



National Agromet Advisory Service Bulletin

Friday 6th July 2018
(For the period 6th to 11th July 2018)



Issued by
India Meteorological Department

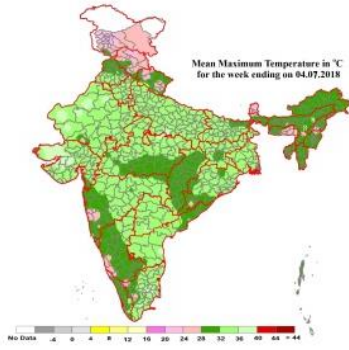
Weblink For

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

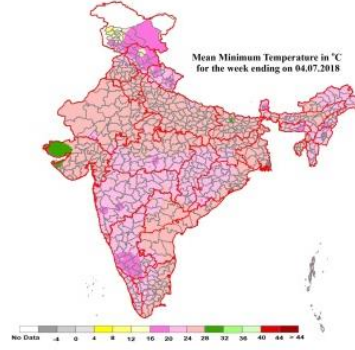
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending 04.07.2018

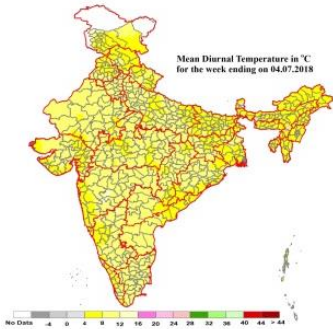
Mean Maximum Temperature (°C) for the week ending 04.07.2018



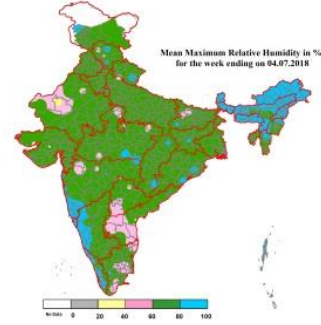
Mean Minimum Temperature (°C) for the week ending 04.07.2018



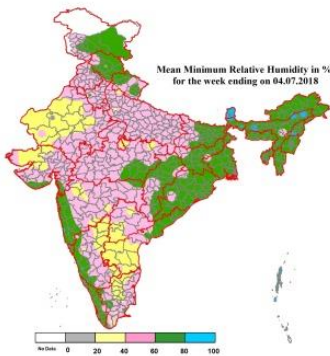
Mean Diurnal Temperature Variation (°C) for the week ending 04.07.2018



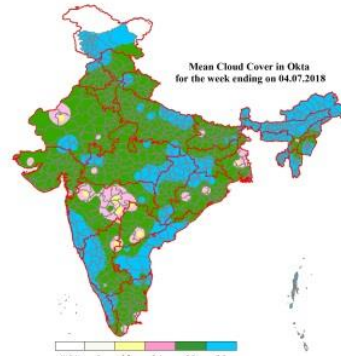
Mean Maximum Relative Humidity (%) for the week ending 04.07.2018



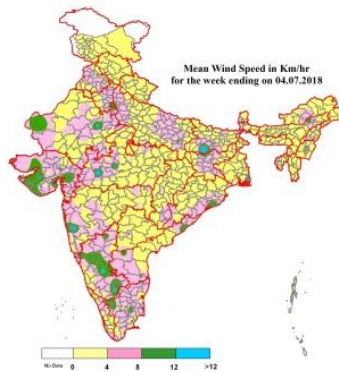
Mean Minimum Relative Humidity (%) for the week ending 04.07.2018

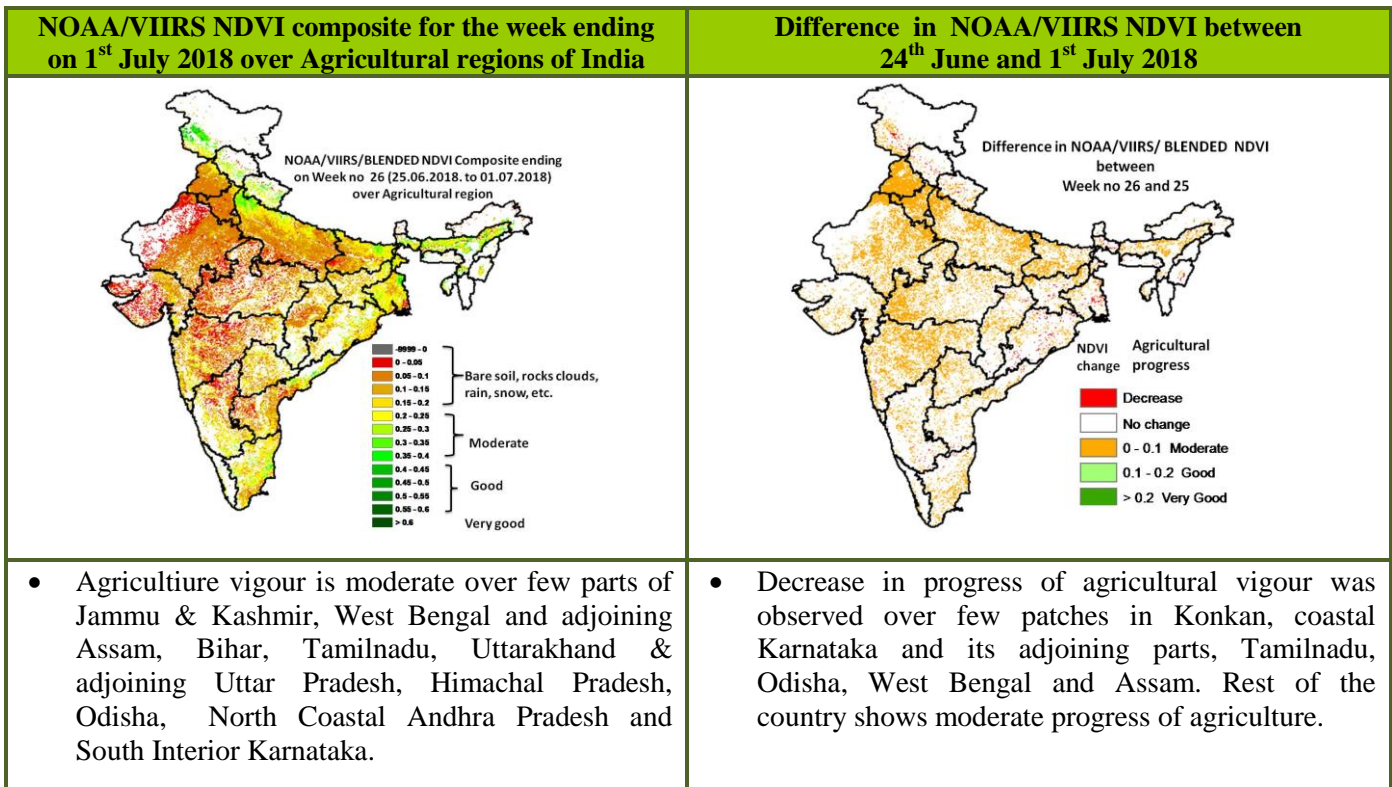


Mean Cloud Cover (okta) for the week ending 04.07.2018

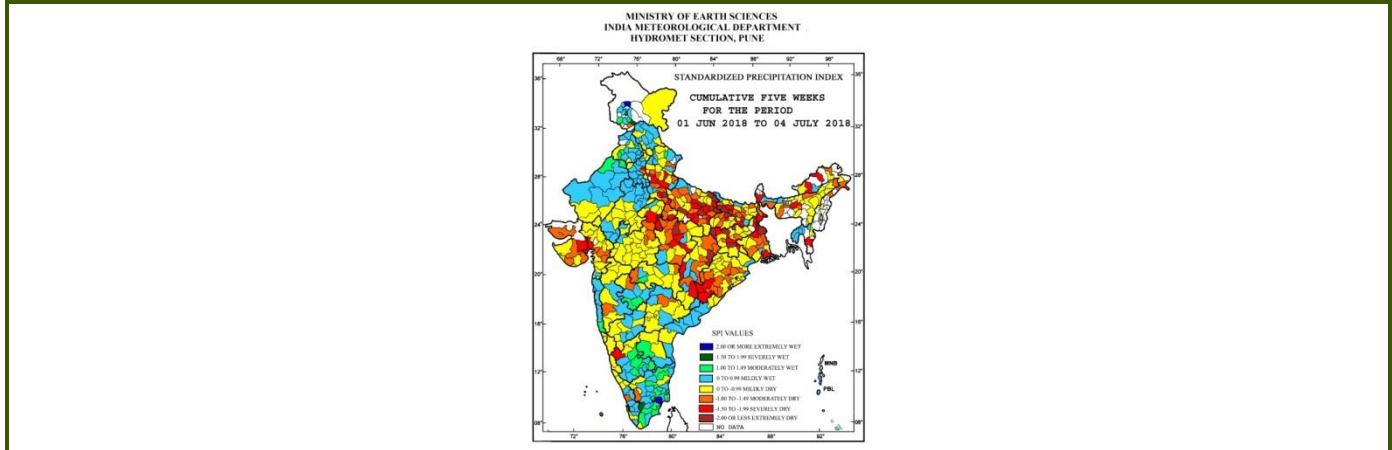


Mean Wind Speed (km/hr) for the week ending 04.07.2018



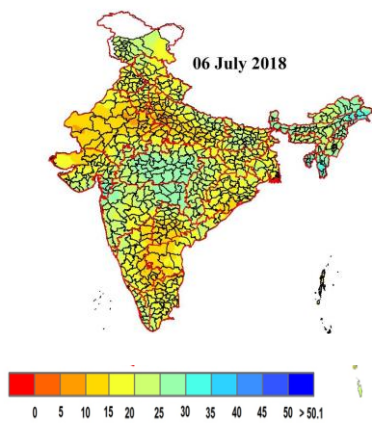


Standardised Precipitation Index Cumulative 5 weeks for the period 1st June to 4th July 2018

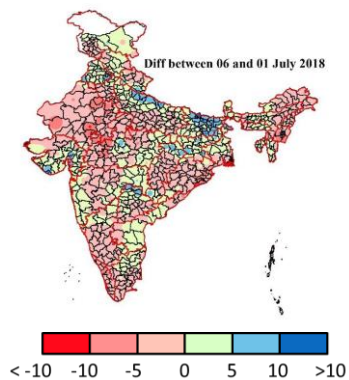
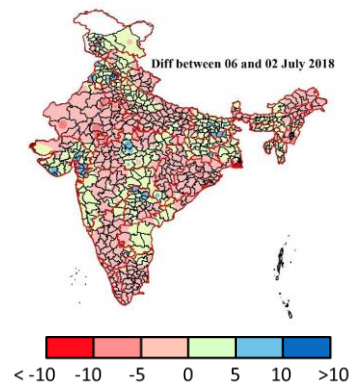
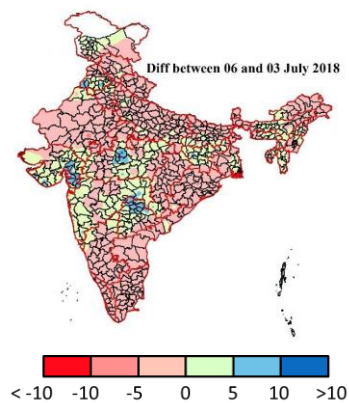
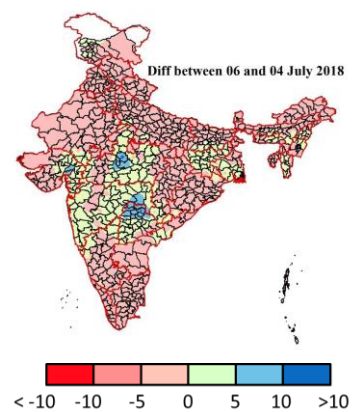
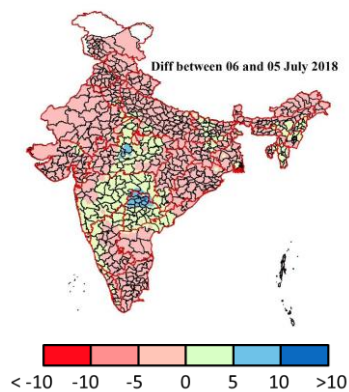


- Extremely/severely wet conditions experienced in Bandipore, Doda, Pulwama districts of Jammu & Kashmir; Pudukkottai, Theni districts of Tamil Nadu & Puducherry.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh; West Bengal; Jharkhand; Uttar Pradesh; Kamrup district of Assam; Lunglei district of Mizoram; Kalahandi, Koraput, Nawarangpur districts of Odisha; Jamui, Monghyr, Muzaffarpur, Patna, Saran, Sheikhpura, Siwan, Vaishali, Arwal districts of Bihar; Panipat district of Haryana; Shivpuri, Dindori, Jabalpur, Katni, Panna districts of Madhya Pradesh; Ahmedabad district of Gujarat Region; Surendranagar district of Saurashtra, Kutch & Diu; Bastar, Raigarh, Rajnandgaon districts of Chhattisgarh; Shimoga district of Karnataka.
- Moderately dry conditions experienced in many districts of Saurashtra, Kutch & Diu; few districts of Arunachal Pradesh; Assam; West Bengal; Odisha; Bihar; Uttar Pradesh; Delhi; Chhattisgarh; West Garo Hills district of Meghalaya; Mon district of Nagaland; Bokaro, Lohardaga districts of Jharkhand; Sonapat district of Haryana; Almora district of Uttarakhand; Udampur district of Jammu & Kashmir; Bhopal, Vidisha, Ashoknagar, Balaghat, Chhatarpur, Damoh, Narsinghpur, Satna, Tikamgarh districts of Madhya Pradesh; Baroda, Anand, Narmada districts of Gujarat Region; Satara, Jalna, Buldhana, Gondia districts of Maharashtra; Karimnagar district of Telangana; Coimbatore district of Tamil Nadu & Puducherry; Thrissur district of Kerala; Lakshadweep district of Lakshadweep.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

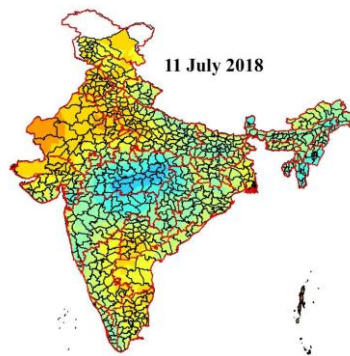
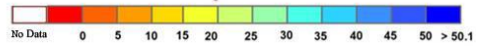
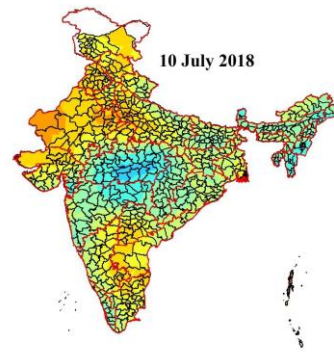
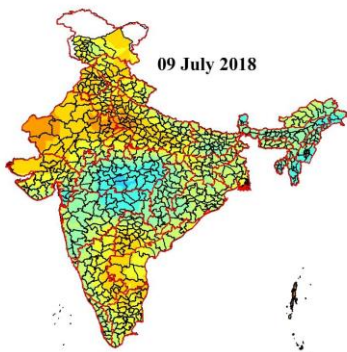
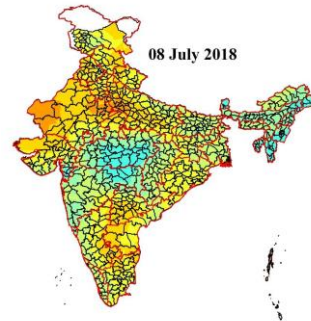
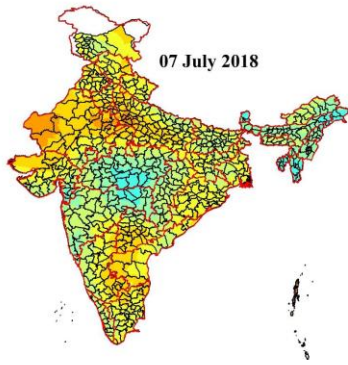
Daily Soil Moisture (mm) for 6th July 2018 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 7th July to 11th July 2018 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 11th July 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- Maximum temperatures likely to rise by 2-3°C over plains of northwest India during next 2-3 days.
- No significant change in maximum temperature over rest of the country during next 3-4 days.

5 Day Rainfall Forecast (Mid day) 6th July 2018

Met-Sub-Division	06-Jul Today	07Jul Sat	08Jul Sun	09Jul Mon	10Jul Tue
1. Andaman & Nicobar Islands	FWS	FWS	WS	WS	WS
2. Arunachal Pradesh	SCT	SCT	FWS	FWS	FWS
3. Assam & Meghalaya	FWS	FWS	FWS	FWS	FWS
4. N. M. M. & T.	FWS	WS	FWS	FWS	FWS
5. S.H. West Bengal & Sikkim	FWS	FWS	FWS	WS	WS
6. Gangetic West Bengal	FWS	SCT	SCT	FWS	FWS
7. Odisha	SCT	FWS	FWS	WS	WS
8. Jharkhand	SCT	SCT	FWS	FWS	FWS
9. Bihar	SCT	SCT	SCT	FWS	FWS
10. East Uttar Pradesh	ISOL	ISOL	SCT	FWS	WS
11. West Uttar Pradesh	ISOL	ISOL	ISOL	SCT	FWS
12. Uttarakhand	ISOL	ISOL	FWS	FWS	WS
13. Haryana, Chd & Delhi	ISOL	ISOL	ISOL	ISOL	SCT
14. Punjab	DRY	DRY	DRY	ISOL	ISOL
15. Himachal Pradesh	ISOL	ISOL	ISOL	ISOL	FWS
16. Jammu & Kashmir	ISOL	ISOL	ISOL	ISOL	SCT
17. West Rajasthan	ISOL	DRY	DRY	ISOL	ISOL
18. East Rajasthan	ISOL	ISOL	ISOL	ISOL	SCT
19. West Madhya Pradesh	SCT	SCT	SCT	SCT	FWS
20. East Madhya Pradesh	WS	WS	WS	WS	WS
21. Gujarat Region	SCT	SCT	SCT	SCT	FWS
22. Saurashtra & Kutch	ISOL	ISOL	ISOL	ISOL	SCT
23. Konkan & Goa	WS	WS	WS	WS	WS
24. Madhya Maharashtra	WS	WS	WS	FWS	FWS
25. Marathawada	WS	WS	WS	WS	FWS
26. Vidharbha	WS	WS	WS	WS	FWS
27. Chhattisgarh	WS	WS	WS	FWS	FWS
28. Coastal Andhra Pradesh	WS	FWS	FWS	SCT	SCT
29. Telangana	WS	WS	FWS	FWS	FWS
30. Rayalaseema	SCT	SCT	SCT	ISOL	ISOL
31. Tamilnadu & Puducherry	SCT	ISOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	WS	WS	WS	WS	WS
33. North Interior Karnataka	FWS	FWS	FWS	FWS	SCT
34. South Interior Karnataka	FWS	WS	WS	WS	WS
35. Kerala	WS	WS	WS	WS	WS
36. Lakshadweep	FWS	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

- **06 July (Day 1):** Heavy to very heavy rain at a few places with extremely heavy at isolated places very likely over Konkan & Goa and Vidarbha; heavy to very heavy at isolated places over Chhattisgarh, Madhya Maharashtra, Telangana and Coastal Karnataka; heavy at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh, Rayalaseema, Interior Karnataka and Tamilnadu.
- **07 July (Day 2):** Heavy to very heavy rain at a few places with extremely heavy at isolated places very likely over Konkan & Goa and Vidarbha; heavy to very heavy at isolated places over Chhattisgarh, Madhya Maharashtra, Telangana and Coastal Karnataka; heavy at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh, Rayalaseema, Interior Karnataka and Kerala.
- **08 July (Day 3):** Heavy to very heavy rain at a few places with extremely heavy at isolated places very likely

over Konkan & Goa, Vidarbha and Coastal Karnataka; heavy to very heavy at isolated places over Chhattisgarh, Madhya Maharashtra, Marathwada and South Interior Karnataka; heavy at isolated places over Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Telangana and Kerala.

- **09 July (Day 4):** Heavy to very heavy rain at a few places with extremely heavy at isolated places very likely over Konkan & Goa and Coastal Karnataka; heavy to very heavy at isolated places over South Interior Karnataka; heavy at isolated places over Uttarakhand, Madhya Pradesh, Vidarbha, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya, Madhya Maharashtra and Kerala.
- **10 July (Day 5):** Heavy to very heavy rain at a few places with extremely heavy at isolated places very likely over Konkan & Goa and Coastal Karnataka; heavy to very heavy at isolated places over Uttarakhand, South Interior Karnataka and Kerala; heavy at isolated places over Himachal Pradesh, Uttar Pradesh, East Madhya Pradesh, Gujarat region, Odisha and Madhya Maharashtra.

Weather Outlook for subsequent 2 days from 11th to 13th July 2018

- Fairly widespread to Widespread rainfall with isolated heavy falls likely over central India and along the West coast.
- Scattered to fairly widespread rainfall activity likely over western Himalayan region & adjoining plains, east India and Islands.
- Isolated to scattered rainfall likely over the remaining parts of the country.

Salient Advisories

- Utilising the realized and expected rainfall, continue nursery sowing of rice in **South Gujarat** and sowing of cotton and groundnut in **middle Gujarat**. Continue sowing of red gram, green gram, groundnut, pearl millet, sorghum, maize & cluster bean in **East Rajasthan**. In **West Rajasthan**, continue sowing of pearl millet, cluster bean, mung bean, moth crops. Continue sowing of maize, soybean and groundnut in **Madhya Pradesh** and continue nursery sowing of rice and sowing of soybean, til, red gram, maize, groundnut in **Chhattisgarh**. Continue sowing of direct seeded upland rice, maize, groundnut, pigeon pea, urad and moong in **Jharkhand**. Continue sowing of non-paddy crops like pulses, oilseeds and *kharif* vegetables in upland and nursery sowing of rice in **Odisha**. Continue nursery sowing of *Aman* rice in Gangetic West Bengal.
- Continue sowing of soybean, groundnut, black gram and rice bean in **Manipur**. In **Coastal Karnataka**, continue transplanting of rice. Continue sowing of cow pea, groundnut, green gram and black gram in **South Interior Karnataka**. In **North Interior Karnataka**, continue 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). In **Andhra Pradesh**, continue sowing of maize, pulses and groundnut. In **Telangana**, undertake sowing of rainfed crops like soybean, jowar, maize, redgram, green gram, cotton etc. In **Tamil Nadu**, undertake transplanting of *kuruvai* rice.
- In view of the heavy to very heavy rainfall at a few places with extremely heavy rain at isolated places very likely over **Konkan** during the period, continue transplanting of *kharif* rice after the current spells of heavy rain. Provide adequate drainage in vegetable fields.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala except Thiruvananthapuram, in all districts of Coastal Karnataka, Chikamangaluru, Kodagu and Shivamogga districts of South Interior Karnataka, all districts of Coastal Andhra Pradesh except Nellore, in Chittoor district of Rayalaseema, Adilabad, B. Kothagudem, J. Bhupalpally, Jangaon, Kamareddy, Karimnagar, Khammam, Kumaram Bheem, Mahabubabad, Mancherial, Peddapalle, Wanaparthy and Warangal (Rural) districts of Telangana and Chennai, Dharmapuri, Erode, Kanchipuram, Madurai, Namakkal, Nilgiris, Perambalur, Puducherry, Pudukottai, Salem, Sivaganga, Thanjavur, Tiruvallur, Tiruvannamalai, Tiruvarur, Trichy, Vellore and Virudhunagar districts of Tamil Nadu and Puducherry during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Kerala and Coastal Karnataka during the period, at most/many places over South Interior Karnataka and Telangana during the period, over Coastal Andhra Pradesh from 6th to 8th, at many places over North Interior Karnataka from 6th to 9th, along with heavy to very heavy rain at a few places with extremely heavy at isolated places very likely over Coastal Karnataka from 8th to 10th, heavy to very heavy rain at isolated places Telangana and Coastal Karnataka on 6th and 7th, over South Interior Karnataka from 8th to 10th, over Kerala on 10th, heavy rain at isolated places over Coastal Andhra Pradesh, Rayalaseema, Interior Karnataka on 6th and 7th, over Tamilnadu on 6th, over Kerala from 7th to 9th July, avoid 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.
 - **Kerala:**
 - Complete transplanting of Viruppu rice. Continue planting of brinjal, chilli, bhindi and bitter gourd during the month. Fix rain guard for the tapping panels for rubber trees. Continue planting of saplings of coconut varieties like Lakshaganga, Keraganga, Anandaganga, Kerasree, Kerasoubhagya (hybrids) and Kuttiyadi and Komadan (high yielding local varieties).
 - There is a chance for the attack of thrips and mites in vegetables. Apply Spiromesifen 8 ml/10 litres of water. To control downy mildew in cucurbits, spray Dithane M 45 or Indofil M 45 @ 2-3 g per litre of water on alternate weeks. If leaf folder attack at tillering stage in paddy is severe, spray Flubendiamide @ 1ml per 10 litre of water or Chlorantraniliprole @ 3ml per 10 litre of water. As prophylactic measure for quick wilt in pepper, apply 300 gram of Trichoderma enriched neem cake - cow dung mixture in the basins of the vines and incorporate thoroughly with the soil. To control fruit fly in cucurbits, use fruit fly trap containing jiggery syrup + banana+ pineapple extract. Undertake plant protection measures after current spells of rain
 - **Andhra Pradesh:**
 - In Coastal Andhra Pradesh, continue sowing of pulses, maize, ragi, bajra and groundnut after necessary seed treatment. Choose high yielding varieties like K 6, K 9, Dharani, Kadiri, Chitravani and Amaravathi for groundnut and LRG 41, PRG 176 and LRG 52 varieties for red gram. Choose high yielding varieties of castor like Kranthi, Haritha, Jwala, PCH 111 and DCH 157. Choose TBG-104, LBG-787, LBG-752, P.U-31, LBG-20 varieties for black gram and LBG-460, LBG-407, T.U-96-2, I.P.M2-14, W.G.G-42 varieties for green gram. Rainfed sugarcane can be planted by utilizing the realized rainfall after treating the setts with 10 % lime solution.
 - In Rayalaseema, undertake sowing of rainfed millets like ragi, jowar, korra and pulses like redgram, blackgram, and green gram after treating the seed with Carbendazim @ 2 g or Mancozeb @ 3 g/kg of seed. Take up timely sowings of early maturing/BT cotton varieties so that the cotton bolls mature before the heavy population of pink bollworm builds up.
 - Present weather conditions are congenial for leaf folder and stem borer attack in paddy at nursery to tillering stage. To control, spray Cartap Hydro Chloride @ 2 g/litre of water after current spells of rain.
 - **Telangana:**
 - Continue sowing of rainfed crops like soybean, jowar, maize, redgram, cotton etc. Take-up nursery sowing of Tomato, Brinjal and Chilli. Take-up direct sowing of Gourds, Beans and Bhendi wherever irrigation facility is available. Take up rice nurseries of medium duration varieties duly treating with Carbendazim @ 1 g or Mancozeb @ 2.5 g per kg of seed.
 - If incidence of sucking pests is noticed in vegetable crops, spray Dimethoate @ 2 ml or Acephate @ 1.5 g per litre of water after current spells of rain.
 - **Tamil Nadu:**
 - Provide support to banana and sugarcane crops. Carry out planting of wind breaks such as Agathi/Castor around the small onion fields at a spacing of 6-8 feet to prevent drying of soil moisture content due to high wind speed. For kuruvai season transplanting of rice, apply 35 kg urea, 125 kg single super phosphate, 8.5 kg muriate of potash and 200 kg gypsum per acre as basal to the main field. Use rice seedlings at 18 to 22 days after sowing for transplanting in the main field. Before transplanting dip the root portion of the seedlings in

biofertilizer slurry @ 1 kg each of Azospirillum and phosphobacteria or 2 kg of Azophos for 15 to 30 minutes. Adopt a spacing of 15 x 10 cm in conventional transplanting. In SRI, transplant 14 days old seedlings at 25 x 25 cm spacing using SRI marker.

- Occurrence of thrips is noticed in the kuruvai paddy nursery. To control, spray thiomethoxam @ 2 g/ 10 litre of water. To control the incidence of sucking pest in the vegetable crops, spray neem seed kernel extract 5%.
- **Karnataka:**
- In Coastal Karnataka, continue transplanting of rice. Continue sowing of maize, turmeric and ginger, cotton dibbling after current spells of heavy rain. Drain out excess water from already sown crop fields.
- In South Interior Karnataka, under double cropping, continue sowing of cowpea, green gram, black gram, horse gram, field bean, ragi, sesamum, groundnut, onion, maize and under mono cropping, sowing of long duration crops like red gram, castor, cotton, jowar crops and horticulture crops. Intercropping of groundnut + red gram in 8:2 proportion and groundnut + castor in 8:2 proportion is suggested for good income. Continue nursery preparation of rice. Undertake thinning in already sown crops for better availability of scarce soil moisture to the reduced population of crop plants and wherever possible, undertake mulching for conservation of moisture.
- In North Interior Karnataka, in areas where the soil moisture condition is favourable for sowing, continue sowing of soybean, green gram, black gram, red gram (TS-3R), sunflower, bajra, sesamum, navane, groundnut, cotton and maize crops. To make efficient use of available soil and water resources and to get higher returns, in light and medium black soils, 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 advised. In drill sown paddy, if the rainfall is scarce, irrigate the crop at critical stages when hair cracks are observed through channel water or any other sources. Spare some land exclusively for fodder crops or give preference for grain cum fodder crops. Repair of bunds/water retention structures is recommended.
- **Animal Husbandry**
- In Kerala, avoid grazing of the animals in waterlogged areas to prevent leptospirosis. Contact nearest veterinary hospital for HS and FMD vaccination.
- In Tamil Nadu, protect cattle against Hemorrhagic Septicaemia disease in the rainy season.
- In Karnataka, vaccinate the cow against the Foot and Mouth Disease (FMD) & Black Quarter.
- **Integrated Farming System (IFS)**
- Undertaken fish culture in the rainwater storage structures like farm pond, check dam and nala bund by releasing the fingerlings.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Arunachal Pradesh except Dibang Valley, Tirap and Upper Subansari, in all districts of Assam except Darrang, Dhemaji, Hailakandi, Kamrup (Rural), Kamrup (Metro) and Karbi Anglong, in all districts of Meghalaya, in Aizawl, Kolasib and Serchip districts of Mizoram, in Imphal West district of Manipur, in Dimapur district of Nagaland and in all districts of Tripura during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Nagaland, Manipur, Mizoram & Tripura during the period, at many places over Assam & Meghalaya during the period, over Arunachal Pradesh from 8th to 10th, along with heavy rain at isolated places likely over Assam & Meghalaya from 6th to 9th, over Nagaland, Manipur, Mizoram & Tripura from 6th to 8th, over Arunachal Pradesh on 8th July, avoid 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.
 - **Arunachal Pradesh:**
 - Continue transplanting of *kharif* rice and maintain adequate water level in the field. Cut the tips of leaves before transplanting to reduce stem borer population. Harvest mature tomato, brinjal, okra and chilli.
 - Spray Imidacloprid 17.8 SL (0.003%) to chilli, tomato and brinjal crops inside net/green house or grown in shade for leaf curl at vegetative/flowering stage after current spells of rain.
 - **Assam:**
 - Weather is favourable for land preparation and sowing of the sesamum crop. Take up sowing of recommended high yielding sesamum varieties such as SP 1181 (Madhavi), Gauri, Vinayak, ST-1683, Punjab Til No. 1 etc. Continue main field preparation/puddling for transplanting of Sali rice seedlings at 3-4 leaves stage. Complete the sowing of groundnut during this month. Complete the planting of recommended papaya cultivars such as Co.1, Co.2, Washington, Ranchi, Halflong (Dioecious Type) and Solo papayas, Coorg Honey Dew (Hermaphrodite type), etc. Provide proper drainage and carry out thinning operation in the Olitorius jute field. Undertake sowing of pigeon pea (variety: T-21) after current spells of heavy rain.

- In areas affected by floods, grow flood tolerant Sali rice variety viz. Swarna Sub-1, Ranjit Sub-1 and Bahadur Sub-1; OR sow Gitesh and Manohar Sali as even 60 days old seedlings of these varieties can be transplanted or sow short duration rice variety like Luit and Dishang in the nursery beds.
- Spray Carbendazim @ 1gm per litre of water to control blast disease in Sali paddy seedlings. Powdery mildew attack may be seen in bitter gourd, ash gourd and bottle gourd crops. Spray Bavistin @ 0.1% to control the disease. To control stem borer in sugarcane, spray Phosphamidon @ 60-70ml/30 litres of water per bigha with the help of power sprayer at fortnightly interval. Undertake plant protection measures 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 Shahsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri, etc. after current spells of heavy rain. Continue field preparation for upland kharif rice after current spells of heavy rain. Continue sowing of okra seeds on raised bed at spacing 45x30cm. Use bamboo sticks for staking in French bean, cow pea and cucurbit crops. Provide drainage in ginger turmeric and other vegetable crops.
 - Spray Rogor @ 1ml/litre of water to control pest in cucurbits after current spells of rain.
- **Nagaland:**
 - Undertake nursery preparation for sowing of TRC/WRC paddy. Undertake timely harvesting in maize and green gram crops. Maintain proper drainage in ginger/turmeric field.
 - Remove infested okra and brinjal fruits regularly and destroy them.
- **Manipur:**
 - Carry out harvesting of pre-kharif rice on non-rainy days. Rice can be harvested when 80% of panicles turn hard & golden yellow. Over maturity should be avoided to reduce shattering losses. Carry out hand weeding in soybean, groundnut, black gram and rice bean. Carry out transplanting of 21-25 days old kharif rice seedlings to the main field. Prepare nursery bed for early cauliflower.
 - For grown up turmeric plants, spray Dithan M45 @ 2 to 2.5 ml/litre of water as prophylactic measures.
- **Mizoram:**
 - Undertake raising seedlings of Khasi Mandarin, acid lime, star fruit, plum and peach. Transplant seedlings in secondary bed or polythene bags at 4-6 leaves stage. Carry out land preparation for sowing kharif pulses like green gram, black gram and rajma. Carry out earthing up in Jhum rice, chilli, cowpea, okra and maize fields on a non rainy day and provide proper drainage. 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 upto 6 weeks before harvesting as it will help improve fruit retention, fruit development and the fruit quality. Undertake planting of rubber at newly established place.
 - In chilli and 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/pumpkin beetle after current spells of rain.
- **Tripura:**
 - Complete the sowing of maize by the second week of July. Aman paddy in lowland condition is going to suffer from water logging condition. Submersible Aman paddy variety may be chosen for such fields. The seedlings just after transplanting may also suffer under water logging condition. Keep seedling in seedbed for longer period and transplant them after they grow up. Go for community nursery raising and also keep alternative nursery ready for use in case of crop failure.
 - To manage fungal diseases like brown spot and rice blast in Aman paddy, apply Carbendazim+ Mancozeb @ 2.5gm per litre of water in the seedbed after current spells of rain.
- **Animal Husbandry**
 - Keep the poultry houses clean and provide balanced feed and clean drinking water to birds. Vaccinate poultry birds against Coccidiosis, Ranikhet and Gamboro diseases.
 - Carry out periodic cleaning of cowsheds along with the feeding pans during the rainy season to prevent fungal and bacterial infections. Vaccinate pigs against FMD & swine fever and cattle/sheep/goat against FMD, Hemorrhagic Septicaemia, Black Quarter, etc.
 - 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. Deworm pigs and cattle with anti helminthic drugs such as Fento Plus @ 1 tablet per 30 kg body weight.
- **Fishery**
 - As sufficient water has already accumulated in the ponds and there is possibility of getting moderate rainfall in the coming 5 days, raise the nylon nets around the ponds to prevent the fishes from escaping.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman and Nicobar Islands, all districts of Bihar except Patna, Saran, Siwan and Vaishali, in all districts of Jharkhand except Dhanbad, Garhwa, Khunti, Koderma, Lohardagga and West Singhbhum, in all districts of Odisha except Bhadrak, in all districts of Sub-Himalayan West Bengal & Sikkim and in all district of Gangetic West Bengal except East Midnapore, Howrah, Murshidabad and South 24 Parganas during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar islands during the period, over Odisha from 7th to 10th, at many places over Gangetic West Bengal on 6th, 9th and 10th, over Jharkhand from 8th to 10th and over Bihar on 9th & 10th July along with heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim on 8th & 9th and over Odisha from 8th to 10th July, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields in Sub-Himalayan West Bengal & Sikkim and Odisha to avoid water stagnation.
 - **Odisha:**
 - Continue sowing of maize, pulses (Arhar- UPAS 120, Mahak, Asha, Mung- TARM-1, TARM-2, Biri- PU-31, PU-19), groundnut (vari.Smruti, Devi, JL 24, Kadri, AK 12-24) and kharif vegetables in upland areas.
 - Undertake direct sowing of rice as well as wet nursery sowing in low, medium lands. If the germination percentage is above 80% than only sow it in the field. Early variety: Khandagiri, Sahabhazi, Bandana, Medium Duration: Konark, Surendra, Lalat, Naveen, MTU 1001, MTU 1010, Prativa, Pradeep, Govind, Hybrids like Ajay, Rajalaxmi, Arize 6444. Late ; Pratikhya, Pooja, Mahanadi. Continue planting of fruit trees and medicinal plants.
 - For control of Alternaria Blight in Bitter gourd and Pumpkin, spray Carbendazim + Mancozeb @ 0.15% after current spells of heavy rain.
 - **Bihar:**
 - The present weather conditions is favourable for preparation of rice nursery for short duration varieties like., Sabour deep, Susk samrat, Prabhat, Sita, Abhishek, Shabhadhan, and Sabour Ardjal and Scented rice var. Sabour surbhit, Sugandha, Kamini, Rajendra suwasini, Rajendra kasturi and Katarni should be sown in nursery preferably upto 10 July. Before sowing seeds should be treated with captan or Bavistin @ 2g/kg of seed. Seed rate should be applied 25 kg/ha for short duration and 20 kg for scented rice. Weeding is advised in long duration paddy nursery if weed infestation is noticed. If long duration seedlings are ready for transplanting farmers are advised to start rice transplanting in low land areas.
 - Farmers are advised for sowing of early cauliflower, tomato, chilli and brinjal on raised bed of the field. Seed should be treated with captan @ 2.0 gram/kg of seed. Farmers are advised to apply 10-15 tonnes of cow dung and also apply 60 kg N, 50 kg Phosphorus and 40 kg potassium per hectare before final preparation of beds.
 - Sowing of fodder crops like Jowar (PC 6, PC 23, MP chari, SSG 998, 898, 555), Maize (African Tall, Vijay, Moti, Jawahar), Lobia (UPC 4200, 5286, 287), Bajra (L 72, 74, Giant bajra), Guar (Bundel guar 1, 2, 3) may be completed.
 - **Jharkhand:**
 - Continue sowing of maize, groundnut, pigeon pea, urdbean and moong.
 - In Central and North Eastern Plateau Zone, continue sowing of sesame and soybean (vari. Birsa Soya bean-1, Birsa safed soya bean etc) before sowing treat the seed with Thiram, Captan or Carbendazim. Continue sowing of pigeon pea and maize in South Eastern Plateau Zone.
 - 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 Sub-Himalayan West Bengal, provide proper drainage facility in soybean, round chilli, ginger and turmeric fields. Complete the planting of new plants of large cardamom by 15th July and carry out weeding in large cardamom field. Start seedbed preparation for kharif paddy @ 5kg/bigha seeds. Treat seeds with Thiram or Carbendazim @ 2.5 to 3 g per kg seeds. Continue harvesting of mature cobs of maize.
 - In Gangetic West Bengal, continue land preparation and nursery sowing of Aman paddy varieties like MTU 1010, PD 12, Pratiksha, Bidhan 1 etc. (short duration); MTU-7029, MTU1001, Pratiksha etc. (medium duration) and CR1017, CR1018, CR1019, Sabita etc. (long duration). Continue sowing of Sweta, Churni, Jagriti, Prabhat varieties of arhar during next week after seed treatment with Mancozeb, Thiram or Captan. Continue sowing of bhindi and brinjal varieties like Muktokeshi, Bhangar, etc. Carry out land preparation/sowing of early winter vegetables crops like cabbage and cauliflower. Make raised seed bed of length 10ft, width 3ft and height 6 inch with proper drainage channel on the upland area. Drain out excess water from Aman paddy, betel vine, ginger and turmeric fields.
 - In Sub-Himalayan West Bengal, for the management of cucurbitaceous fruit fly population, use pheromone

traps along with bait spray of Molasses 200 ml + 20 ml Malathion 50% EC mixture as spot spray. For management of brinjal fruit & shoot borer, spray Coragen 18.5% E.C @ 0.5 ml/liter of water after clipping off all the infested twigs, flowers, buds, fruits etc. For Aphid, hoppers and white fly in chilli crop, apply Imidachloropid @1ml per 5 litres of water or Thiomethoxam @1g per 3 litres of water For white fly and jassid in bhindi crop, apply Acetamiprid 20% SP@1g/litre or Thiomithoxam 0.3 SG 1g/3 litres of water. Undertake plant protection measures after current spells of rain.

- In Gangetic West Bengal, in case of rotting of stem and spots on leaves in jute crop, apply Carbendazim 50 WP @1g/litre of water or Copper-Hydroxide 75 WP@ 2g/litre of water. Apply Bavistin/Carbendazin@1g/liter of water for rhizome rot in ginger and turmeric after current spells of rain.
- **Andaman & Nicobar Islands:**
- Undertake land preparation for paddy. Carry out levelling and cleaning of bunds and maintain bund height at 25 to 30 cm. Avoid fertilizers application in vegetable field as good amount of rainfall is expected. Clean the crown of coconut tree and the garden and cut the organic waste into pieces before going for composting.
- **Animal Husbandry**
- In West Bengal, vaccinate/treat cattle against HS and black quarter. Avoid grazing animals during mid noon and after noon hours. Vaccinate goats against Peste des Petits Ruminants (PPR) before onset of monsoon. Vaccinate poultry birds against Ranikhet disease. Keep cattle shed clean during rainy season by using bleaching powder or calcium carbonate.
- In Andaman & Nicobar Islands, vaccinate all the pigs and piglets after consultation with local veterinary doctors.
- 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 West Bengal, carry out putting the fingerling of carp in the pond. Farmers cultivating tiger prawn can supply food during night. If there is oxygen deficiency then stir the pond water by wheel. Apply lime for cleaning the water.
- 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.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, Kolhapur and Pune districts of Madhya Maharashtra, all districts of Vidarbha except Buldhana, all district of Gujarat Region except Ahmedabad, Anand, Chota Udepur, Dahod, Gandhinagar, Kheda, Narmada, Panchmahal and Vadodra, all districts of Saurashtra Kutch & Diu Region except Batod, Devbhoomi Dwarka, Kutch and Rajkot during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Konkan & Goa during the period, at most/many places over Madhya Maharashtra, Marathwada and Vidarbha during the period, at many places over Gujarat Region on 10th, along with heavy to very heavy rain at a few places with extremely heavy at isolated places very likely over Konkan & Goa during the period, over Vidarbha from 6th to 8th, heavy to very heavy rain at isolated places over Madhya Maharashtra from 6th to 8th, over Marathwada on 8th, heavy rain at isolated places over Madhya Maharashtra on 9th and 10th, over Vidarbha on 9th, over Gujarat Region on 10th July, avoid 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.
 - **Maharashtra:**
 - In view of the heavy to very heavy rainfall at a few places with extremely heavy rain at isolated places very likely over Konkan during the period, continue transplanting of *kharif* rice after the current spells of heavy rain. Provide adequate drainage in vegetable fields.
 - In Madhya Maharashtra, continue sowing of *kharif* crops like cotton, soybean, maize, pearl millet and tur. Sowing should be done after receipt of sufficient rain in some pockets of Jalgaon district (Muktainagar, taluka), Pune district (Shirur, Daund and Indapur taluka), Solapur district (Jeur, Malshiras, Sangola taluka). Undertake main field preparation and transplanting of 21 -25 days old seedling of rice. Continue transplanting of *kharif* vegetable such as chilli, tomato, brinjal etc.
 - In Marathwada, continue sowing of *kharif* crops like rainfed Bt cotton, pigeonpea, black gram/green gram, groundnut, maize and also undertake seed treatment before sowing of crops. Farmers are advised to wait for sowing in the areas where sufficient amount of rainfall was not received (Aurangabad district: Paithan, Vaijapur, Beed district: Gevarai, Majlgaon, Dharur, Shirurkasar, Jalna district: Jafrabad, Jalna, Ambad, Partur, Ghansangavi, Mantha, Latur district: Devani, Nanded district : Nanded, Biloli, Osmanabad

district : Osmanabad, Tuljapur, Paranda, Lohara, Parbhani district: Pathri, Jintur, Sonpeth, Manwat, Palam). Undertake sowing of cotton, pearl millet, soybean, pigeonpea, sesamum, sunflower upto 15th July.

- In West Vidarbha, continue sowing of *kharif* crops like cotton, tur, maize and soybean except in some pockets of Akola district (Telhara taluka) and Buldhana district (Nandura, Shegaon, Kamgaon and Samgrampur). Undertake intercropping of maize crop with Maize + Black gram/Green gram/Soybean/ Groundnut. Complete sowing of green gram and black gram. In East Vidarbha, continue transplanting of 22 to 25 days old rice seedling (12 to 15 cm tall). Transplanting of rice may be carried out with a spacing of 20 x 15 cm with placement of seedling 2.5 to 3.5 cm. deep and transplant 3 plants per hill and for hybrid rice 1 plant per hill. Continue sowing of *kharif* crops like pigeon pea [varieties-AKT-8811, PKV-TARA, BSMR-853, BSMR-736 and ICPL-87119(Aasha)].
- **Gujarat:**
 - In Middle Gujarat, continue sowing of pearl millet, cotton and groundnut utilizing realized rainfall. Undertake main land preparation for transplanting of rice.
 - In South Gujarat, continue sowing of pigeon pea, green gram and black gram crops with realized rainfall, main field preparation for transplanting of rice and plantation of horticultural crops. Continue cultivation of amaranth, fenugreek, coriander, spinach and green garlic and nursery raising for capsicum. Drain out excess water from crop fields in Navsari, Valsad and Dangs districts.
 - In North Gujarat, continue land preparation for sowing of groundnut, pearl millet, sesame, maize, green gram, sorghum; undertake sowing of these crops and transplanting of vegetable crops after receipt of sufficient rainfall. Carry out gap filling in hybrid cotton under sufficient moisture condition. Continue nursery preparation of fennel. Carry out budding in mango, aola and ber.
 - In Saurashtra & Kutch, continue land preparation for sowing of *kharif* groundnut, sesame, pearl millet, green gram, black gram, cowpea, pigeon pea, maize, sorghum and undertake sowing after receipt of sufficient rainfall. Adopt cotton-sesame, cotton-groundnut and cotton-maize inter cropping system as risk management. In Kutch, intercropping of green gram, pigeon pea, guar in pearl millet is suggested for getting more income. Continue nursery preparation for tomato, chili, brinjal and early cauliflower; undertake transplanting where seedlings are ready. Carry out gap filling in already sown hybrid/Bt. cotton to maintain plant population. Undertake intercultural operations in early sown irrigated groundnut.
- **Animal Husbandry**
 - In Gujarat, protect animals 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 all districts of East Madhya Pradesh except Damoh, Dindori, Panna, Satna and Singrauli, all districts of West Madhya Pradesh except Alirajpur, Ashok nagar, Barwani, Dhar, Gwailor, Jhabua, Khargone, Morena and Shivpuri, all districts of Chhattisgarh except Balrampur, Janjgir, Mahasund and Raipur during the week.
- **Advisories:**
 - As rain/thundershowers likely at most places over East Madhya Pradesh during the period, at most/many places over Chhattisgarh during the period, at many places over West Madhya Pradesh on 10th, along with heavy to very heavy rain at isolated places over Chhattisgarh from 6th to 8th, heavy rain at isolated places over Madhya Pradesh from 8th to 10th July, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - **Madhya Pradesh:**
 - In West Madhya Pradesh, continue sowing of red gram, maize, green gram, black gram, pearl millet and soybean. Continue transplanting of brinjal, chilli, tomato, early cauliflower and *kharif* onion. Continue nursery preparation for rice. Continue sowing of ginger and turmeric.
 - In East Madhya Pradesh, continue sowing of *kharif* crops like maize, soybean and groundnut. Continue sowing of okra and cucurbits. Continue nursery preparation for rainy season vegetables. Continue direct sowing of rice in Kymore Plateau and Satpura Hill Zone. Continue nursery preparation for rice. Continue seed bed preparation for onion.
 - **Chhattisgarh:**
 - Continue sowing of *kharif* crops like soybean, til, red gram, maize, groundnut. Continue sowing of cucurbits and transplanting of vegetables. Continue nursery sowing of rice and line sowing of rice. Continue planting of banana.
 - **Animal Husbandry**
 - In Madhya Pradesh, dairy farmers are advised to vaccinate the animals against mouth and jahari fever disease and to develop the immunity power.
 - 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 all districts of Himachal Pradesh except Kinnaur, all districts of Punjab, except Ferozpur and Mansa, all districts of Haryana except Fatehbad, Katihal, Panipat and Sonapat, in New Delhi, North Delhi, South Delhi and South West Delhi districts of Delhi, all districts of Jammu & Kashmir except Baramula, Kargil, Kulgam and Ladakh(Leh), in Bahraich, Balrampur, Basti, Deoria, Farrukhabad, Gonda, Kheri, Lucknow, Maharajganj, Mirzapur, Pratapgarh, Sant Karbirnagar, Sharawasti, Sidarthnagar, Sitapur and Sonbadhra districts of East Uttar Pradesh, Agra, Baghpat, Bareilly, Bijnor, Jotiba Phule Nagar, Mahamaya Nagar, Mathura, Moradabad, Muzzaffarnagar, Pilibhit, Saharanpur and Shahjahanpur districts of West Uttar Pradesh, all districts of Uttarakhand except Bageshwar, all districts of East Rajasthan except Baran, Dholpur and Rajasmand, all districts of West Rajasthan except Barmer, Churu, Jaisalmer, Jalore and Pali during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Uttarakhand from 8th to 10th, over East Uttar Pradesh on 9th and 10th, at many places over Himachal Pradesh and West Uttar Pradesh on 10th, along with heavy to very heavy rain at isolated places over Uttarakhand on 10th, heavy rain at isolated places over Himachal Pradesh, Uttar Pradesh on 10th, over Uttarakhand on 9th July, avoid 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.
 - **Jammu & Kashmir:**
 - Continue transplanting of rice seedlings which have attained 4-6 leaves (varieties: China-1039, IET-1410, Ratna, PC-19, SJR-5 & Jaya). Apply the basal dose of fertilizer at time of transplanting. Continue sowing of maize varieties (Vivek-25, Vivek QOM-9 HM-5 and HQPM-1). Undertake sowing of *kharif* moong, mash and okra during clear weather when soil reaches vattar condition. Continue transplanting of rainy seasonal annuals (gaillardia, balsam, cosmos, portulaca, kochia, sunflower, morning glory, gomphrena, celosia etc.). Undertake sowing of the mixed fodder crop (maize+cowpea+charri & bajra) at optimum soil moisture during clear weather.
 - **Uttarakhand:**
 - Continue transplanting of ready paddy seedlings having 4-5 leaves. Before transplanting the seedlings of paddy, roots should be dipped for half an hour in the solution of Carbendazim @1g/litre of water. Soybean varieties like PS-1024, PS-1042 PS-1092, PS-1241, PS-1347, PS-1225, PS-19 etc. should be sown in the bhabar and tarai region and completed during the week. Undertake transplanting of seedlings of cabbage and broccoli. Undertake sowing of finger millet, amaranth, black gram, soybean etc.
 - **Himachal Pradesh:**
 - Undertake transplanting of 20-25 days old paddy seedling in prepared fields. Undertake sowing of kharif pulses moong, mash and Kulthi. Sowing of French bean, should be completed in high hills regions and undertake sowing of peas, turnip, carrot, spinach etc. Apply second half dose of nitrogen i.e. 1Kg. Cal. Nitrate + 500 gm. urea in full grown trees of apple after fruit set in lower valley areas. Apply Nitrogen fertilizer in tomato, capsicum, gourds crops and brinjal etc.
 - For the prevention of alternaria leaf spot disease in apple, apply 100ml of hexaconazole(contaf) in 200 litres of water in clear weather.
 - To control fruit borer & leaf spot diseases in tomato, spray Redomil gold 25 g/10 litre of water in clear weather.
 - **Punjab, Haryana & Delhi:**
 - In Punjab, continue transplanting of rice. Continue sowing of rainy season vegetables like okra, cucurbits and cowpea. Continue sowing of maize. Undertake transplanting of early cauliflower.
 - In Haryana, continue sowing of Lobia, moth and pigeon pea. Continue transplanting of 30 days old seedlings of rice. Drain out excess water from cotton fields. Undertake sowing of guar and bajra. Undertake transplanting of vegetables.
 - In Delhi, continue sowing of red gram. Continue transplanting of rice. Continue transplanting of chilli, brinjal and cauliflower. Continue sowing of cucurbits. Continue sowing of maize, guar, bajra, cluster bean, spinach, amaranths and lady finger. Undertake sowing of soybean.
 - **Uttar Pradesh:**
 - In East Uttar Pradesh, continue nursery preparation for onion, cauliflower, brinjal, chilli and tomato. Undertake transplanting of 20-25 old days seedling of rice. Continue sowing of pigeon pea. Continue sowing of ginger and turmeric. Continue sowing of cucurbits. Continue sowing of *kharif* maize, jowar, soybean and groundnut. Continue planting of banana.
 - In West Uttar Pradesh, drain out excess water from vegetable nurseries. Undertake transplanting of rice in Western Plain Zone.
 - **Rajasthan:**
 - In East Rajasthan, continue sowing of crops like red gram, green gram, cowpea, moth, pearl millet, sesame,

sorghum, maize & cluster bean. Continue preparation of nursery of *kharif* fennel. Continue sowing of rainy season cucurbits like khira, bottle gourd, ridge gourd, bitter gourd & cucumber and nursery preparation of early cauliflower, chilli and brinjal. Continue sowing of groundnut. Complete nursery sowing of rice in South Eastern Humid Plain Zone and undertake transplanting of 3 week old seedlings of rice.

- In West Rajasthan, continue land preparation and sowing of sesame, pearl millet, cluster bean, mung bean, moth crops.
- **Animal Husbandry**
- In Jammu & Kashmir, mineral mixture should be supplemented in diet. Give vaccination against FMD. Provide adequate amount of fresh cool and clean drinking water. Increase protein content in animal ration by 2%.
- In Himachal Pradesh consult veterinary doctor for FMD Vaccination. Give mixture of hay & green fodder. Weather is conducive for ticks and mites attack on animals. For control spray Butox @ 2.0 ml per litres of water.
- **Apiculture:**
- In Jammu & Kashmir, protect bee colonies from rains. Give need based sugar feeding. Inspect colonies on a clear sunny day for infestation of wax moth or other disease. Protect bee hive from ants.
- In Himachal Pradesh in this time bee collects extra honey and stores it, so farmers are advised to give extra frames to the colony for more honey accumulation. Save the colony from insects. The colony may be divided to increase the numbers.

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