



National Agromet Advisory Service Bulletin

Friday 8th June 2018
(For the period 8th to 13th June 2018)



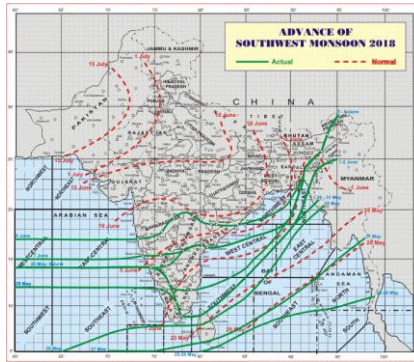
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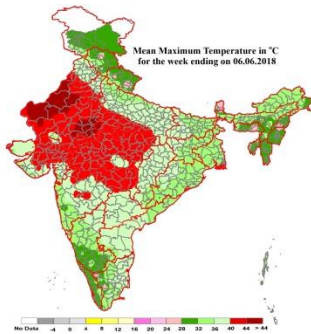
Advance of South West Monsoon



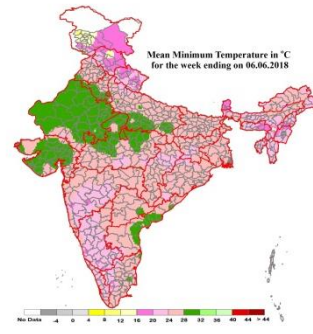
- Southwest Monsoon has further advanced into some more parts of Central Arabian Sea, remaining parts of Goa, Karnataka and Rayalaseema, some parts of south Konkan, south Madhya Maharashtra, Marathwada, Vidarbha, south Chhattisgarh and south Odisha, entire Telangana, most parts of Coastal Andhra Pradesh, remaining parts of West Central Bay of Bengal and most parts of North Bay of Bengal. The Northern Limit of Monsoon (NLM) passes through Lat. 17°N/Long. 60°E, Lat. 17°N/Long. 70°E, Ratnagiri. Solapur, Nanded, Adilabad, Bailadila, Malkangiri, Kalingapatnam, Lat. 21°N/Long. 90°E, Agartala, Luming, north Lakhimpur and Lat. 29°N/Long. 95°E. Conditions are favorable for further advance of Southwest Monsoon into some more parts of Central Arabian Sea, Maharashtra (including Mumbai), Chhattisgarh & Odisha and remaining parts of Coastal Andhra Pradesh during next 24 hours. Conditions are very likely to become favorable for further advance of Southwest Monsoon into most parts of Arabian Sea, remaining parts of Maharashtra, some parts of south Gujarat region, southern parts of Madhya Pradesh, some more parts of Chhattisgarh and Odisha, some parts of West Bengal & Sikkim, remaining parts of Northeastern States and Bay of Bengal during the subsequent 48 hours.

Spatial distribution of weather parameters for the week ending 06.06.2018

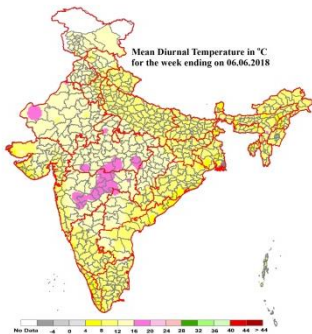
Mean Maximum Temperature (°C) for the week ending 06.06.2018



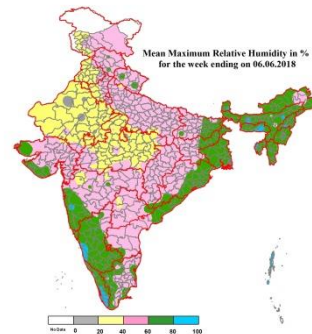
Mean Minimum Temperature (°C) for the week ending 06.06.2018

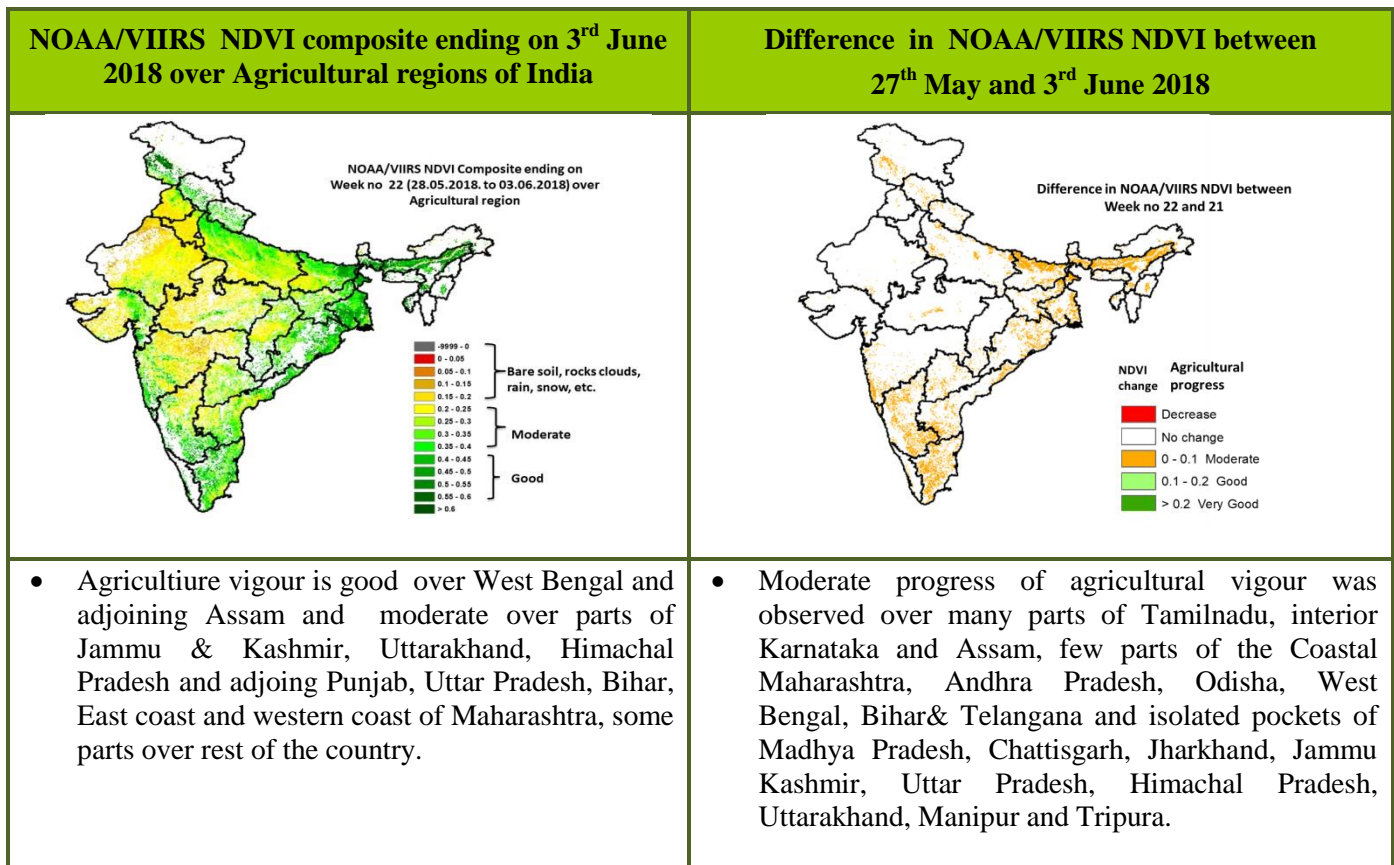
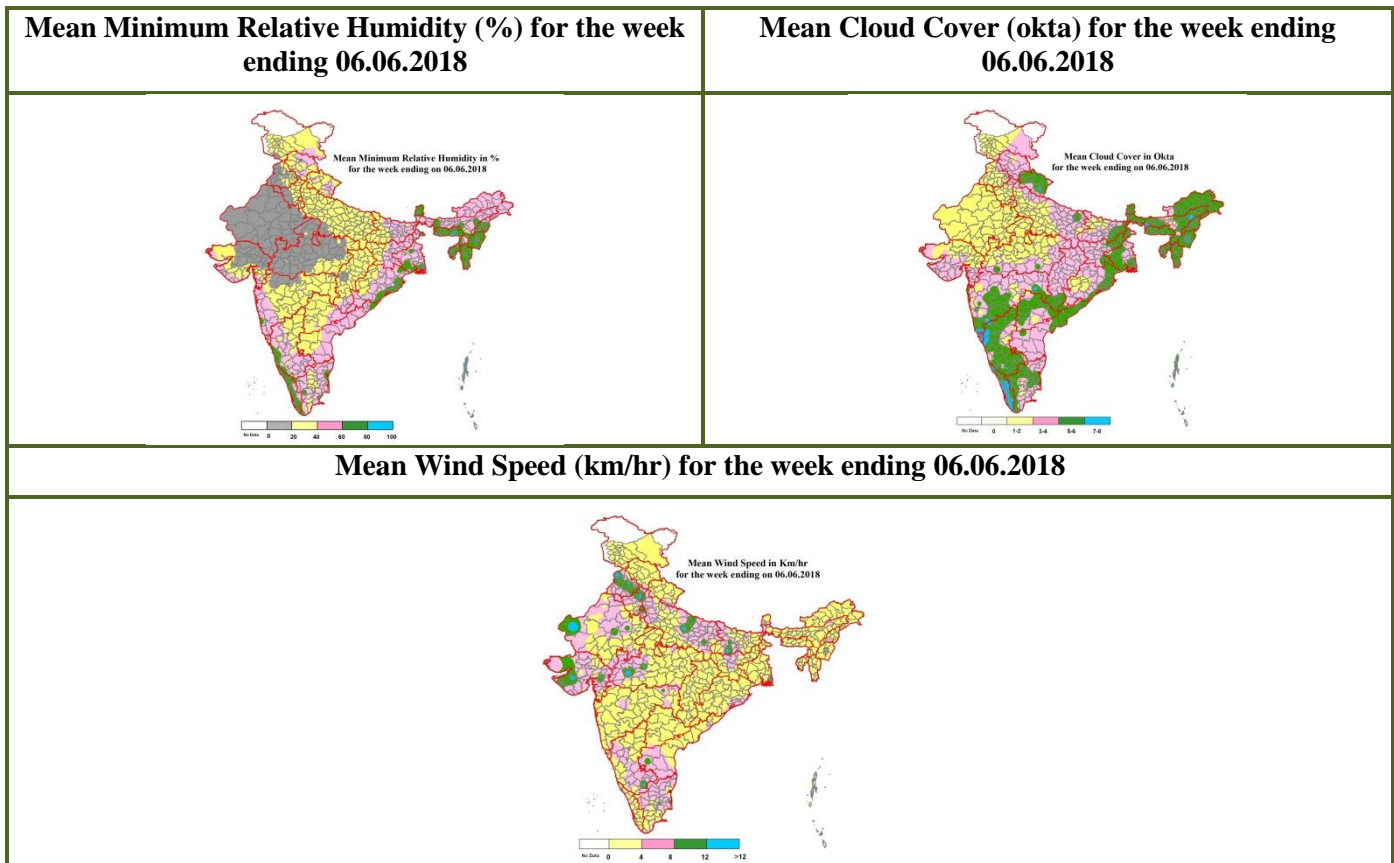


Mean Diurnal Temperature Variation (°C) for the week ending 06.06.2018



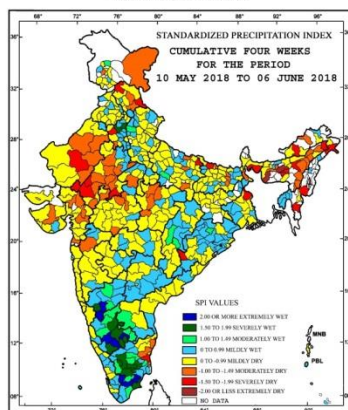
Mean Maximum Relative Humidity (%) for the week ending 06.06.2018





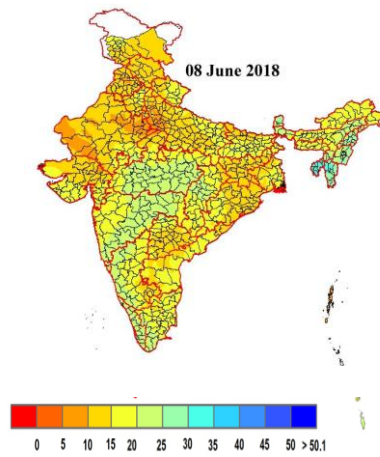
Standardised Precipitation Index Cumulative 4 weeks for the period 10th May to 6th June 2018

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE

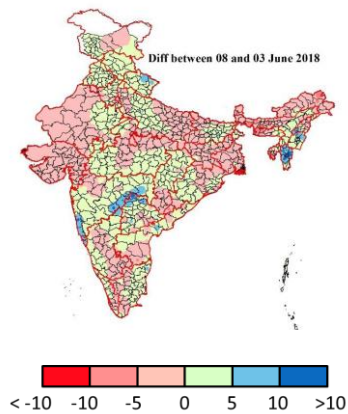
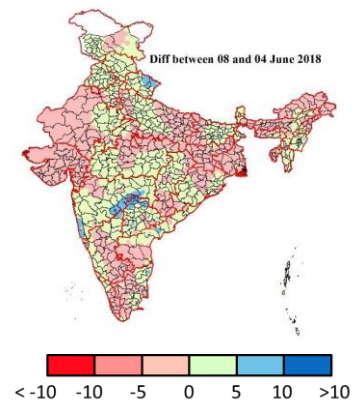
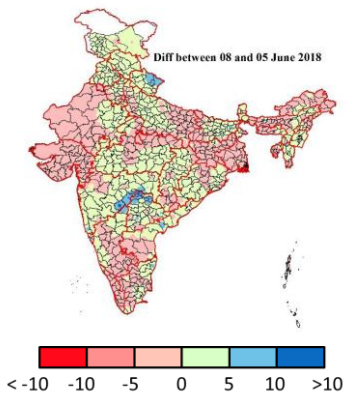
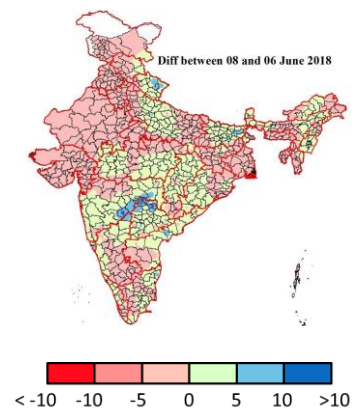
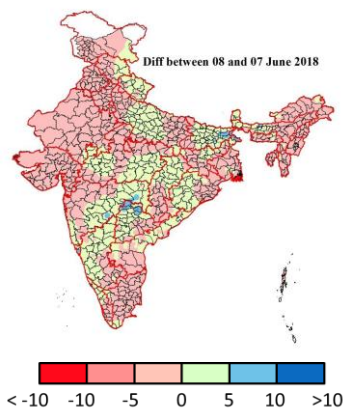


- Extremely/severely wet conditions experienced in few districts of Tamil Nadu & Puducherry; Karnataka; Karnal district of Haryana.
- Extremely/Severely dry conditions experienced in many districts of Meghalaya; few districts of Arunachal Pradesh; Kamrup Rural, Nagaon, Tinsukia, Kamrup Metro districts of Assam; Lunglei district of Mizoram; Cooch Behar, Murshidabad districts of West Bengal; Nawarangpur district of Odisha; East Champaran district of Bihar; Kushi Nagar district of Uttar Pradesh; Hissar district of Haryana; Chamba, Kinnaur districts of Himachal Pradesh; Jodhpur, Jhalawar, Sirohi, Udaipur, Rajsamand districts of Rajasthan; Cuddalore district of Tamil Nadu & Puducherry.
- Moderately dry conditions experienced in many districts of Assam; few districts of Rajasthan; Gujarat Region; Upper Subansiri district of Arunachal Pradesh; North Dinajpur district of West Bengal; Khagaria, Monghyr, Saharsa, Sitamarhi districts of Bihar; Mirzapur, Siddharth Nagar districts of Uttar Pradesh; Mahendragar district of Haryana; Kullu, Shimla districts of Himachal Pradesh; Ladakh (Leh), Badgam districts of Jammu & Kashmir; Bhopal, Guna, Mandsaur, Rajgarh, Shivpuri, Burhanpur, Chhatarpur, Damoh, Narsinghpur, Panna districts of Madhya Pradesh; Rajkot district of Saurashtra, Kutch & Diu; Nashik district of Maharashtra; Kanchipuram, Nagapattinam, Viluppuram districts of Tamil Nadu & Puducherry.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

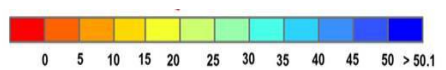
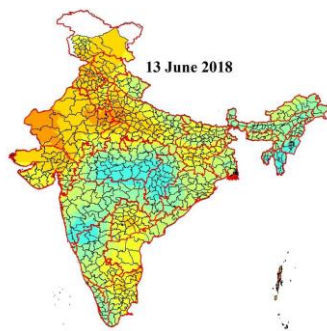
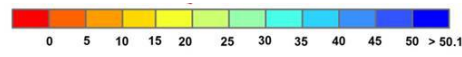
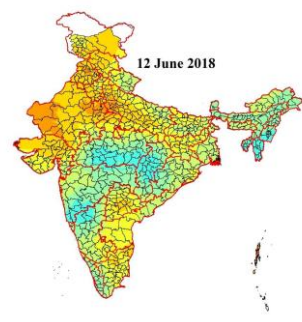
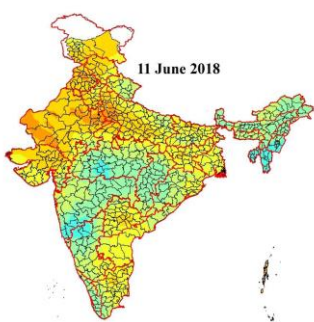
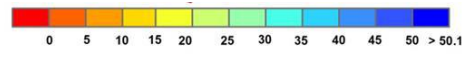
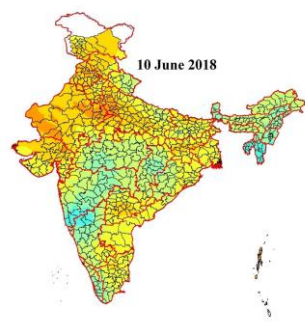
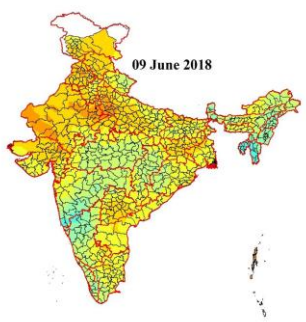
Daily Soil Moisture (mm) for 8th June 2018 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 9th to 13th June 2018 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 13th June 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- Day maximum temperatures are very likely to continue in the range of 42-45°C over many parts of Rajasthan and 40-42°C over rest parts of plains of northwest and adjoining central India during next 2 days.

5 Day Rainfall Forecast (Mid day) 8th June 2018

| Met-Sub-Division | 08-Jun Today | 09Jun Sat | 10Jun Sun | 11Jun Mon | 12Jun Tue |
|------------------------------|-----------------|--------------|--------------|--------------|--------------|
| 1. Andaman & Nicobar Islands | WS | WS | WS | FWS | FWS |
| 2. Arunachal Pradesh | SCT | SCT | SCT | FWS | FWS |
| 3. Assam & Meghalaya | SCT | SCT | FWS | FWS | WS |
| 4. N. M. M. & T. | FWS | FWS | WS | WS | WS |
| 5. S.H. West Bengal & Sikkim | WS | FWS | FWS | WS | WS |
| 6. Gangetic West Bengal | FWS | FWS | FWS | FWS | WS |
| 7. Odisha | FWS | FWS | WS | WS | FWS |
| 8. Jharkhand | FWS | SCT | SCT | FWS | FWS |
| 9. Bihar | FWS | SCT | SCT | FWS | FWS |
| 10. East Uttar Pradesh | SCT | SCT | SCT | SCT | SCT |
| 11. West Uttar Pradesh | ISOL | SCT | ISOL | ISOL | ISOL |
| 12. Uttarakhand | SCT | WS | FWS | ISOL | ISOL |
| 13. Haryana, Chd & Delhi | ISOL | SCT | SCT | DRY | DRY |
| 14. Punjab | ISOL | SCT | SCT | DRY | DRY |
| 15. Himachal Pradesh | ISOL | FWS | FWS | ISOL | ISOL |
| 16. Jammu & Kashmir | DRY | ISOL | SCT | ISOL | ISOL |
| 17. West Rajasthan | DRY | ISOL | ISOL | DRY | DRY |
| 18. East Rajasthan | ISOL | ISOL | SCT | DRY | DRY |
| 19. West Madhya Pradesh | ISOL | ISOL | SCT | SCT | SCT |
| 20. East Madhya Pradesh | ISOL | SCT | SCT | SCT | SCT |
| 21. Gujarat Region | ISOL | ISOL | SCT | SCT | SCT |
| 22. Saurashtra & Kutch | ISOL | ISOL | ISOL | ISOL | ISOL |
| 23. Konkan & Goa | WS | WS | WS | WS | WS |
| 24. Madhya Maharashtra | WS | WS | FWS | FWS | SCT |
| 25. Marathwada | WS | WS | FWS | SCT | SCT |
| 26. Vidharbha | FWS | FWS | FWS | FWS | SCT |
| 27. Chhattisgarh | FWS | FWS | FWS | FWS | FWS |
| 28. Coastal Andhra Pradesh | FWS | FWS | SCT | SCT | SCT |
| 29. Telangana | FWS | FWS | SCT | SCT | SCT |
| 30. Rayalaseema | SCT | SCT | ISOL | ISOL | ISOL |
| 31. Tamilnadu & Puducherry | ISOL | ISOL | ISOL | ISOL | ISOL |
| 32. Coastal Karnataka | WS | WS | WS | WS | WS |
| 33. North Interior Karnataka | WS | WS | FWS | FWS | SCT |
| 34. South Interior Karnataka | WS | FWS | FWS | FWS | FWS |
| 35. Kerala | WS | WS | WS | WS | WS |
| 36. Lakshadweep | WS | FWS | FWS | FWS | FWS |

% 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

- **08 June (Day 1):** Heavy to very heavy rain at a few places with extremely heavy rain at isolated places over Konkan & Goa, Madhya Maharashtra and Coastal Karnataka. Heavy to very heavy rain very likely at isolated places over Telangana, Interior Karnataka and Kerala; heavy rain at isolated places very likely over Uttarakhand, Chhattisgarh, Jharkhand, Odisha, Sub-Himalayan West Bengal & Sikkim, Marathwada, Coastal Andhra Pradesh and Lakshadweep. Thunderstorm accompanied with squall and lightning very likely at isolated places over Haryana, Chandigarh & Delhi. Thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Bihar, Gangetic West Bengal, Konkan & Goa, Madhya Maharashtra and Marathwada. Heat wave conditions very likely at one or two pockets over Rajasthan.

Squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely along and off Kerala, Karnataka,

Maharashtra coasts and Andaman & Nicobar Islands . Sea condition is likely to be rough to very rough over East Central, West Central and Southwest Arabian Sea and North Bay of Bengal. Fishermen are advised not to venture into these areas.

- **09 June (Day 2):** Heavy to very heavy rain at a few places with extremely heavy rain at isolated places over Konkan & Goa and Madhya Maharashtra. Heavy to very heavy rain very likely at isolated places over Coastal Karnataka; heavy rain at isolated places very likely over Nagaland, Manipur, Mizoram & Tripura, Vidharbha, Chhattisgarh, Odisha, Coastal Andhra Pradesh, Telangana, Interior Karnataka and Kerala. Thunderstorm accompanied with squall and lightning very likely at isolated places over Haryana, Chandigarh & Delhi, West Uttar Pradesh and East Rajasthan. Thunderstorm accompanied with gusty winds very likely at isolated places over Uttarakhand, Himachal Pradesh, Punjab, East Uttar Pradesh, Vidarbha, Madhya Pradesh, Chhattisgarh and Jharkhand. Heat wave conditions very likely at one or two pockets over West Rajasthan.

Squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely along and off Kerala, Karnataka, Maharashtra coasts, Andaman & Nicobar Islands and also over North Bay of Bengal. Sea condition is likely to be rough to very rough over East Central, West Central and Southwest Arabian Sea and North Bay of Bengal. Fishermen are advised not to venture into these areas.

- **10 June (Day 3):** Heavy to very heavy rain very likely at a few places over Konkan & Goa and at isolated places over Odisha and Coastal Karnataka; heavy rain at isolated places over Vidarbha, Chhattisgarh, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, North Interior Karnataka and Kerala. Thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Uttarakhand, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, Jharkhand and Uttar Pradesh.

Squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely along and off Kerala, Karnataka, Maharashtra coasts. Sea condition is likely to be rough to very rough over East Central, West Central and Southwest Arabian Sea. Fishermen are advised not to venture into these areas.

- **11 June (Day 4):** Heavy to very heavy rain likely at isolated places over Konkan & Goa. Heavy rain likely at isolated places over Chhattisgarh, West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Karnataka and Kerala. Thunderstorm accompanied with gusty winds likely at isolated places over Uttarakhand, Uttar Pradesh and Bihar.
- **12 June (Day 5):** Heavy to very heavy rain likely at isolated places over Coastal Karnataka. Heavy rain likely at isolated places over West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa and Kerala. Thunderstorm accompanied with gusty winds and lightning likely at isolated places over Uttarakhand, Uttar Pradesh and Bihar.

Weather Outlook for subsequent 2 days from 13th to 15th June 2018

- Fairly widespread to widespread rainfall activity with isolated heavy falls likely along southern part of West Coast and NorthEastern parts.
- Rainfall over the rest of Peninsular India, Central & East India is likely to reduce further. Isolated to scattered rainfall is likely over these areas.
- Dry weather is likely over parts of Northwest & West India.

Salient Advisories

- Southwest Monsoon has further advanced into some more parts of Central Arabian Sea, remaining parts of Goa, Karnataka and Rayalaseema, some parts of south Konkan, south Madhya Maharashtra, Marathwada, Vidarbha, south Chhattisgarh and south Odisha, entire Telangana, most parts of Coastal Andhra Pradesh, remaining parts of West Central Bay of Bengal and most parts of North Bay of Bengal. Conditions are favorable for further advance of Southwest Monsoon into some more parts of Central Arabian Sea, Maharashtra (including Mumbai), Chhattisgarh & Odisha and remaining parts of Coastal Andhra Pradesh during next 24 hours. Conditions are very likely to become favorable for further advance of Southwest Monsoon into most parts of Arabian Sea, remaining parts of Maharashtra, some parts of south Gujarat region, southern parts of Madhya Pradesh, some more parts of Chhattisgarh and Odisha, some parts of West Bengal & Sikkim, remaining parts of Northeastern States during the subsequent 48 hours:

Undertake field preparation and transplanting of *viruppu* rice in **Kerala**, continue nursery sowing for *Sali* rice in **Assam**. Undertake land preparation and sowing of normal sown WRC rice after seed treatment in **Meghalaya**. Continue land preparation and sowing of soybean, groundnut, black gram and rice bean in **Manipur**. Continue nursery bed preparation for *kharif* rice in **Konkan** after current spells of heavy rain. In **Telangana**, continue land preparation for sowing of *kharif* crops and undertake sowing of rainfed crops like soybean, jowar, maize, red gram, green gram, cotton etc., 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 15-20 cm depth. Continue nursery raising of rice after current spells of heavy rain and undertake main field preparation for transplanting of rice in **Coastal Karnataka** and land preparation and sowing of cow pea, groundnut, green gram and black gram in **South Interior Karnataka**. In **North Interior Karnataka**, undertake sowing of soybean, green gram, black gram (DU-1, DBGV-5), red gram (TS-3R), groundnut (G 2-52, GPBD-4, GPBD -5 (rainfed), HD-86, TAG-24 (irrigated) and maize (Arjun, GH-0727) crops where sufficient rainfall is received.

- As squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely along and off Kerala, Karnataka coasts, sea condition is likely to be rough to very rough over East Central, West Central and Southwest Arabian Sea from 8th to 10th June. As squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely over Andaman & Nicobar Islands, sea condition is likely to be rough to very rough over North Bay of Bengal on 8th and 9th June. Fishermen are advised not to venture into these areas.
- As thunderstorm accompanied with squall and lightning very likely at isolated places over **Haryana, Chandigarh & Delhi** on 8th and 9th, over **West Uttar Pradesh** and **East Rajasthan** on 9th, thunderstorm accompanied with gusty winds and lightning very likely at isolated places over **Uttarakhand** on 8th, 10th and 12th, over **Uttar Pradesh** on 8th and 12th, over **East Rajasthan** on 8th and 12th, over **Himachal Pradesh** and **Punjab** on 9th and 10th, over **East Uttar Pradesh** on 9th, over **Haryana, Chandigarh & Delhi** on 10th, thunderstorm accompanied with gusty winds very likely at isolated places over **Uttarakhand** on 9th and 11th, over **Himachal Pradesh, Punjab** and **East Uttar Pradesh** on 9th and over **Uttar Pradesh** on 11th June, over **Bihar** on 8th, 11th & 12th, over **Gangetic West Bengal** on 8th, over **Jharkhand** from 8th to 10th June, **Vidarbha** on 8th and 9th, over **Madhya Maharashtra, Marathwada** and **Konkan & Goa** on 8th, over **Madhya Pradesh** and **Chhattisgarh** on 8th, over **Madhya Pradesh** and **Chhattisgarh** on 9th June, it is advised to provide support to young fruit plants, banana and vegetables to prevent the crops from lodging due

to strong winds. Undertake propping up in sugarcane in **Madhya Maharashtra, Punjab and Uttar Pradesh**.
Keep harvested produce at safe places.

- In view of the heat wave conditions at one or two pockets of **west Rajasthan**, grazing/feeding of cattle/goats may be done during morning/evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. Also provide mineral mixture and fresh and clean water to poultry birds. Make arrangement of curtains and proper ventilation in poultry house. Vaccinate the poultry birds to prevent Ranikhet disease.

Detailed Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala except Wayanad, in Ariyalur, Kanyakumari, Karaikal, Salem, Thiruvannamali and Vellore districts of Tamilnadu & Puducherry, Udipi and Uttara Kannada districts of Coastal Karnataka, all districts of North Interior Karnataka except Bagalkote, Bidar, Haveri and Koppal and all districts of South Interior Karnataka except Chamrajnagar, Davangere and Kodagu during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers would occur, at most places over Kerala and Coastal Karnataka during the period, at most/many places over South Interior Karnataka during the period, over North Interior Karnataka from 8th to 11th, at many places over Coastal Andhra Pradesh and Telangana on 8th and 9th June, along with heavy to very heavy rain at a few places with extremely heavy rain at isolated places over Coastal Karnataka on 8th, heavy to very heavy rain very likely at isolated places over Telangana, Interior Karnataka and Kerala on 8th, over Coastal Karnataka on 9th, 10th and 12th, heavy rain at isolated places very likely over Coastal Andhra Pradesh on 8th and 9th, over Telangana, Interior Karnataka on 9th, over North Interior Karnataka on 10th, over Coastal Karnataka on 11th and over Kerala from 9th to 12th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
 - As squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely along and off Kerala, Karnataka coasts. Sea condition is likely to be rough to very rough over East Central, West Central and Southwest Arabian Sea from 8th to 10th June. Fishermen are advised not to venture into these areas.
 - **Kerala:**
 - Undertake transplanting of *Viruppu* rice and planting of vegetables. Continue planting of coconut saplings. Undertake planting of seedlings of cucurbits like bittergourd, snakegourd at 4-5 leaf stage. In Nendran banana, cover bunches with plastic cover to improve the quality of fruit. Provide propping for bunched nendran plants. Construct channels in the field for proper drainage. Fix rain guard for rubber trees during the month. Subsequent tappings must be done after proper drying of tapping panel in rubber plants. Continue planting of pineapple.
 - There is chance of Sigatoka disease in banana. As a precaution, spray *Pseudomonas* 20g/litre. In case of severe attack, spray 1 gm Bavistin by mixing it with gum in 1 litre of water on lower surface of leaf. For bud rot in coconut, hang three nos. of perforated Mancozeb sachet (5 gm) around spindle leaves as a prophylactic measure. To control bacterial wilt in brinjal, spray bleaching powder 10 g/ 1litre of water. In order to control fungal diseases in Rubber tapping panels, spray Copper Oxy Chloride or Bordeaux mixture after current spells of rain.
 - **Andhra Pradesh:**
 - Continue sowing pre-kharif crops like sesamum, bajra, mesta, etc. Continue field preparation for rain-fed sugarcane. Carry out strengthening of field bunds. Undertake land preparation for sowing of kharif crops and keep inputs ready for sowing. Choose high yielding varieties like K 6, K 9, Dharani, Kadiri, Chitravani and Amaravathi for groundnut; LRG 41, PRG 176 and LRG 52 varieties for redgram and high yielding varieties like Kranthi, Haritha, Jwala, PCH 111 and DCH 157 for mustard. Take up timely sowings of early maturing cotton varieties so that the cotton bolls mature before the heavy population of pink bollworm builds up.
 - The present weather conditions are highly favorable for occurrence of fruit fly in mango orchards. To control erect pheromon traps or IIHR traps @ 8-10/acre at 3-6 feet from ground level.
 - **Telangana:**
 - Continue land preparation for sowing of kharif crops. Procure and keep the seed, fertilizers and pesticides ready for timely sowing of rain-fed crops. Take up 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 or the soil should be wet up to 15-20 cm depth after onset of South-West monsoon rains. Take-up sowing of Sunhemp and Dhaincha as in-situ green manure crop preceding rice. Take up sowing of long duration rice varieties upto 20th June.

- For incidence of sucking pests in vegetables, spray Dimethoate @ 2 ml or Acephate @ 1.5 g per litre of water.
- **Tamil Nadu:**
- This is the suitable time for sowing rice in nursery for kuruvai season. Use rice varieties, viz., ADT 36, ADT 43, ADT 45 and ADT 47 suitable for kuruvai season. By utilizing received rainfall in command areas where rice is grown during August, green manure crops like daincha or sunhemp may be grown and insitu ploughed @ 45 days after sowing. Provide staking to 5 months old banana and sugarcane crops.
- In summer irrigated black gram, occurrence of white fly is being noticed. To control this spray Azadirachtin 0.03% @ 3 ml/ litre of water along with sticking agent in the morning or evening using hand sprayer, If damage is more, spray Imidacloprid 200 SL @ 40 ml/ acre using water @ 200 litre/ acre. Prevailing weather is favorable pod borer incidence in black gram. To control, spray Indoxacarb 15.8% SC 333 ml/ha or Chlorantraniliprole 18.5 SC 150ml/ha. For Thrips incidence chilli spray Imidachloprid 17.8 % SL @ 3 ml/ 10 litres of water or Dimethoate 30 % EC @ 1.0 ml/litre of water.
- **Karnataka:**
- In South Interior Karnataka, as heavy rainfall is expected, avoid harvesting of rice and ragi. Under double cropping continue sowing of cowpea (TVX-944, KBC-1, TVC-152), green gram (PS-16, PDM-84,178, KKM-3), black gram (Karagao-3, T-9, Rashmi (LBG-625), horse gram, field bean (HA 1, 2, 3 & 4), ragi (Indaf -9, ML-365), sesamum (Navile-1, T-7), groundnut (TMV-2, JL-24, KCG-6), onion (Arka Kalyan, Bhima Super, Bellary Red & Satara Local), maize (Hema Shree, Nitya Shree) and under mono cropping sowing of long duration crops like red gram (TTB-7, BRG-1,2,4,5,7), castor (DCS-9 (Jyothi), DCH-177 & 32), cotton (Bt cotton-Bollgard-I&II), after spells of heavy rainfall Intercropping of groundnut + red gram in 8:2 proportion and groundnut+ castor in 8:2 proportion is suggested for good income. Drain out excess water from already sown crop fields.
- In North Interior Karnataka, continue land preparation and undertake sowing of soybean (JS-335, Dsb-21, JS-93-05), green gram (BGS-9, DGGV-2, S-4, Pusa Baisaki), black gram (DU-1, DBGV-5), red gram (TS-3R), groundnut (G 2-52, GPBD-4, GPBD -5 (rainfed), HD-86, TAG-24 (irrigated) and maize (Arjun, GH-0727) crops where sufficient rainfall is received. Undertake fresh plantation of fruit trees, teak, neem or other trees on the bunds, uncultivated and marginal land which are useful to prepare the agricultural implements.
- In Coastal Karnataka, continue nursery raising of rice after current spells of heavy rain; undertake main field preparation for transplanting of rice. Continue multiplication of seedlings of black pepper. Transfer strong and better arecanut seedlings from primary seed bed to secondary seed bed. Clean all drainage channels.
- Agro forestry on the bund involving Melia Dubia (Hebbevu), Silver oak and agase, halubevu, glyceridia is recommended for sustainable income under abnormal extreme rainfall events.
- In South Interior Karnataka, due to cloudy weather, there is chance of blast infestation in rice nursery; to manage, spray fungicide Tricyclozool @ 0.6 gm/litre of water on a non-rainy day.
- **Animal Husbandry**
- In Telangana, prevailing weather conditions are congenial for the occurrence of sheep pox disease in sheep and goat and Foot and mouth disease in cattle and Buffaloes. To prevent the diseases, vaccinate the animals. To protect the poultry birds from high temperature, 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. Vaccinate birds against Ranikhet disease.
- In Kerala, take extra care for wound healing in cattle. Apply fly repellents (CAADECCS, KVASU, Mannuthy) around the wound.
- In Tamil Nadu, feed the dairy cattle early in the morning and late in the evening along with mineral mixture to avoid heat stress. For every 100 poultry birds, add 10-20 ml of B-complex or liver tonic to the drinking water to reduce heat stress. Feed the calves with 30 gms of mineral mixture per day. Also, de-worm calves as per regular schedule with the support of nearby veterinarian.
- In Karnataka, provide protein rich feed by giving oil seed cake, Azolla, green fodder and mineral supplements such as Vitamin C and B –complex based on the deficiency. Silage, hay and crop residues may be used for cattle feed when there is shortage of green fodder. Maintain proper ventilation for free circulation of air in the sheds. Vaccinate the livestock for Black Quarter and foot and mouth diseases. Deworming of animals should be carried out.

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

- **Realised Rainfall:** Rainfall occurred in Tirap and West Kameng districts of Arunachal Pradesh, Cachar Dibrugarh, Hailakandi, Karimganj and Lakhimpur districts of Assam, East Khasi and Ribhoi districts of Meghalaya, Aizawl, Lunglei and Serchip districts of Mizoram, Imphal East district of Manipur, Dimapur, Kohima and Mon districts of Nagaland and all districts of Tripura during the week. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers would occur at most/many places over Nagaland, Manipur, Mizoram & Tripura during the period, over Assam & Meghalaya from 10th to 12th, at many places over Arunachal Pradesh on 11th and 12th, along with heavy rain at isolated places over Assam & Meghalaya from 10th to 12th, over Nagaland, Manipur, Mizoram & Tripura from 9th to 12th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Avoid water logging in ginger, turmeric, pulses and vegetable fields in Nagaland, Manipur, Mizoram & Tripura.

▪ **Arunachal Pradesh:**

- Undertake land preparation and sowing of normal sown WRC rice after seed treatment with solution of Carbandazim 50WP @ 1 g in one litre of water per kilogram of seeds. Provide proper drainage facility in the fields of Jhum rice, vegetables, ginger and turmeric crops. Continue sowing of larger cardamom in primary nursery bed at 2cm depth & 10cm. Harvest mature cobs of maize.
- For control of stem borer in early sown rice at tillering stage, spray Triazophos 40EC @ 4 ml/litre of water against stem borer in rice nursery as well as in the main field. Apply foliar spray of Azadirachtin 0.15% EC 2 @ 6ml/litre of water against leaf eating insects in vegetable crops at vegetative stage and in cucurbits at flowering/fruitletting stage after current spells of rain.

▪ **Assam:**

- Continue transplanting normal Ahu paddy. Carry out field preparation for cauliflower. For better flowering, pollination and for more yield in cucurbitous crops, maintain optimum soil moisture by applying light and frequent irrigation in the morning and evening hours. Provide physical barrier and apply frequent irrigation to banana, citrus, mango and kinoo orchards to protect them against hot winds. Continue land preparation /nursery sowing for Sali rice and sowing of well germinated seeds of high yielding Sali rice varieties such as Ranjit, Bahadur, Kushal, Maniram, Mahsuri, Keteki Joha, etc. in typical lowland areas and medium duration varieties like Satya and Basundhara in medium lowland areas. Continue land preparation/sowing of groundnut varieties like TG-1A, JL-24, etc. Undertake sowing of pigeon pea and soybean and planting of black pepper. Continue planting of Assam lemon, pineapple, papaya, banana, etc. Provide proper drainage in jute field. Provide staking to vegetable crops and propping to sugarcane. Continue sowing of maize with seeds (2.5-3.0 Kg/bigha) of normal hybrids like Ganga 11, Deccan 107, Deccan 109, Vivek 9; Quality Protein Hybrid like HQPM-1; normal Composite variety like NLD, Parbhat, Novjot, Pusa Comp 1 & 2 and Quality Protein composite like Shakti-1. Continue transplanting of Ahu paddy. Carry out thinning operation in jute.
- For control of blast disease in Ahu rice, spray Carbendazim or Thiophenate Methyl @ 1 gram per litre of water at tillering stage (40-55 days after sowing) and subsequently give two more sprays of Ediphenphos @ 1ml/litre of water, one at panicle initiation stage and other when the tip of the panicle just comes out. Gundhi bug attack may be seen in Boro rice at milky stage. For effective control of Gundhi bug, apply 5% Malathoin dust @ 20 kg per ha of land. Undertake plant protection methods after current spells of rain.

▪ **Meghalaya:**

- Prepare raised nursery bed of size 10m (length) × 1.25m (width) × 10cm (height) with 20-30cm wide channel between the two seed beds for lowland Sali/kharif rice HYVs like Shabsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri, etc. Carry out field preparation for upland kharif rice. Provide support of bamboo structure for climbers of bottle/ash gourd and carry out weeding & earthing up operations. Continue sowing of okra seeds on raised bed at spacing 45x30cm. Use bamboo sticks for staking in French bean after hoeing.
- Spray Rogor @ 1ml/litre of water to control pest in cucurbits after current spells of rain.

▪ **Manipur:**

- Continue land preparation and sowing of soybean, groundnut, black gram and rice bean. Maintain optimum water depth of 5-8cm in the pre-kharif rice field. Continue land preparation/seed collection for raising kharif rice nursery. Undertake sowing of kharif maize. Harvest mature fruits of melons, pumpkins, gourds, tomato and chilli in clear weather. Prepare nursery for early cauliflower in the upland area or if rain protective structures are available with the farmer.
- Spray Cypermethrin @ 2ml/ litre of water or Imidachloprid @ 1ml/ litre of water for fruit borer in brinjal. To prevent Leaf Spot disease in ginger and turmeric at vegetative stage, apply Bordeaux mixture (5:5:50) after 4 – 5 weeks of sowing or Captan @ 1.5 g/litre of water after current spells of rain.

▪ **Mizoram:**

- Carry out earthing up in Jhum rice, chilli, cowpea, okra and maize fields on a non rainy day. Undertake planting of ginger and turmeric crops after treating rhizomes with Thiram @ 4 g per kg seeds. Apply irrigation to coffee plants every alternate day as it will help improve fruit retention, fruit development and the fruit quality.
- In cucurbitous crops, apply Carbaryl 0.2 per cent or Malathion 0.15 per cent suspension containing sugar or jaggery at 10 g/litre of water at fortnightly intervals at flowering and fruit initiation against fruit fly and pumpkin beetle in after current spells of rain.

- **Tripura:**
 - Continue sowing of groundnut and maize.
- **Nagaland:**
 - Undertake weeding/earthing up in maize and green gram crops after current spells of rain. Maintain proper drainage in ginger field.
 - Monitor cucurbit plants against red pumpkin beetle especially in bottle gourd, pumpkin, cucumber, water melon etc. Mechanically collect and destroy the pest if incidence is low. Remove infested brinjal fruits and shoots regularly and bury them deep in the soil.
- **Animal Husbandry**
 - Vaccinate pigs against FMD & swine fever and cattle/sheep/goat against FMD, Hemorrhagic Septicaemia, Black Quarter. Vaccinate poultry birds against coccidiosis, Ranikhet and Gamboro diseases. Vaccinate all newly born piglets against swine fever at the age of 3 months followed by annual booster dose. Vaccinate 6-9 months old calves with Brucella Abortus cotton strain-19 @ 5ml subcutaneous on the neck. Right time to deworm cattle with anti helminthic drugs (particularly Tapeworms) viz. Fento Plus @ 1 tablet per 30 kg body weight. Provide proper bedding materials especially to new-born and lukewarm food & water. Bird flu like disease infection in poultry and duck has been observed in some districts of lower Assam. Consult immediately with veterinary doctor.
- **Fishery**

Due to heavy rainfall in previous week there is sufficient water in pond. Farmer are advised go for released fingerling @ Rahu 108 Nos., Silver carp 136 Nos., Catla 108 Nos., Grass carp 70 Nos., Mrigal 136 Nos., and Common carp 136 Nos. per bigha. Care should be taken that fish are fed with feed that are free from fungus. If fungal growth is observed in fish feed, sundry the feed for few days prior to feeding. Feed common carp brooders with protein rich diet for proper maturation of eggs. Use Eichornia or plastic mob for common carp to lay eggs. Collect healthy fingerlings from authentic sources as there is enough water in the fish pond. Remove the unwanted fishes and predator by repeated netting before leaving the new fingerling in the fish pond. Broadcast mustard Oil Cake (MOC) @ 5kg/day over the pond twice daily to feed fish fingerlings.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman and Nicobar Islands, Balasore, Deogarh, Dhenkanal, Jharsuguda, Kandhamal, Koraput, Malkangiri, Mayurbhanj, Nawapara, Nayagarh, Sambalpur and Sundargarh districts of Odisha, Banka, Bhagalpur, Gaya, Katihar, Madhepura, Nalanda and Purnea districts of Bihar, Deogarh, Gumla, Sahebganj and Simdega districts of Jharkhand, all districts of Gangetic West Bengal except Birbhum, East Midnapore and Purulia and Darjeeling, in Jalpaigudi, Malda and South Dinajpur districts of Sub-Himalayan West Bengal during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely over Andaman & Nicobar Islands. Sea condition is likely to be rough to very rough over North Bay of Bengal on 8th and 9th June. Fishermen are advised not to venture into these areas.
 - As thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Bihar on 8th, 11th & 12th, over Gangetic West Bengal on 8th, over Jharkhand from 8th to 10th June, it is advised to provide support to young fruit plants, banana and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
 - As rain/thundershowers very likely at most/many places over Andaman & Nicobar islands, West Bengal & Sikkim and Odisha during the period, over Jharkhand and Bihar on 8th, 11th & 12th June, along with heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim and Jharkhand on 8th, over June, over Gangetic West Bengal on 10th, over West Bengal & Sikkim on 11th & 12th and over Odisha during the period, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in West Bengal and Odisha to avoid water stagnation.
 - **Odisha:**
 - Continue sowing of green manuring crops like Dhaincha and sunhemp utilising the realised and expected rainfall. Green manure crops are sown in medium and low land condition at 6-8 weeks before transplanting of rice. Use 10 kg seeds per acre. Sowing time should be adjusted in such a way that the crop will attain 5-week stage just at 7 days before transplanting. Undertake field preparation and keep inputs ready for kharif sowing.
 - Increased temperature may favour the egg laying of stemborer in rice in the main field. To attract the butterflies, place 4 Pheromone traps/acre, collect the adults and destroy them by burning them under soil or by burying.
 - **Bihar:**
 - Undertake land preparation for sowing of long duration paddy seeds in nursery. Use vermi compost or FYM to

the field where seedling is to be grown.

- Continue planting of turmeric, ginger and ole (Elephant foot yam) crops in uplands.
- Continue preparation of nursery for Kharif onion, chilli and brinjal. Constant monitoring of the chilli crops against attack of thrips, white fly and mites is advised. If attack of insects are severe, apply Malathion 50 E.C. @ 2ml per litre of water after current spells of rain.
- Monitoring is advised for infestation of fruit borer in tomato crop. If infestation of fruit borer is found, installation of bird perches in tomato crop is advised. Hand picking of damaged fruit and burying are also advised. Spraying of Spinosad 48EC @ 1ml/4 litres of water is advised after current spells of rain, if pest population reaches ETL.
- **Jharkhand:**
 - Utilising the expected rainfall, farmers are advised ploughing of upland to keep the field ready for sowing of the different kharif crops. To increase the fertility of Rice field, farmers may sow the green manure crops like Sunhemp and Dhaincha. The seed rate for both is 20-25 kg per acre.
 - Maintain optimum water level in summer rice fields at grain filling/hardening stage. Continue planting of ginger and elephant foot yam in uplands.
 - For plantation of different fruit seedlings and prepare/dig the pit and maintain the distance between pit as per requirement of fruit tree.
- **West Bengal:**
 - In the Sub-Himalayan West Bengal, carry out sowing of Dhaincha seeds at 45 days before transplanting of Aman rice with available moisture. Provide proper drainage facility in maize, soybean, round chilli, ginger and turmeric fields. Undertake land preparation for new plantation of large cardamom and shade trees. Carry out weeding in large cardamom field.
 - In Gangetic West Bengal, prepare field for wet seeded rice varieties like Sabita Foundation, Swarna sub-1 certified, IR-64, Hira T.L etc. Start land preparation and seed sowing of Aman paddy varieties like Lalswarna (long duration) and MTU 1010, PD 12, Pratiksha, Bidhan 1 etc (short duration) with the help of pre monsoon rainfall. Undertake sowing of Sweta, Churni, Jagriti, Probhat varieties of arhar during next week after seed treatment with Mancozeb, Thairam or Captan.
 - In Sub-Himalayan West Bengal, for insect/pest management of Kharif & Pre-kharif season vegetables, spray Neem Oil @ 3.0 ml/liter of water at evening hour. For white fly and jassid apply Acetamiprid 20% SP @ 1g/litre or Thiomethoxam 0.3 SG 1g/3 litres of water. If brown colour spot or blast spot appears on the leaves of Boro paddy, spray Traicyclazole @ 0.75g/litre of water. For gundhibug in Boro paddy, apply Fipronil 5 SC @ 1ml/litre of water. In case of rotting of stem and spots on leaves in jute crop, apply Carbendazim 50 WP @ 1g/litre of water or Cuhydroxide 75 WP @ 2g/litre of water after current spells of rain.
 - In Gangetic West Bengal, for fruit rot in chilli crop at fruit development stage, remove the affected plant parts and spray Carbendazim @ 1g/lit of water at clear weather condition. To control Bhindi Yellow vein mosaic virus, spray Imidachloropid @ 2 ml/litre of water. To prevent fruit drop apply NAA (Planofix) @ 3ml per 15 litres of water after current spells of rain.
- **Andaman & Nicobar Islands:**
 - Prepare the nursery bed of paddy and use seed @ 40 kg/ha of medium duration variety like CARI Dhan3 and Swarnadhan. Transplant already grown vegetable seedlings of brinjal and chilli in upland area or BBF with well drainage facility. Harvest the mature banana and provide support to the fruit bearing banana tree as wind speed may rise to 55 km/h.
- **Animal Husbandry**
 - In West Bengal, vaccinate cattle against HS and black quarter. Avoid grazing animals during mid noon and after noon hours. Keep less number of bird per cage. Arrange electric fans in the cage. Provide more number of fresh water pots and avoid pond water for drinking purpose. Mix electrolyte with drinking water. Vaccinate goats against Peste des Petits Ruminants (PPR) before onset of monsoon.
 - In Andaman & Nicobar Islands, provide clean and hygienic water treated with potassium permanganate (1 ppm) to the poultry and local chickens to avoid gastrointestinal infection.
 - In Jharkhand, deworm the animals and give mineral mixture along with salt regularly and wheat grains, jaggery etc. may be provided @ 10%-20% in the daily ration to meet the energy requirement of the animals.
- **Fisheries**
 - In Odisha, maintain 6 ft water depth with pH 6.8-7.5, turbidity 20-30 cm and plankton growth of 2.5/50 liter water. Avoid over crowding. The fishes should be fed daily with oil cake bran mixture at the rate of 2-3 % of their total biomass.
 - In West Bengal, apply lime @ 30kg/bigha in old ponds for decrease the salinity of water due to rising temperature and decreased water level.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa except Mumbai City, all districts of Marathwada except Aurangabad, Hingoli and Latur, in Dhule, Kolhapur, Nandurbar and Sangli districts of Madhya Maharashtra, Washim district of Vidarbha during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - As thunderstorm accompanied with gusty winds and lightning very likely at isolated places Vidarbha on 8th and 9th, over Madhya Maharashtra, Marathwada and Konkan & Goa on 8th June, provide support to banana, young fruit plants and vegetables to avoid lodging. Undertake propping in sugarcane.
 - As rain/thundershowers would occur at most places over Konkan & Goa during the period, at most/many places over Madhya Maharashtra from 8th to 11th, over Marathwada from 8th to 10th, at many places over Vidarbha from 8th to 11th, along with heavy to very heavy rain at a few places with extremely heavy rain at isolated places over Konkan & Goa and Madhya Maharashtra on 8th and 9th, heavy to very heavy rain at a few places over Konkan & Goa on 10th and 11th, heavy rain at isolated places over Marathwada on 8th, over Vidarbha 9th and 10th, over Madhya Maharashtra on 10th, over Konkan & Goa on 12th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
 - As squally winds speed reaching 40-50 kmph gusting to 60 kmph very likely along and off Maharashtra coasts. Sea condition is likely to be rough to very rough over East Central, West Central and Southwest Arabian Sea from 8th to 10th June. Fishermen are advised not to venture into these areas.
 - In South Konkan, continue nursery sowing of *kharif* crops like rice. Undertake sowing on raised beds. Drain out excess water from rice field wherever necessary. Plough the field at vapasa condition and sow the seed of Dhaincha (Green manure crop) @ 40 kg seed per ha. Undertake sowing of *kharif* vegetables like okra, cucumber, bitter gourd, snake gourd, ridge gourd. Okra should be planted on ridges and furrows and sowing of gourd vegetables be done on soil mounts. In North Konkan, undertake nursery sowing of *kharif* rice. Treat the rice seed with Thiram @ 2.5 g per kg of seed. Undertake sowing of cucurbitaceous crops with spacing of 1.5 m x 90 cm, at the time of sowing apply FYM @ 2 kg or compost along with 50 to 60 g mix fertilizer (Suphala). Undertake sowing of okra in ridges and furrow having spacing of 60 x 45 cm.
 - In Madhya Maharashtra, complete preparatory tillage operations and keep the field ready for sowing of *kharif* crops like cotton, tur and soybean. Continue nursery preparation on raised bed for *kharif* rice.
 - In Marathwada, complete preparatory tillage and keep fields ready for sowing *kharif* soybean, sorghum bajra, turmeric and *adsali* sugarcane. Continue sowing of *kharif* vegetables like brinjal, chilli and tomato in raised nursery beds.
 - In Vidarbha, complete preparatory tillage for sowing of *kharif* crops (sorghum, cotton, green gram, black gram, soybean etc.) and keep the inputs ready accordingly. In East Vidarbha, prepare rice seed beds at 1.2 x 4.0 m size for rice nursery on uplands fields. Undertake seed treatment with brine solution; prepare 3 % salt solution (300 g in 10 litre of water).
 - **Gujarat:**
 - In North Saurashtra, continue pre-monsoon sowing of groundnut (GG-20, GG-11) with irrigation facility. Continue land preparation and keep inputs ready for sowing of *kharif* groundnut (semi spreading-GG-20, GG-22, bunch-GG-2, GJG-31, GJG-32, GG-5, TAG-24, TG-37 A, TPG-41, TLG-45), sesame (GT-2 or GT-3), pearl millet (GHB-558,577,538,719,732,744), green gram (GM-4, K-851), black gram (Guj. Adud-1), cowpea (Gujarat cowpea-1,2,4, Pusa Falguni), pigeon pea (BDN-2, GT-100, GTH-1), cotton (early: Bg-II GCH-8, ATM, Jay, First Class, Beejghan-2, Sarju, Atom, Bhakti; Medium late: Bg-II GCH-6, RCH-659, Agritop-777, Agritop-444, Solar-76, Swapna, Mallika, Ajit-155) crops. Adopt cotton-sesame, cotton-groundnut and cotton-maize inter cropping system as risk management. Apply light and frequent irrigation by drip system to vegetable, other summer crops and mango, citrus, sapota orchards in Saurashtra & kutch. Continue harvesting of matured groundnut, sesame, green gram and black gram in South Saurashtra and Kutch. In South Saurashtra and Kutch, prepare the land for sowing of irrigated hybrid cotton and B.T. cotton and keep inputs ready (G. cot. 6, 8, 10 and approved varieties of B.T. cotton). Make farm ponds in lower region of field to harvest rainwater.
 - In North Gujarat, under high temperature conditions wait for sowing of irrigated hybrid cotton and B.T. cotton for few days. Apply light and frequent irrigation in already sown Bt cotton and undertake gap filling to maintain soil moisture. Continue harvesting of matured groundnut, pearl millet, green gram and vegetables. Apply irrigation to orchards of papaya, sapota, lemon and pomegranate. Prepared pits for transplanting of fruit saplings.
 - In Middle Gujarat, complete harvesting of matured bajra, sorghum and green gram crops and carry out land preparation for sowing of B.T. cotton and ground nut. Undertake nursery raising for rice. Apply irrigation in green gram, pomegranate, sapota, lemon and papaya orchards. Cover papaya fruits using gunny bags;

decrease the interval between two irrigations in vegetable crops. Provide staking in banana to counteract the effect of wind speed.

- In South Gujarat, complete harvesting of matured groundnut and pulses crops. Undertake sowing of cotton with irrigation facility. Continue nursery sowing of rice (NAUR-1, GNR-2 (coastal area) GNR-3, GNR-4, GNR-5, GNR-6 (long duration), Jaya, Gurjari, GR-5, 7, 8, 9, IR-28, Purna and GAR-13) under irrigation facility. Continue sowing of cluster bean and cowpea. Continue harvesting of matured mango fruits.
- **Animal Husbandry**
- In Gujarat, keep animals under shade during noon hours and provide plenty of cold water mixed with minerals for drinking and shower the animals with cold water two to three times in a day. Protect shed from rain and wind. Take care of cattle and stored dry fodder during rainy days.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rainfall occurred in Bemetara, Bijapur, Dhamtari, Durg, Gariaband, Jashpurnagar, Kondagaon, Narayanpur, Raigarh and Sukma districts of Chhattisgarh during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Madhya Pradesh and Chhattisgarh on 8th, thunderstorm accompanied with gusty winds very likely at isolated places over Madhya Pradesh and Chhattisgarh on 9th June, provide support to young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.
 - **Madhya Pradesh:**
 - In West Madhya Pradesh, continue land preparation for sowing of red gram and soybean. Continue nursery preparation for rice. Undertake land preparation and sowing of ginger and turmeric. Apply irrigation in vegetables, orchards, green gram, black gram, maize and groundnut. Continue harvesting of matured vegetables, moong and urad.
 - In East Madhya Pradesh, continue nursery preparation for rice. Continue seed bed preparation for onion. Make arrangement of improved varieties for maize (JM 216, HQPM 1,5, DHM 117) and soybean (JS 95-60, JS 335, JS 93-05, NRC 12, 37). Apply irrigation in maize, groundnut, sugarcane, summer moong, urad and cucurbits. Continue harvesting of matured vegetables, moong and urad. Continue intercultural operations in sugarcane.
 - In West Madhya Pradesh, for control of sucking pest in moong & urad spray Thiamethoxam @ 0.3 gm/litre of water. For attack of red pumpkin, whitefly in cucurbit crops; spray Triazophos 40 E.C. @ 2.0 ml per litre of water.
 - **Chhattisgarh:**
 - As rain/thundershowers would occur at many places over Chhattisgarh during the period, along with heavy rain at isolated places from 8th to 11th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
 - Undertake land preparation for sowing of *khari* crops. Continue nursery preparation for rice. Treat seed with Carbendazim (2 gm/kg of seed) fungicide before sowing in nursery. Continue nursery preparation for vegetables.
- **Animal Husbandry**
- In Madhya Pradesh, provide plenty of water mixed with minerals for drinking. Also provide mineral mixture and fresh and clean water to poultry birds. Vaccinate the poultry birds to prevent Ranikhet disease.
- In Chhattisgarh, carry out vaccination of animals against Black Quarter, Anthrax and other disease.

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

- **Realised Rainfall:** Rainfall occurred in Hamirpur, Mandi and Solan districts of Himachal Pradesh, Karnal district of Haryana, Rajouri district of Jammu & Kashmir, Balrampur and Sharawasti districts of East Uttar Pradesh, Bageshwar, Dehradun, Raudraprayag and Uttarkashi districts of Uttarakhand during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with squall and lightning very likely at isolated places over Haryana, Chandigarh & Delhi on 8th and 9th, over West Uttar Pradesh and East Rajasthan on 9th, thunderstorm accompanied with gusty winds and lightning very likely at isolated places over Uttarakhand on 8th, 10th and 12th, over Uttar Pradesh on 8th and 12th, over East Rajasthan on 8th and 12th, over Himachal Pradesh and Punjab on 9th and 10th, over East Uttar Pradesh on 9th, over Haryana, Chandigarh & Delhi on 10th, thunderstorm accompanied with gusty winds very likely at isolated places over Uttarakhand on 9th and 11th,

over Himachal Pradesh, Punjab and East Uttar Pradesh on 9th and over Uttar Pradesh on 11th June, provide support to young fruit plants and vegetables and propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safe places.

➤ As heat wave conditions are very likely to occur at one or two pockets over Rajasthan on 8th and over West Rajasthan on 9th June, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave conditions, undertake mulching with straw/polythene to conserve soil moisture.

➤ As rain/thundershowers would occur at most/many places over Uttarakhand on 9th and 10th, at many places over Himachal Pradesh on 9th and 10th June, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

▪ **Jammu & Kashmir:**

➤ Undertake nursery raising of rice (Basmati 370 and Ranbir Basmati). Undertake land preparation of the fields where rice seedlings are to be transplanted. Already raised nursery to be covered with shade net to avoid desiccation under bright sunlight especially on southern slopes. Mulching of soil under excess heat conditions to be applied in the form of polythene, stones etc. Start preparation of land for cultivation of maize crop in mid hilly areas.

➤ Due to prevailing dry spell, farmers are advised to apply light & frequent irrigation in vegetable crops for proper establishment and growth. Care should be taken for protection of fruit plants especially young plants against hot sun by applying need base irrigation to save the plant from heat stress.

➤ There may be chance of bacterial wilt in tomato, brinjal, chilli and cucurbits. If observed, apply Streptocyclin Sulphate @ 1.0 gm/10 litre of water on clear sunny day and repeat the spray at the time of flowering.

▪ **Uttarakhand:**

➤ Undertake preparation of nursery for mid duration varieties of paddy like - Narendra-359, Pant dhan-18, HKR-147, PR-113 etc. up to 10th June. Undertake transplanting of 20-25 days old seedlings of paddy in the main field. Apply Butachlor 50%EC @ 60ml/Naali over the field within 1-3 days of transplanting to control the weeds.

➤ Continue transplanting of capsicum and brinjal in the polyhouse in mid and high hills and planting of turmeric, ginger and arbi.

➤ Optimum time for sowing of seeds of babul, subabul, khair, amla and prosopis in polythene bags.

▪ **Himachal Pradesh:**

➤ Due to possibility rainfall, it is advised to withheld irrigation and spraying of any pesticides on the crops. If any spray is essential then mix a sticker in the spray mixer. In middle areas transplant the healthy and ready nursery of summer vegetables like tomato, capsicum, gourd, chilli etc. in the well prepared fields. Sowing of bhindi, arvi etc. may be done in prepared fields.

➤ Continue preparation of nursery for mid duration varieties of paddy like - Narendra-359, Pant dhan-18, HKR-147, PR-113 etc. up to 10th June.

➤ Continue sowing of cucurbits crops. Continue sowing of spinach, coriander, fenugreek in present weather conditions. Continue transplanting of vegetables like tomato, capsicum, gourd, chilli etc. in the well prepared fields.

➤ In Himachal Pradesh to minimise the effect of hails on fruit and plants where hailstorms has occurred, immediately spray Carbendazim 100g or Mancozeb 60g @ 100 litres of water and another spray within 3-4 days of Boric acid 200g+ ZnSo₄ 500 g+ CaO 250 g @ 200 litres of water.

▪ **Punjab, Haryana & Delhi:**

➤ In Punjab, continue harvesting of matured vegetables. Continue nursery sowing of rice (varieties i.e. PR 126, PR 124, PR 123, PR 122, PR 121, PR 116, PR 114, PR 115, PR 113). Continue sowing of rainy season vegetables like okra, cucurbits and cowpea. Apply irrigation in sugarcane, maize, moong, mash, vegetables and orchards.

➤ In Haryana, continue sowing of green gram, Lobia, moth and pigeon pea. Continue nursery sowing of rice. Undertake field preparation for transplanting of rice. Apply irrigation in cotton, vegetables and orchards.

➤ In Delhi, apply frequent irrigation in vegetables, fodder crops and orchards. Continue nursery preparation for chilli, brinjal and cauliflower. Undertake sowing of red gram. Undertake nursery preparation for rice (Hybrid varieties: K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10, High yielding varieties: Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509).

▪ **Uttar Pradesh:**

➤ Apply irrigation in vegetables and standing crops. Continue nursery preparation for rice Continue sowing of pigeon pea under irrigated condition. Continue intercultural operations in cucurbit crops and sugarcane. Continue sowing of ginger and turmeric.

➤ Continue sowing of *kharif* maize. Continue sowing of jowar. Undertake nursery sowing of chilli, brinjal and cauliflower and sowing of soybean and groundnut.

▪ **Rajasthan:**

- For sowing of *kharif* crops like pearl millet, sorghum, maize & cluster bean etc. arrange seed, fertilizers & chemicals. Apply irrigation in summer groundnut, vegetables, orchards, sugarcane and moong. Continue nursery preparation of early cauliflower, chilli and brinjal. Continue sowing of groundnut and okra. Continue nursery sowing of rice. Apply first irrigation in cotton after 20-30 day of sowing.
- Chilli crop is affected by leaf curl & mosaic disease. To check the spread of disease uproot & burn affected plants & spray Dimethoate 30 EC @ 1.0 ml per litre of water.

• **Animal Husbandry**

- In Jammu & Kashmir, add calcium supplement in the diet of dairy animals and heifers especially feed rice straw these days to prevent calcium deficiency and intestinal blockage. Sheeps and goats need to be vaccinated against Sheep and Goat pox.
- In Punjab, keep the animals under sheds during noon time and provide fresh drinking water.
- In West Rajasthan, grazing/feeding of cattle/goats may be done during morning/evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. Also provide mineral mixture and fresh and clean water to poultry birds. Make arrangement of curtains and proper ventilation in poultry house. Vaccinate the poultry birds to prevent Ranikhet disease.

• **Apiculture:**

- In Jammu & Kashmir, harvest honey from the bee colony. Migrate bee colonies to flora rich areas. Avoid antibiotics. For protection against ants, put the legs of apiary into water so that ants could not attack the apiary.
- In Himachal Pradesh keep the colonies in shady places and sprinkle water if possible to reduce the heat as temperature rising high in ther egion. Insert the brood chamber without frame for ensuring aeration. Dust suplhur on sealed brood in the colony and not on larvae to control mites attack on honeybees. Also insert empty frame /combs for egg laying to the queen as the population starts builds up.

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