) per 200 litres of water, in case of mite infestation in apple.
- In Sub-Montane and Low Hills Sub-Tropical Zone, undertake land preparation for transplanting of rice. Carry out intercultural operations in pulses.
- In High Hill Temperate Dry Zone, carry out weeding operation in pea. Carry out weeding in potato crop.

Punjab, Haryana and New Delhi

- In Punjab, undertake transplanting of vegetables (tomato, chilli, brinjal, cauliflower). Complete sowing of cotton including Bt cotton or desi Cotton and planting of turmeric. Undertake transplanting of rice. Irrigate the vegetable and fruit crops. Apply sugarcane trash as mulch to conserve soil moisture. Carry out soil moisture conserving interculture operations in vegetables and pulses.
- In Haryana, continue sowing of cotton, transplanting of matured seedlings of tomato, cauliflower, cabbage in prepared field and complete the sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish. Undertake transplanting of rice and land preparation for sowing for pulses i.e. green gram, lobia, moth and pigeonpea. Undertake intercultural/hoeing operation as per requirement of the cotton crop for removal of weed and conserved the soil moisture.
- In Delhi, undertake transplanting of nursery for early cauliflower, tomato, chilli, brinjal whose seedlings are ready and land preparation of rice. Monitor paddy nurseries against attack of bakanae disease, spray Carbendazim @ 2.0 gram per litre of water. Undertake sowing of cucurbits in rainy season and prepare the fields for maize crop.
- In Western Plain Zone of Punjab, summer moong is severely attacked by the thrips, spray the crop at flower bud initiation stage with 600 ml triazophos 40 EC or 100 ml Rogor 30 EC in 80-100 litres of water per acre.
- In Undulating Plain Zone, prevailing weather conditions may increase attack of fruit borer in tomato and fruit & shoot borer in brinjal, spray Coragen 18.5 SC @ 60 ml in tomato and 80 ml in brinjal for control of the insects.

Uttar Pradesh

- In East Uttar Pradesh, undertake sowing of sorghum. Undertake transplanting of Paddy. Prepare nursery for kharif onion, tomato, and cauliflower crops. Undertake sowing of pigeon pea.
- In West Uttar Pradesh, undertake transplanting of Paddy. Undertake sowing of maize and sorghum, pigeon pea. Undertake harvesting of matured crops of green gram/black gram. Pick up mature fruits on standing crop like brinjal, chilly.

Uttarakhand:

- In Hill Zone, carry out staking and mulching operations in tomato, chilli, capsicum, brinjal and cucurbitaceous crops in flowering/ fruiting stage. Continue transplanting of rice. Carry out gap filling,

weeding and hoeing operations in red gram. Carry out mulching and weeding operations in ginger and potato. Complete sowing of finger millets, soybean and black gram.

- In Bhabar and Tarai Zone, complete sowing of soybean. Continue field preparation for nursery sowing of rice. Undertake sowing of groundnut. To control the leaf spot disease in cucurbitaceous crops, spray mancozeb @ 2.5g/litre of water. To control the leaf blight disease in late sown variety of onion crop, spray tebuconazole or difinoconazole or propiconazole @ 500ml/ha with any sarvangi insecticide and sticker.

Rajasthan:

- In Arid Western Plain Zone, undertake sowing of cucurbit vegetables and field preparation of sowing of maize, groundnut, cotton and vegetables.
- In Flood Prone Eastern Plain Zone, undertake planting of ber, aonla, falsa, and pomegranate and agroforestry tree saplings.
- In Irrigated North Western Plain Zone and South Eastern Humid Plain Zone, continue nursery preparation of rice.
- In Semi-Arid Eastern Plain Zone, undertake planting of fruit crops like mango, plum, pomegranate, Aonla and field preparation for Greengram, cowpea, Moth, Maize, Sorghum and Pearl millet.

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