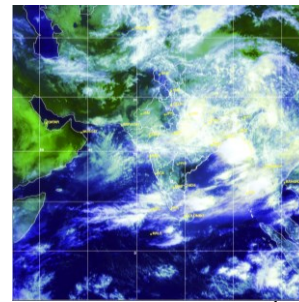




Monsoon Watch

- Yesterday, Southwest monsoon was vigorous over Madhya Pradesh and active over Jammu & Kashmir, Himachal Pradesh, East Uttar Pradesh, South Interior Karnataka and Arunachal Pradesh.



Satellite image 0600 UTC dated 28th June, 2013

Salient Advisories for the *kharif* Crops

Based on the realized and expected rainfall, following salient advisories for the crops have been prepared.

- **Assam:** As rain / thundershowers would occur at most places with heavy to very heavy rainfall at a few places during next 48 hours, farmers are advised to postpone nursery sowing of *sali* rice. In Hill Zone, Lower Brahmaputra Valley Zone and Central Brahmaputra Valley Zone of Assam, postpone sowing of pigeon pea and planting of papaya and banana. Also provide drainage for already planted crop fields.
- As rain / thundershowers would occur at most places with heavy to very heavy rainfall at a few places over Arunachal Pradesh during next 48 hours, postpone planting of banana and continue transplanting of WRC rice, tomato and brinjal. Provide adequate drainage in earlier sown crop fields.
- As rain / thundershowers would occur at most places with heavy to very heavy rainfall at one or two places over **Manipur** during next 48 hours, postpone sowing for *kharif* rice, black gram, cowpea, okra. Continue land preparation for transplanting of rice. Provide adequate drainage in standing crop fields.
- In **Mizoram**, postpone nursery sowing of rice for low land, sowing of cucurbits, French bean, planting of ginger and turmeric as rain / thundershowers would occur at most places with heavy to very heavy rainfall at one or two places during next 48 hours. Provide adequate drainage in earlier sown crop fields.
- In Temperate Sub Alpine Zone of **Meghalaya**, postpone nursery sowing of *sali* rice and sowing of pigeon pea as rain / thundershowers would occur at most places with heavy to very heavy rainfall at a few places during next 48 hours. Provide adequate drainage in earlier sown crop fields.
- In Mild Tropical Plain Zone of **Tripura**, postpone nursery sowing of *aman* rice as rain / thundershowers would occur at most places with heavy to very heavy rainfall at one or two places during next 48 hours. Also postpone planting of banana. Provide adequate drainage in earlier sown crop fields. Undertake transplanting of early sown *aman* rice.
- As rain / thundershowers would occur at most places with heavy to very heavy rainfall at one or two places over **Nagaland** during next 48 hours, postpone nursery sowing of low land rice.
- **Kerala:** Postpone planting of banana, sowing/ transplanting of vegetables as rainfall is expected at most of the places with heavy to very heavy rainfall at one or two places during next 48 hours, also provide drainage for already planted banana and vegetable crop fields and do propping in bunched banana. Continue transplanting of *Virippu* rice.
- **Coastal Andhra Pradesh:** Continue nursery sowing of rice and sowing of bajra and groundnut.
- **Rayalaseema:** Continue sowing of groundnut in all the districts of Rayalaseema with the help of realized rainfall except in Anantpur district. Undertake sowing of groundnut in Anantpur district with supplementary irrigation.
- **Telangana:** Continue sowing of maize, sorghum, groundnut, cotton and castor.
- **Coastal Karnataka:** Undertake transplanting of *kharif* rice.
- **North Interior Karnataka:** Continue sowing of black gram, green gram, red gram, groundnut and sorghum.
- **South Interior Karnataka:** Continue sowing of black gram, green
- **West Bengal:** Continue nursery sowing of *aman* rice and sowing of pigeon pea in Gangetic West Bengal. In Sub-Himalayan West Bengal & Sikkim, as rain/thundershowers would occur at most places with heavy to very heavy rainfall at a few places during next 48 hours, postpone nursery sowing of *aman* rice. Also provide drainage in ginger, turmeric and vegetable crop fields.
- **Odisha:** Continue nursery sowing of rice and direct sowing of rice. Also continue sowing of maize, arhar, groundnut, cotton and pulses.
- **Bihar:** As rain/thundershowers would occur at most places with heavy to very heavy rainfall at one or two places during next 48 hours, farmers are advised to postpone nursery sowing of rice, direct sowing of rice, sowing of maize and small millets, vegetable crops like bottle gourd, sponge gourd, bitter gourd, ridge gourd, cucumber, cowpea and okra, intercultural operation and application of fertilizer in sugarcane and plant protection measures to the crops. Farmers are also advised to arrange for adequate drainage to avoid stagnation of water in crop fields.
- **Jharkhand:** Continue nursery sowing of rice, direct sowing of rice and sowing of soybean, maize, urad, arhar, *kharif* vegetables viz. bhindi, bean, French bean and nursery sowing of tomato, cauliflower, cabbage.
- **Madhya Pradesh,** as rain/thundershowers would occur at most places with heavy to very heavy rainfall at a few places during next 48 hours, farmers are advised to postpone sowing of soybean, jowar, bajra, urad, moong, cotton, maize, groundnut and sesame, intercultural operations, fertilizer application and plant protection measures. They are also advised to prepare drainage channels in soybean, jowar, bajra, urad, moong, cotton, maize, groundnut and sesame fields. Also undertake field preparation for transplanting of rice.
- **Chattisgarh:** In north **Chhattisgarh**, as rain/thundershowers would occur at most places with heavy to very heavy rainfall at one or two places during next 48 hours, postpone nursery sowing of rice and vegetables, sowing of soybean, maize, jowar and groundnut. Prepare drainage channels in earlier sown crop fields. In south **Chhattisgarh**, continue nursery sowing of rice and vegetables, sowing of soybean, maize, jowar and groundnut.
- **Himachal Pradesh:** Continue nursery sowing of rice, sowing of maize and sowing / transplanting of vegetables. Drain out excess water from fields and re-sowing / re-transplanting may be carried out in flood affected areas.
- **Uttarakhand:** In Hill Zone of Uttarakhand, where the fields are intact in the flood affected districts, farmers are advised to continue nursery sowing / transplanting of rice, sowing of soybean, groundnut, millets, pigeon pea, horse gram and French bean. In flood affected areas, drain out excess water from the already transplanted fields followed by re-sowing / re-transplanting.
- **Uttar Pradesh:** In East Uttar Pradesh, as rain/thundershowers would occur at most places with heavy to very heavy rainfall at a few places during next 48 hours, farmers are advised to postpone sowing of maize, jowar, groundnut arhar, moong, urad and nursery sowing of rice. Provide adequate drainage in already sown crop fields. In West Uttar Pradesh, continue sowing of maize, jowar, groundnut arhar, moong, urad and nursery sowing of rice.
- **Punjab:** Undertake transplanting of rice and continue sowing of cowpea.
- **Haryana:** Undertake transplanting of rice, continue sowing of cotton,

gram, maize, red gram and sesamum. Undertake sowing of above crops and groundnut in Chickmagalur, Hassan and Shimoga districts.

- **Tamil Nadu:** Undertake transplanting of *Kuruvai* rice with the help of irrigation in Cauvery Delta Region. In South Zone, continue sowing of green gram and black gram with supplementary irrigation.
- **Maharashtra:** Farmers in Konkan are advised to undertake transplanting of *kharif* rice. Remove excess water from the fields as rain/thundershowers would occur at most places with heavy to very heavy rainfall at one or two places during next 48 hours.
- In **Madhya Maharashtra**, continue sowing of *kharif* jowar, bajra, groundnut, soybean and cotton.
- In **Vidarbha** continue sowing of jowar, soybean, cotton, red gram and sunflower, nursery sowing of *kharif* rice in Gondia, Bhandara, Gadchiroli and Chandrapur districts in East Vidarbha
- In **Marathwada** continue sowing of *kharif* jowar, soybean, cotton, red gram, green gram and black gram and planting of turmeric and ginger.
- **Gujarat:** Continue nursery sowing of rice and sowing of bajra, maize, groundnut, cotton, pigeon pea and green gram.

guar and bajra in Western Zone.

- **Delhi :** Continue nursery sowing of rice, sowing of guar, bajra, maize, cluster bean, pigeon pea, spinach, Amaranthus and lady's finger.
- **Jammu & Kashmir:** In Sub Tropical Zone, continue sowing of maize, sowing of direct seeded rice and transplanting of brinjal, chilli and cauliflower. In Intermediate Zone, continue sowing of maize, bajra and nursery raising of rice. In Valley Temperate Zone continue transplanting of rice.
- **Rajasthan:** In East Rajasthan, continue sowing of bajra, moong, guar, sesame, moth, cow pea, cluster bean and cucurbits. In West Rajasthan, undertake sowing of bajra with available moisture.



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Significant realized rainfall during last week

Significant rainfall received in all the districts of Tripura, Konkan & Goa, Marathwada, Vidarbha, Gangetic West Bengal, Coastal Karnataka, Kerala; Most of the districts of Assam, Chattisgarh, Uttarakhand, Jharkhand, Odisha, SHWB; Many districts of Arunachal Pradesh, Meghalaya, Mizoram, Himachal Pradesh, Madhya Pradesh, Telengana; in few districts in Nagaland, Uttar Pradesh, Bihar, Gujarat region, Madhya Maharashtra, Coastal Andhra Pradesh; one or two places in Manipur, Punjab, Jammu & Kashmir, East Rajasthan, Saurashtra & Kutch, Diu region, Tamil Nadu.

Distribution of rainfall of the country during week ending on 26.06.2013

| State/Districts | Actual | % dep. |
|--------------------------|--------|--------|
| Arunachal Pradesh | | |
| Anjaw | ** | ** |
| Changlang | 96.8 | -41 |
| Dibang Valley | 0.0 | -100 |
| East Kameng | 35.6 | -58 |
| East Siang | 172.9 | -9 |
| Kurung Kumey | ** | ** |
| Lohit | 70.1 | -41 |
| Lower Dibang Valley | 13.0 | -88 |
| Lower Subansari | 7.6 | -88 |
| Papumpara | 106.7 | -36 |
| Tawang | 58.0 | -69 |
| Tirap | 124.9 | -28 |
| Upper Siang | 86.0 | -59 |
| Upper Subansari | 17.6 | -72 |
| West Kameng | 80.9 | -57 |
| West Siang | 81.2 | -15 |
| Assam | | |
| Baksa | 66.6 | -58 |
| Barpeta | 36.8 | -77 |
| Bongaigaon | 44.2 | -64 |
| Cachar | 90.9 | -32 |
| Chirang | 60.5 | -50 |
| Darrang | 2.0 | -98 |
| Dhemaji | 59.0 | -56 |
| Dhubri | 70.5 | -48 |
| Dibrugarh | 122.8 | 6 |
| Goalpara | 72.7 | -46 |
| Golghat | 84.5 | 44 |
| Hailakandi | 23.9 | -76 |
| Jorhat | 139.5 | 108 |
| Kamrup(Rural) | 44.2 | -58 |
| Kamrup(Metro) | 137.0 | 30 |
| Karbi Anglong | 63.7 | 10 |
| Karimganj | 143.7 | -10 |
| Kokrajhar | 117.1 | -37 |
| Lakhimpur | 139.0 | 3 |
| Morigaon | 52.0 | -37 |
| N.C.Hills | 81.4 | 7 |
| Nowgong | 33.5 | -55 |

| | | |
|------------------|-------|-----|
| Nalbari | 60.0 | -58 |
| Sonitpur | 110.0 | 30 |
| Sibsagar | 96.7 | 41 |
| Tinsukia | 109.1 | 8 |
| Udalgiri | 133.5 | 13 |
| Meghalaya | | |
| East Garo Hills | 2.0 | -98 |
| East Khasi Hills | 278.1 | -30 |
| Jaintia Hills | 116.0 | -67 |
| Ribhoi | 155.3 | 56 |
| South Garo Hills | 2.0 | -98 |
| West Garo Hills | 46.8 | -53 |
| West Khasi Hills | 78.0 | -55 |
| Mizoram | | |
| Aizwal | 74.7 | -31 |
| Champhai | 84.0 | 11 |
| Chhaintuipui | ** | ** |
| Kolasib | 6.0 | -95 |
| Lawngtlai | 51.0 | -50 |
| Lunglei | 53.0 | -60 |
| Mamit | 5.0 | -95 |
| Saiha | 73.0 | -12 |
| Serchhip | 28.0 | -72 |
| Manipur | | |
| Bishnupur | 4.0 | -95 |
| Chandel | ** | ** |
| Churachandpur | 44.0 | -50 |
| Imphal east | 61.9 | -21 |
| Imphal west | ** | ** |
| Senapati | ** | ** |
| Tamenglong | ** | ** |
| Thoubal | 25.0 | -45 |
| Ukhrul | 22.0 | -75 |
| Nagaland | | |
| Dimapur | 54.5 | 80 |
| Kephire | 12.0 | -88 |
| Kohima | 43.9 | -29 |
| Longleng | ** | ** |
| Mokokchung | 94.0 | 5 |
| Mon | ** | ** |
| Para | ** | ** |

| | | |
|-------------------------|-------|------|
| Phek | 31.7 | -49 |
| Tuensang | ** | ** |
| Wokha | 1.0 | -99 |
| Zunheboto | 65.0 | -33 |
| Tripura | | |
| Dhalai | 102.8 | 15 |
| North tripura | 158.3 | 71 |
| South tripura | 142.3 | 41 |
| West tripura | 124.4 | 46 |
| Himachal Pradesh | | |
| Bilaspur | 28.2 | 3 |
| Chamba | 31.1 | -32 |
| Hamirpur | 80.1 | 72 |
| Kangra | 104.2 | 122 |
| Kinnaur | 0.5 | -95 |
| Kullu | 29.1 | 4 |
| Lahaul and Spiti | 0.0 | -100 |
| Mandi | 149.8 | 211 |
| Shimla | 55.1 | 93 |
| Sirmaur | 42.5 | -11 |
| Solan | 37.0 | -5 |
| Una | 72.6 | 270 |
| Punjab | | |
| Amritsar | 0.0 | -100 |
| Barnala | 0.0 | -100 |
| Bhatinda | 0.0 | -100 |
| Faridkot | 0.0 | -100 |
| Fatehgarh Saheb | 0.0 | -100 |
| Ferozpur | 0.0 | -100 |
| Gurdaspur | 29.4 | 57 |
| Hoshiarpur | 16.9 | -24 |
| Jalandhar | 0.0 | -100 |
| Kapurthala | 0.0 | -100 |
| Ludhiana | 0.0 | -100 |
| Mansa | 0.0 | -100 |
| Moga | 0.0 | -100 |
| Muktesar | 0.0 | -100 |
| Nawashahar | 9.3 | -58 |
| Patiala | 0.8 | -94 |
| Ropar | 38.1 | 123 |
| Sangrur | 0.0 | -100 |

| | | |
|----------------------------|------|------|
| Mohali | 0.0 | -100 |
| TarnTaran | 0.0 | -100 |
| Haryana | | |
| Ambala | 22.6 | -27 |
| Bhiwani | 0.0 | -100 |
| Chandigarh | 7.5 | -77 |
| Faridabad | 0.0 | -100 |
| Fatehabad | 0.0 | -100 |
| Gurgaon | 0.0 | -100 |
| Hissar | 0.0 | -100 |
| Jhajar | 0.2 | -98 |
| Jind | 0.0 | -100 |
| Katihah | 0.7 | -95 |
| Karnal | 3.9 | -74 |
| Kurukshetra | 0.0 | -100 |
| Mahendragarh | 1.2 | -91 |
| Mewat | 0.0 | -100 |
| Palwal | 0.4 | -95 |
| Panchkkula | 3.8 | -88 |
| Panipat | 0.0 | -100 |
| Rewari | 0.8 | -93 |
| Rohtak | 0.0 | -100 |
| Sirsa | 0.0 | -100 |
| Sonepat | 0.0 | -100 |
| Yamunanagar | 13.8 | -66 |
| Delhi | 0.2 | -99 |
| Jammu & Kashmir | | |
| Anantnag | 3.9 | -62 |
| Badgam | 0.0 | -100 |
| Bandipore | ** | ** |
| Baramula | 0.0 | -100 |
| Doda | 15.8 | 74 |
| Ganderwal | 0.0 | -100 |
| Jammu | 15.8 | -14 |
| Kargil | 0.0 | -100 |
| Kathua | 70.7 | 368 |
| Kistwar | ** | ** |
| Kulgam | 0.0 | -100 |
| Kupwara | 0.0 | -100 |
| Ladakh(Leh) | 0.0 | -100 |
| Poonch | ** | ** |
| Pulwama | 0.8 | -86 |
| Rajouri | 20.4 | 113 |
| Ramban | 13.8 | 52 |
| Reasi | 55.2 | 93 |
| Samba | 8.4 | -54 |
| Shopian | 0.0 | -100 |
| Srinagar | 0.0 | -100 |
| Udhampur | 54.5 | 91 |
| East Madhya | | |

| | | |
|----------------------------|-------|-----|
| Pradesh | | |
| Anuppur | 43.9 | -34 |
| Balaghat | 68.6 | -10 |
| Chhatarpur | 20.9 | -36 |
| Chindwara | 76.1 | 52 |
| Damoh | 84.9 | 103 |
| Dindori | 54.4 | -19 |
| Jabalpur | 238.6 | 440 |
| Katni | 93.0 | 120 |
| Mandla | 156.6 | 164 |
| Narsingpur | 186.3 | 346 |
| Panna | 1.5 | -96 |
| Rewa | 26.0 | -37 |
| Sagar | 94.1 | 96 |
| Satna | 27.8 | -39 |
| Seoni | 114.3 | 79 |
| Shahdol | 59.1 | 17 |
| Sidhi | 46.8 | 9 |
| Singrauli | 17.0 | -61 |
| Tikamgarh | 24.0 | -4 |
| Umaria | 128.7 | 166 |
| West Madhya Pradesh | | |
| Alirajpur | 6.3 | -79 |
| Asoknagar | 5.3 | -76 |
| Badwani | 20.5 | -28 |
| Betul | 80.0 | 54 |
| Bhind | 9.7 | -42 |
| Bhopal | 95.7 | 189 |
| Burhanpur | 61.3 | 9 |
| Datia | 1.4 | -94 |
| Dewas | 97.2 | 141 |
| Dhar | 21.7 | -44 |
| Guna | 38.5 | 51 |
| Gwalior | 43.9 | 75 |
| Harda | 66.1 | 85 |
| Hosangabad | 102.1 | 95 |
| Indore | 91.9 | 160 |
| Jhabua | 16.6 | -44 |
| Khandwa | 48.9 | 3 |
| Khargone | 23.3 | -42 |
| Mandsaur | 52.9 | 94 |
| Morena | 1.6 | -92 |
| Neemuch | 55.9 | 105 |
| Raisen | 108.8 | 137 |
| Rajgarh | 61.5 | 86 |
| Ratlam | 45.9 | 35 |
| Sehore | 165.9 | 292 |
| Shajapur | 64.0 | 94 |
| Sheopur Kalani | 0.5 | -97 |
| Shivpuri | 15.3 | -36 |

| | | |
|---------------------------|-------|------|
| Ujjain | 47.3 | 47 |
| Vidisha | 57.1 | 39 |
| Chattisgarh | | |
| Bastar | 137.8 | 78 |
| Bijapur | 150.4 | 94 |
| Bilaspur | 71.7 | 18 |
| Dantewara | 112.4 | 57 |
| Dhamtari | 88.2 | 46 |
| Durg | 52.5 | -21 |
| Janjgir | 71.6 | 32 |
| Jashpurnagar | 26.9 | -66 |
| Kanker | 103.8 | 32 |
| Korba | 61.6 | 0 |
| Koriya | 72.8 | 35 |
| Kawardha | 97.0 | 72 |
| Mahasumund | 109.8 | 73 |
| Narayanpur | 107.0 | 50 |
| Raigarh | 30.9 | -51 |
| Raipur | 142.3 | 135 |
| Rajandgaon | 117.9 | 83 |
| Surguja | 13.2 | -81 |
| East Uttar Pradesh | | |
| Allahabad | 12.9 | -39 |
| Ambedkar Nagar | 0.0 | -100 |
| Azamgarh | 2.1 | -93 |
| Bahraich | 30.3 | -29 |
| Ballia | 34.9 | 24 |
| Balrampur | 1.0 | -98 |
| Banda | 25.9 | -2 |
| Barabanki | 12.8 | -51 |
| Basti | 46.1 | 31 |
| Chandauli | 26.3 | 14 |
| Deoria | 36.0 | 11 |
| Faizabad | 9.8 | -73 |
| Farrukhabad | 66.2 | 158 |
| Fatehpur | 0.0 | -100 |
| Gazipur | 21.0 | -29 |
| Gonda | 2.0 | -96 |
| Gorakhpur | 45.3 | -6 |
| Hardoi | 35.2 | 31 |
| Jaunpur | 15.4 | -28 |
| Kannauj | 45.6 | 185 |
| Kanpur City | 18.0 | 10 |
| Kanpur Dehat | 33.6 | 26 |
| Kaushambi | 0.0 | -100 |
| Kheri | 36.9 | -16 |
| Kushi nagar | 4.5 | -91 |
| Lucknow | 8.3 | -70 |
| Maharajganj | 22.3 | -57 |
| Mau | 29.0 | -9 |

| | | |
|---------------------------|-------|------|
| Mirzapur | 15.3 | -42 |
| Pratapgarh | 28.3 | 22 |
| RaiBareilly | 43.9 | 134 |
| Sahuji Maharajnagar | 13.5 | -52 |
| Sant Kabirnagar | 0.0 | -100 |
| Sant Ravidas Nagar | 0.0 | -100 |
| Shrawasti | 26.8 | -37 |
| Sidharthnagar | 13.7 | -67 |
| Sitapur | 23.7 | -31 |
| Sonbhadra | 16.6 | -62 |
| Sultanpur | 34.7 | 26 |
| Unnao | 13.4 | -43 |
| Varanasi | 15.8 | -38 |
| West Uttar Pradesh | | |
| Agra | 5.2 | -67 |
| Aligarh | 5.5 | -60 |
| Auraiya | 20.0 | 18 |
| Badaun | 47.0 | 104 |
| Baghpat | 0.0 | -100 |
| Bareilly | 184.7 | 507 |
| Bijnor | 0.4 | -99 |
| Bulandsahar | 8.2 | -52 |
| Etah | 39.0 | 134 |
| Etawah | 17.5 | -3 |
| Firozabad | 15.3 | -21 |
| GBNagar | 5.0 | -48 |
| Ghaziabad | 8.1 | -45 |
| Hamirpur | 6.7 | -75 |
| Jalaun | 17.2 | -15 |
| Jhansi | 19.7 | -23 |
| Jotirba Phule Nagar | 19.8 | -13 |
| Kanshiramnagar | 69.0 | 275 |
| Lalitpur | 13.0 | -41 |
| Mahamaya Nagar | 18.0 | 25 |
| Mahoba | 0.0 | -100 |
| Mainpuri | 7.6 | -64 |
| Mathura | 1.5 | -87 |
| Meerut | 3.8 | -82 |
| Moradabad | 51.5 | 82 |
| Muzaffarnagar | 16.0 | -21 |
| Pilibhit | 77.1 | 114 |
| Rampur | 53.0 | 121 |
| Saharanpur | 20.0 | -35 |
| Shahjahanpur | 81.2 | 142 |
| Uttarakhand | | |
| Almora | 53.6 | 18 |
| Bageshwar | 19.0 | -58 |
| Chamoli | 68.0 | 111 |

| | | |
|------------------|-------|------|
| Champawat | 80.5 | 13 |
| Dehradun | 169.8 | 183 |
| Garhwal Pauri | 34.1 | -22 |
| Garhwal Tehri | 69.6 | 65 |
| Haridwar | 9.7 | -73 |
| Nainital | 109.0 | 66 |
| Pithorgarh | 50.4 | -41 |
| Rudraprayag | 128.6 | 74 |
| Udham Sing Nagar | 186.5 | 329 |
| Uttarkashi | 52.5 | -1 |
| Bihar | | |
| Araria | 65.9 | -17 |
| Arwal | 8.2 | -70 |
| Aurangabad | 23.4 | -39 |
| Banka | 23.2 | -39 |
| Begusarai | 4.3 | -91 |
| Bhabua | 6.6 | -83 |
| Bhagalpur | 27.0 | -58 |
| Bhojpur | 34.4 | 18 |
| Buxar | 17.4 | -43 |
| Darbhanga | 64.3 | 62 |
| East Champaran | 77.2 | 75 |
| Gaya | 4.0 | -89 |
| Gopalganj | 57.6 | 38 |
| Jahanabad | 5.2 | -84 |
| Jamui | 2.7 | -95 |
| Kathihar | 69.5 | 28 |
| Khagadia | 21.2 | -64 |
| Kishanganj | 83.0 | -10 |
| Lakhisarai | 3.0 | -94 |
| Madhepura | 42.0 | -25 |
| Madhubani | 25.3 | -48 |
| Monghyar | 8.9 | -81 |
| Muzaffarpur | 13.3 | -72 |
| Nalanda | 12.2 | -69 |
| Nawada | 6.2 | -85 |
| Patna | 8.1 | -72 |
| Purnea | 39.3 | -34 |
| Rohtas | 8.8 | -70 |
| Saharsha | ** | ** |
| Samstipur | 10.9 | -82 |
| Saran | 79.3 | 151 |
| Sheikpura | 2.1 | -95 |
| Sheohar | 14.5 | -72 |
| Sitamarhi | 6.0 | -88 |
| Siwan | 15.6 | -57 |
| Supaul | 21.0 | -57 |
| Vaishali | 0.0 | -100 |
| West Champaran | 59.8 | -3 |
| Jharkhand | | |

| | | |
|-----------------------|-------|------|
| Bokaro | 36.0 | -43 |
| Chatra | 5.9 | -87 |
| Deoghar | 36.8 | -23 |
| Dhanbad | 62.1 | 3 |
| Dumka | 6.1 | -90 |
| East Singbhum | 52.3 | -22 |
| Garhwa | 35.5 | 6 |
| Giridih | 73.6 | 15 |
| Godda | 36.7 | -33 |
| Gumla | 50.9 | -29 |
| Hazaribagh | 40.5 | -6 |
| Jamtara | 113.7 | 78 |
| Khunti | 32.0 | -61 |
| Koderna | 42.1 | -17 |
| Latehar | 17.5 | -69 |
| Lohardagga | 31.6 | -54 |
| Pakur | 79.8 | 13 |
| Palamau | 15.7 | -64 |
| Ramgarh | 42.2 | -34 |
| Ranchi | 94.3 | 31 |
| Sahebganj | 35.8 | -53 |
| Saraikela | 4.2 | -95 |
| Simdega | 58.5 | -30 |
| West Singbhum | 100.7 | 58 |
| East Rajasthan | | |
| Ajmer | 10.0 | -26 |
| Alwar | 1.5 | -89 |
| Banswara | 2.6 | -92 |
| Baran | 33.3 | 41 |
| Bharatpur | 0.7 | -95 |
| Bhilwara | 13.4 | -29 |
| Bundi | 12.5 | -38 |
| Chittorgarh | 49.3 | 103 |
| Dausa | 0.2 | -99 |
| Dholpur | 6.6 | -57 |
| Dungarpur | 1.3 | -95 |
| Jaipur | 16.1 | 8 |
| Jhalawar | 31.7 | 22 |
| Jhunjhunu | 0.8 | -95 |
| Karauli | 0.3 | -98 |
| Kota | 23.5 | 6 |
| Pratapgarh | 22.6 | -34 |
| Rajsamand | 1.6 | -93 |
| Sawai Madhopur | 0.8 | -94 |
| Sikar | 5.7 | -63 |
| Sirohi | 0.0 | -100 |
| Tonk | 19.1 | 23 |
| Udaipur | 14.3 | -38 |
| West Rajasthan | | |
| Barmer | 0.1 | -99 |

| | | |
|-----------------------------|-------|------|
| Bikaner | 0.0 | -100 |
| Churu | 0.8 | -93 |
| Hanumangarh | 0.0 | -100 |
| Jaisalmer | 0.0 | -100 |
| Jalore | 0.0 | -100 |
| Jodhpur | 0.0 | -100 |
| Nagaur | 9.7 | -38 |
| Pali | 1.0 | -93 |
| Sri Ganganagar | 0.0 | -100 |
| Gujarat Region | | |
| Ahmedabad | 4.4 | -87 |
| Anand | 4.1 | -90 |
| Banaskantha | 0.0 | -100 |
| Baroda | 2.6 | -94 |
| Broach | 10.5 | -77 |
| DNH | 181.2 | 37 |
| Dahod | 1.7 | -95 |
| Daman | 131.8 | 0 |
| Dangs | 28.3 | -64 |
| Gandhinagar | 3.3 | -88 |
| Kheda | 9.6 | -76 |
| Mehsana | 0.9 | -97 |
| Narmada | 2.9 | -95 |
| Navsari | 66.2 | -45 |
| Panchmahal | 3.7 | -90 |
| Patan | 0.0 | -100 |
| Sabarkantha | 4.1 | -87 |
| Surat | 36.6 | -61 |
| Tapi | 7.6 | -90 |
| Valsad | 127.0 | -8 |
| S K & Diu region | | |
| Amreli | 16.8 | -61 |
| Bhavnagar | 37.5 | -9 |
| Diu | 4.7 | -94 |
| Jamnagar | 2.9 | -93 |
| Junagarh | 11.5 | -86 |
| Kutch | 0.1 | -99 |
| Porbandar | 0.5 | -99 |
| Rajkot | 4.0 | -90 |
| Surendranagar | 15.4 | -65 |
| Maharashtra | | |
| Konkan & Goa | | |
| Goa | 147.3 | -40 |
| Mumbai | 118.7 | -31 |
| Raigad | 186.4 | -13 |
| Ratnagiri | 243.5 | -7 |
| Sindhudurg | 167.1 | -39 |
| Thane | 178.7 | 13 |
| Madhya Maharashtra | | |
| Ahmednagar | 40.3 | 48 |

| | | |
|-------------------|-------|-----|
| Dhule | 18.6 | -47 |
| Jalgaon | 46.6 | 6 |
| Kolhapur | 115.3 | 8 |
| Nandurbar | 10.3 | -74 |
| Nasik | 52.0 | 9 |
| Pune | 28.2 | -38 |
| Sangli | 9.0 | -65 |
| Satara | 24.6 | -35 |
| Solapur | 24.5 | 16 |
| Marathwada | | |
| Aurangabad | 47.2 | 27 |
| Beed | 63.6 | 103 |
| Hingoli | 89.3 | 40 |
| Jalna | 56.0 | 38 |
| Latur | 44.3 | -2 |
| Nanded | 44.2 | -7 |
| Usmanabad | 39.9 | 23 |
| Parbhani | 45.9 | 5 |
| Vidarbha | | |
| Akola | 50.6 | 15 |
| Amraoti | 60.9 | 30 |
| Bhandara | 206.8 | 232 |
| Buldhana | 62.4 | 26 |
| Chandrapur | 176.2 | 176 |
| Gadchiroli | 184.8 | 162 |
| Gondia | 134.9 | 113 |
| Nagpur | 206.1 | 246 |
| Wardha | 111.9 | 76 |
| Washim | 83.9 | 38 |
| Yeotmal | 119.8 | 109 |
| Orissa | | |
| Angul | 88.5 | 42 |
| Balasore | 68.4 | 7 |
| Bargarh | 88.6 | 66 |
| Bhadrak | 66.6 | 5 |
| Bolangir | 90.1 | 20 |
| Boudh | 53.2 | -9 |
| Cuttack | 68.0 | 0 |
| Deogarh | 48.6 | -43 |
| Dhenkanal | 114.5 | 56 |
| Gajapati | 105.6 | 137 |
| Ganjam | 99.5 | 140 |
| Jagatsingpur | 53.0 | -20 |
| Jajpur | 44.6 | -32 |
| Jharsuguda | 83.1 | 3 |
| Kalahandi | 241.3 | 159 |
| Kandhamal | 65.7 | 13 |
| Kendrapara | 64.6 | 20 |
| Keonjhar | 99.1 | 59 |
| Khurda | 88.2 | 48 |

| | | |
|--------------------------|-------|-----|
| Koraput | 140.5 | 103 |
| Malkangiri | 75.3 | -9 |
| Mayurbhanj | 59.5 | -23 |
| Nawapara | 8.7 | -86 |
| Nawarangpur | 93.5 | 18 |
| Nayagarh | 60.8 | -12 |
| Puri | 109.6 | 117 |
| Rayagada | 86.7 | 86 |
| Sambalpur | 104.3 | 22 |
| Sonepur | 134.9 | 159 |
| Sundargarh | 44.4 | -36 |
| West Bengal | | |
| GWB | | |
| Bankura | 131.7 | 112 |
| Birbhum | 74.0 | 2 |
| Burdwan | 58.5 | -2 |
| East Midnapore | 59.8 | -11 |
| Hooghly | 56.7 | -27 |
| Howrah | 45.7 | -25 |
| Kolkata | 165.3 | 140 |
| Murshidabad | 42.8 | -31 |
| Nadia | 93.4 | 37 |
| 24 Pargana (N) | 91.9 | 35 |
| Purulia | 91.8 | 39 |
| 24 Pargana (S) | 70.3 | -19 |
| West Midnapore | 46.2 | -32 |
| SHWB | | |
| Cooch Behar | 75.9 | -51 |
| Darjeeling | 124.5 | -16 |
| East Sikkim | 94.6 | -30 |
| Jalpaiguri | 225.5 | 42 |
| Malda | 26.6 | -60 |
| North Dinajpur | 16.2 | -85 |
| North Sikkim | 45.0 | -63 |
| South Dinajpur | 32.6 | -47 |
| South Sikkim | 48.3 | -64 |
| West Sikkim | 70.0 | -42 |
| Karnataka | | |
| Coastal Karnataka | | |
| Dakshin Kannada | 308.5 | 13 |
| Udupi | 293.7 | -2 |
| Uttar Kannada | 204.7 | 0 |
| N I Karnataka | | |
| Bagalkote | 12.2 | -20 |
| Belgaum | 25.8 | -20 |
| Bidar | 36.2 | -5 |
| Bijapur | 22.8 | 23 |
| Dharwad | 12.8 | -50 |
| Gadag | 4.4 | -72 |

| | | |
|----------------------|-------|-----|
| Gulbarga | 40.6 | 43 |
| Haveri | 16.6 | -38 |
| Koppal | 7.5 | -48 |
| Raichur | 20.7 | -6 |
| Yadgir | 24.9 | -33 |
| S I Karnataka | | |
| Bangalore Rural | 8.5 | -21 |
| Bangalore Urban | 11.2 | 11 |
| Bellary | 7.0 | -50 |
| Chamarajnar | 17.6 | 67 |
| Chichballapur | 3.8 | -65 |
| Chickmagalur | 134.2 | 21 |
| Chitradurga | 9.7 | 19 |
| Davangere | 22.6 | 46 |
| Hassan | 31.0 | 0 |
| Kodagu | 226.4 | 52 |
| Kolar | 0.8 | -92 |
| Mandya | 7.8 | -3 |
| Mysore | 28.7 | 69 |
| Ramnagara | 10.4 | -13 |
| Shimoga | 166.8 | 68 |
| Tumkur | 2.9 | -68 |
| Kerala | | |
| Alappuzha | 255.1 | 109 |
| Kannur | 382.4 | 79 |
| Ernakulam | 358.8 | 140 |
| Idukki | 417.5 | 151 |
| Kasaragod | 306.8 | 16 |
| Kollam | 223.9 | 118 |
| Kottayam | 330.9 | 131 |
| Kozhikode | 398.3 | 96 |
| Malappuram | 326.5 | 112 |
| Palakkad | 246.4 | 113 |
| Pathanamthitta | 253.8 | 107 |

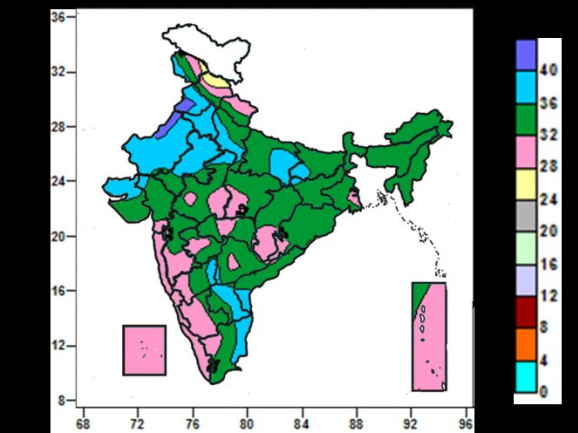
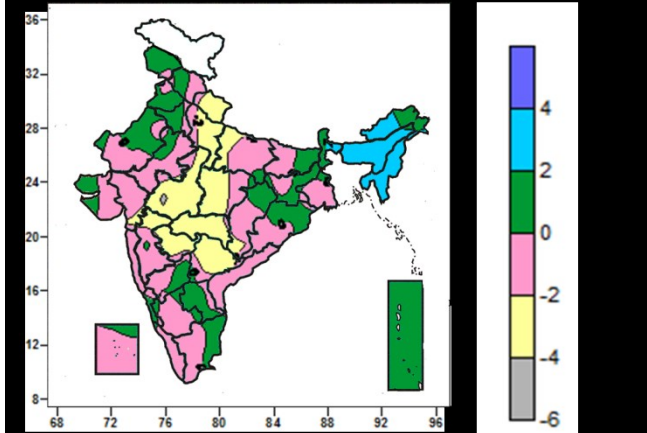
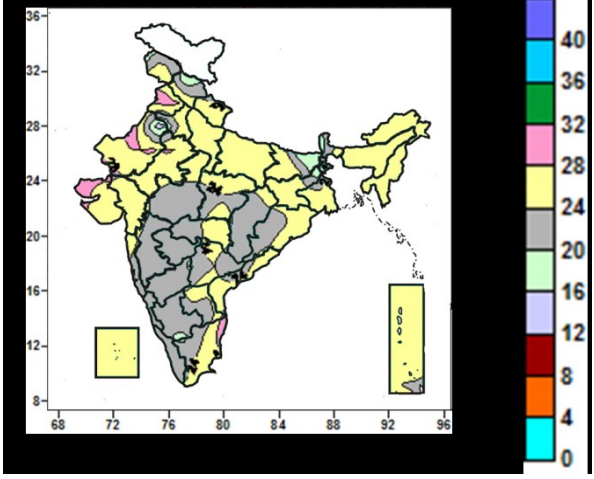
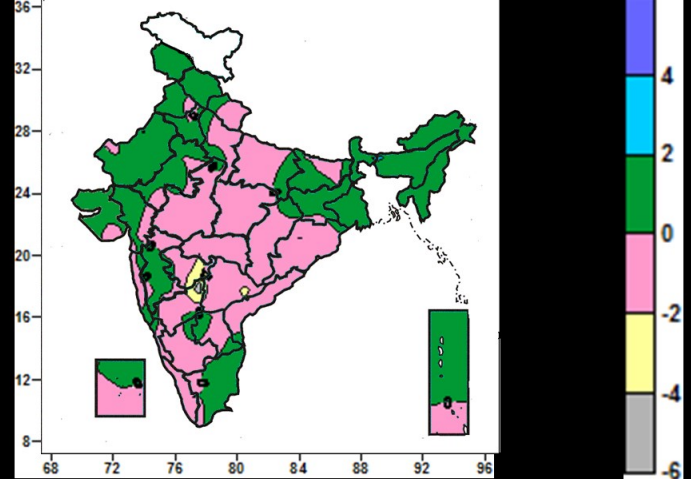
| | | |
|--------------------|-------|------|
| Thiruvananthapuram | 127.4 | 117 |
| Thrissur | 286.4 | 71 |
| Wyanad | 430.5 | 129 |
| Tamil Nadu | | |
| Ariyalur | 0.0 | -100 |
| Chennai | 0.0 | -100 |
| Coimbatore | 124.5 | 1629 |
| Cuddalore | 4.2 | -50 |
| Dharmapuri | 2.1 | -73 |
| Dindigul | 2.0 | -74 |
| Erode | 2.9 | -7 |
| Kanchipuram | 1.0 | -95 |
| Kanyakumari | 59.4 | 62 |
| Karikal | 0.0 | -100 |
| Karur | 0.0 | -100 |
| Krishnagiri | 8.1 | 4 |
| Madurai | 0.3 | -97 |
| Nagapattinam | 1.7 | -71 |
| Namakkal | 8.6 | 16 |
| Nilgiris | 133.8 | 191 |
| Perambalur | 4.3 | -6 |
| Puducherry | 0.8 | -92 |
| Pudukottai | 3.3 | -62 |
| Ramanathapuram | 0.0 | -100 |
| Salem | 7.6 | -36 |
| Sivaganga | 1.4 | -84 |
| Thanjavur | 0.4 | -94 |
| Theni | 38.9 | 871 |
| Tirunelveli | 32.4 | 260 |
| Tirupur | 0.0 | -100 |
| Tiruvallur | 0.3 | -99 |
| Tiruvannamalai | 1.9 | -88 |
| Tiruvarur | 0.0 | -100 |
| Toothukudi | 0.4 | -70 |

| | | |
|-------------------------------|------|------|
| Trichy | 0.0 | -100 |
| Vellore | 1.3 | -91 |
| Villupuram | 0.0 | -100 |
| Virudhunagar | 8.1 | 146 |
| Andhra Pradesh | | |
| Coastal Andhra Pradesh | | |
| East Godavari | 45.7 | 22 |
| Guntur | 18.5 | -17 |
| Krishna | 26.3 | -21 |
| Nellore | 6.4 | -57 |
| Prakasam | 16.5 | 17 |
| Sirkakulam | 57.4 | 48 |
| Visakhapatnam | 16.0 | -54 |
| Vizianagram | 30.6 | -14 |
| West Godavari | 43.4 | 18 |
| Telangana | | |
| Adilabad | 67.7 | 16 |
| Hyderabad | 36.6 | 9 |
| Karimnagar | 37.6 | -7 |
| Khammam | 79.7 | 68 |
| Mehabubnagar | 22.3 | -4 |
| Medak | 33.7 | -18 |
| Nalgonda | 20.7 | -23 |
| Nizamabad | 52.9 | 22 |
| Rangareddy | 17.8 | -44 |
| Warangal | 28.8 | -35 |
| Rayalaseema | | |
| Anantapur | 5.1 | -42 |
| Chittoor | 1.1 | -92 |
| Cuddapah | 12.6 | -15 |
| Kurnool | 17.6 | -5 |

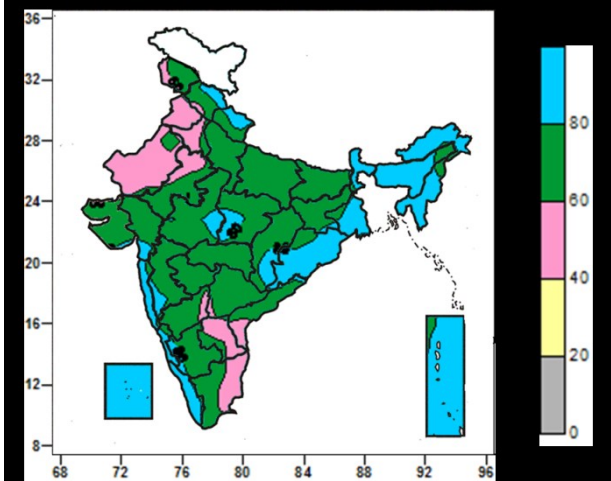
Legends

| | | | |
|--|----------------------------------|----|--------------------------------|
| | (20% or more) excess rainfall | | (-60 to -99 %) scanty rainfall |
| | (-19 to +19%) normal rainfall | | (-100%) no rainfall |
| | (-20 to -59%) deficient rainfall | ** | Data not available |

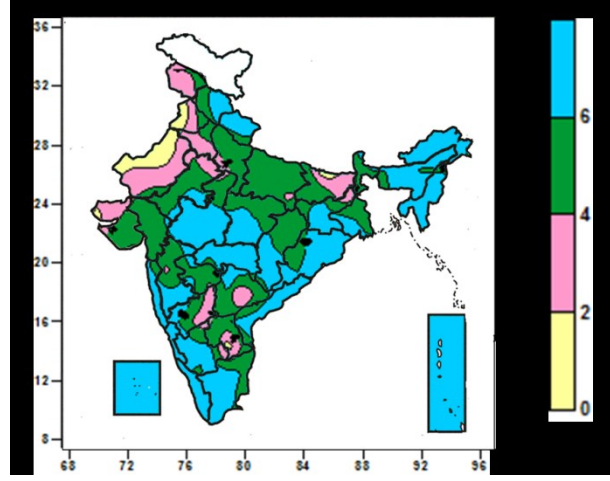
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 26.06.2013

| Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 26.06.2013 | Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 26.06.2013 |
|---|---|
|  <ul style="list-style-type: none"> • 36 to 40$^{\circ}\text{C}$ and above over many parts of Punjab, Haryana, Delhi, Rajasthan, Kutch, Raylaseema, some parts of Jammu & Kashmir, Uttar Pradesh, Bihar, Jharkhand, Gujarat, Coastal Andhra Pradesh, North Interior Karnataka and Tamil Nadu. • 28 to 36$^{\circ}\text{C}$ over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Uttar Pradesh, East India Northeast India, Central India, Maharashtra, Gujarat, Saurashtra, Andhra Pradesh, Karnataka, Tamil Nadu, Andaman & Nicobar Islands. • 24 to 28$^{\circ}\text{C}$ over some parts of Jammu & Kashmir, Himachal Pradesh. |  <ul style="list-style-type: none"> • 2 to 4$^{\circ}\text{C}$ over many parts of Northeast India, some parts of Sub-Himalayan West Bengal. • -2 to 2$^{\circ}\text{C}$ and above over many parts of Northwest India (except Uttarkhand), East India, Chattisgarh, Gujarat, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra, South India, Lakshadweep, Andaman & Nicobar Islands, some parts of Madhya Pradesh, Uttarakhand, Marathwada. • -4 to -2$^{\circ}\text{C}$ over many parts of Uttarakhand, Madhya Pradesh, Vidarbha, Marathwada, Telanagana, some parts of Uttar Pradesh, Chattisgarh, Gujarat, Madhya Maharashtra. |
| Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 26.06.2013 | Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 26.06.2013 |
|  <ul style="list-style-type: none"> • 28 to 32$^{\circ}\text{C}$ over some parts of Punjab, West Rajasthan, Kutch, Tamil Nadu. • 20 to 28$^{\circ}\text{C}$ over many parts of country (except some parts of Himachal Pradesh, West Rajasthan, Bihar, Jharkhand, Sub-Himlayan West Bengal & Sikkim). • 16 to 20$^{\circ}\text{C}$ over some parts of Jammu & Kashmir, Himachal Pradesh, West Rajasthan, Bihar, Jharkhand, South Interior Karnataka. |  <ul style="list-style-type: none"> • 0 to 2$^{\circ}\text{C}$ and above over many parts of Northeast India, East India, North west India (except Uttar Pradesh), Gujrat, Saurashtra & Kutch, Madhya Maharashtra, Tamil Nadu, Andaman & Nicobar Islands, some parts of Uttar Pradesh, Konkan, Marathwada, Chattisgarh, Odisha, Andhra Pradesh, Karnataka, Lakshadweep Islands. • -2 to 0 over many parts of Uttarakhand, Uttar Pradesh, Central India, Odisha, Marathwada, Konkan & Goa, South India (except Tamil Nadu), some parts of Punjab, Haryana, Rajasthan, Bihar, Jharkhand, Gujarat, Saurashtra, Madhya Maharashtra. • -4 to 0$^{\circ}\text{C}$ over some parts of Marathwada, Telengana, North Interior Karnataka. |

Relative Humidity (%) over India for the week ending 26.06.2013



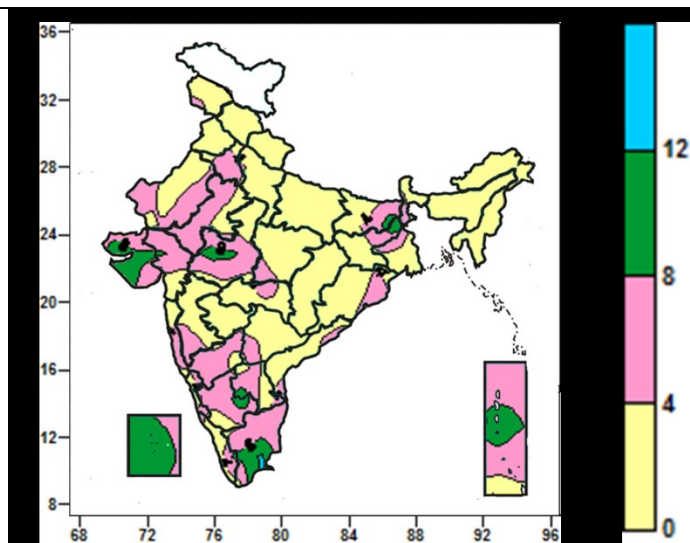
Cloud amount (okta) over India for the week ending 26.06.2013



- 80% and above over many parts of North East India, West Bengal & Sikkim, Orissa, West Coast from Konkan to Kerala, Lakshdweep & Andamn & Nicobar Islands, some parts of Himachal Pradesh, Uttarakhand, Chattisgarh, Madhya Pradesh, Gujarat, Madhya Maharashtra, South Interior Karnataka.
- 60 to 80% over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Uttar Pradesh, East Rajasthan, Bihar, Jharkhand, Central India, West India(except Konkan & Goa), North & South Interior Karnataka, Telengana, North Coastal Andhra Pradesh, Tamil Nadu.
- 40 to 60% over many parts of West Rajasthan, Punjab, Haryana, Delhi, Raylaseema, Tamil Nadu, some parts of Jammu & Kashmir, Himachal Pradesh, East Rajasthan, North Interior Karnataka, Telangana, Coastal Andhra Pradesh, Tamil Nadu.

- 4 to 6 okta and above over many parts of the country (except Jammu & Kashmir, West Punjab, Haryana, West Rajasthan, Eastern Bihar, Kutch, Telangana, Rayalaseema).
- 0 to 4 okta over many parts of Jammu & Kashmir, West Punjab, Haryana, West Rajasthan, Eastern Bihar, some parts of Jharkhand, Interior Karnataka, Telengana, Rayalaseema, Tamil Nadu.

Wind speed (knots) over India for the week ending 26.06.2013



- 8 to 12 knots and above over many parts of Saurashtra & Kutch, Lakshadweep Islands and some parts of West Madhya Pradesh, Bihar, Jharkhand, Raylaseema, South Interior Karnataka, South Tamil Nadu and Andaman & Nicobar Islands.
- 4 to 8 knots over many parts of Haryana, Delhi, Rajasthan, West Madhya Pradesh, Gujarat, Konkan & Goa Karnataka, North Tamil Nadu, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Bihar, Jharkhand, Coastal Odisha, Saurashtra & Kutch, South Madhya Maharashtra, Andhra Pradesh, Lakshdweep Islands.
- 0 to 4 knots over many parts of Northwest India (except Haryana, Delhi), Northeast India, West Bengal, Sikkim, Odisha, East Madhya Pradesh, Chattisgarh, Maharashtra, Andhra Pradesh, some parts of Rajasthan, West Madhya Pradesh, Bihar, Jharkhand, Karnataka, Gujarat, Kerala and Andaman & Nicobar Islands.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 1st July, 2013)

- Rain/thundershowers would occur at many places over Uttarakhand, Himachal Pradesh and Jammu & Kashmir.
- Rain/thundershowers would occur at most places over Madhya Pradesh, north Chhattisgarh, east Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, northeastern States and along west coast.
- Rain/thundershowers would occur at many places over west Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Lakshadweep and Andaman & Nicobar Islands.
- Rain/thundershowers would occur at a few places over Punjab, Haryana, Delhi, east Rajasthan, Vidarbha, Odisha, Gujarat region and Madhya Maharashtra.
- Rain/thundershowers would occur at one or two places over rest of the country.

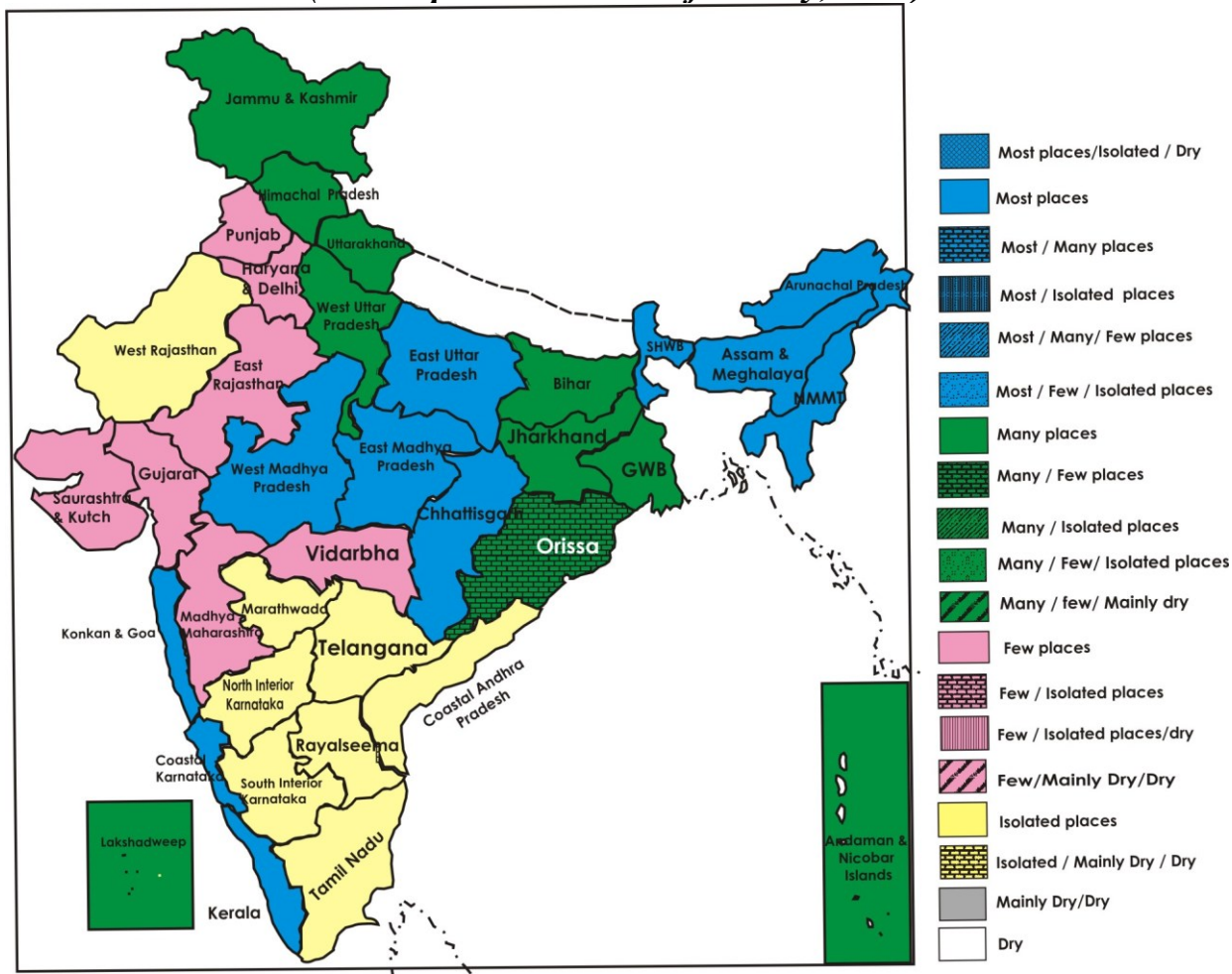
Weather Warning during next 3 days

- Heavy to very heavy rainfall would occur at a few places over east Uttar Pradesh, Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Assam & Meghalaya during next 48 hours.
- Heavy to very heavy rainfall would occur at one or two places over Bihar, north Chhattisgarh, Nagaland, Manipur, Mizoram, Tripura, Konkan & Goa, coastal Karnataka and Kerala during next 48 hours.

Weather Outlook for subsequent 4 days from 1st to 5th July, 2013

- Rain/thundershowers would occur at many places over Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, Chhattisgarh, West Bengal & Sikkim, west coast and northeast India.
- Rain/thundershowers would occur at a few places over western Himalayan region and rest eastern states.
- Rain/thundershowers would occur at one or two places over rest parts of the country.

Weather Forecast Map
(Valid upto 0830 hours of 1st July, 2013)



Zonewise Agromet Advisories

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Himachal Pradesh and Uttarakhand, Ropar district of Punjab; Kathua, Reasi, Udhampur districts of Jammu & Kashmir; Baran, Chittorgarh, Jhalawar districts of East Rajasthan, Baharich, Ballia, Basti, Deoria, Farukhabad, Gorakhpur, Hardoi, Kannuj, Kanpur Dehat, Kheri, Raibariely, Sultanpur of East Uttar Pradesh and are Badauan, Bareilly, Etah, Kansiramnagar, Moradabad, Pilibhit, Rampur and Shahjahanpur of West Uttar Pradesh. Weather remained mainly dry in rest parts of the region.
- **Weather Forecast:** Rain / thundershowers would occur at most places over East Uttar Pradesh, at many places over West Uttar Pradesh, Uttarakhand, Himachal Pradesh, Jammu & Kashmir, at a few places over Punjab, Haryana, Delhi, East Rajasthan and at one or two places over West Rajasthan.
- **Warning:** Heavy to very heavy rainfall would occur at a few places over east Uttar Pradesh during next 48 hours.
- **Advisory:**
 - In Hill Zone of Uttarakhand, where the fields are intact in the flood affected districts, farmers are advised to continue nursery sowing / transplanting of rice, sowing of soybean, groundnut, millets, pigeon pea, horse gram and French bean. In flood affected areas, drain out excess water from the already transplanted fields followed by re-sowing / re-transplanting.
 - Farmers in Barbar and Tarai Zone of Uttarakhand are advised to continue sowing / transplanting of rice, sowing of soybean, groundnut, millets, pigeon pea, horse gram and French bean, also advised to undertake transplanting of tomato plants and sowing of grain sorghum, pearl millets and drain out excess water from the already transplanted fields.
 - In East Uttar Pradesh, as rain/thundershowers would occur at most places with heavy to very heavy rainfall at a few places during next 48 hours, farmers are advised to postpone sowing of maize, jowar, groundnut arhar, moong, urad and nursery sowing of rice. Provide adequate drainage in already sown crop fields. In West Uttar Pradesh, continue sowing of maize, jowar, groundnut arhar, moong, urad and nursery sowing of rice.
 - Farmers in Sub Tropical Zone of Jammu & Kashmir are advised to continue sowing of maize, sowing of direct seeded rice and transplanting of brinjal, chilli and cauliflower. Also, farmers in Intermediate Zone of Jammu & Kashmir are advised to continue nursery sowing of rice, sowing of moong, mash, maize, bajra and transplanting of rice seedlings at 4-6 leaf stage.
 - Farmers in Valley Temperate Zone of Jammu & Kashmir are advised to continue transplanting of rice, sowing of *kharif* pulses, cowpea, pole type beans.
 - Farmers in Mild Hills Sub Humid Zone of Himachal Pradesh are advised to start transplanting of rice crop, direct sowing of cucurbits viz. khira, bitter gourd, tori in main field and also undertake sowing of potato in hill zone.
 - Farmers in Delhi are advised to continue sowing of maize, fodder sorghum, bajra, moong and cucurbits, undertake transplanting of brinjal, chilli and early cauliflower of ready seedlings and prepare nursery for chilli, brinjal and early cauliflower.
 - Farmers in Punjab are advised to continue transplanting of rice with irrigation facilities.
 - Farmers in Haryana are advised to undertake transplanting of rice with irrigation facilities and undertake sowing of bajra, guar in Western Zone.
 - Farmers in East Rajasthan are advised to continue sowing of groundnut, pearl millet, sorghum, maize, green gram, cow pea, cluster bean, new planting of ber, aonla, pomegranate, phalsa and undertake sowing of soybean, castor and rainy season cucurbits. In West Rajasthan, undertake sowing of bajra with available soil moisture.
 - Stages of major crops are mentioned in Annexure I.
Varieties are mentioned in Annexure II
- **Animal Husbandry**
 - Farmers in Punjab and Haryana are advised that during this season crossbred animals need special care due to higher humidity. Provide them sufficient drinking water, bath them (twice daily) and there should be free flow of air (proper ventilation) and avoid overcrowding.
 - Farmers in Punjab and Haryana are advised to vaccinate the birds of 6 to 8 weeks of age with injection of R2B Ranikhet disease vaccine. In the case of an outbreak of Ranikhet disease immediately give R2B vaccine injection to healthy birds to avoid further loss.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Significant rainfall occurred in all districts of East Madhya Pradesh except in Chhatrapur, Panna, Rewa, Satna, Singrauli and Tikamgarh; also in all districts of West Madhya Pradesh except in Alirajpur, Ashoknagar, Badwani, Bhind, Datia, Dhar, Jhabua, Khargaone, Morena, Sheopur, Katani and Shivpuri; and in all districts of Chhattisgarh except Jashpurnagar and Surguja.
- **Weather forecast:** Rain/thundershowers would occur at most places over Madhya Pradesh, north Chhattisgarh and one or two places over south Chhattisgarh.
- **Warning:** Heavy to very heavy rainfall would occur at a few places over Madhya Pradesh and at one or two places over north Chhattisgarh during next 48 hours.
- **Advisories:**
 - In Madhya Pradesh, as rain/thundershowers would occur at most places along with heavy to very heavy rainfall at a few places during next 48 hours, farmers are advised to postpone sowing of soybean, jowar, bajra, urad, moong, cotton, maize, groundnut and sesame, intercultural operations, fertilizer application and plant protection measures. They are also advised to prepare drainage channels in soybean, jowar, bajra, urad, moong, cotton, maize, groundnut and sesame fields. Also undertake field preparation for transplanting of rice. However in Jhabua Hill Zone and Gird Zone (Morena) of Madhya Pradesh, farmers are advised to continue transplanting of brinjal, chilli, tomato and seasonal flowers.
 - In north Chhattisgarh, as rain/thundershowers would occur at most places with heavy to very heavy rainfall at one or two places during next 48 hours, postpone nursery sowing of rice and vegetables, sowing of soybean, maize, jowar and groundnut. Prepare drainage channels in earlier sown crop fields.
 - Farmers in Bastar and Narayanpur districts of Bastar Plateau Zone in Chhattisgarh are advised to undertake upland sowing of rice, ragi and kodomillet crops.
 - Stages of major crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure II
- **ANIMAL HUSBANDRY & POULTRY**
 - Farmers in Madhya Pradesh are advised to keep animals in sheds, protect them from mosquitoes and provide clean drinking water during monsoon season.
 - Farmers in Chhattisgarh Plain Zone are advised to undertake vaccination of the cattle for FMD during monsoon period.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL & SIKKIM]

- **Realised Rainfall:** Significant rainfall occurred in all districts of Sikkim, Gangetic West Bengal; in most of the districts Sub Himalayan West Bengal except Malda North Dinajpur; in most of the districts of Odisha except Nawapara; in Araria, Bhojpur, Darbhanga, East Champaran, Gopalganj, Katihar, Kishanganj, Madhepura, Purnea, Saran and West Champaran districts of Bihar; in most of the districts of Jharkhand except Chatra, Dumka, Latehar, Palamau and Saraikela.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Sub Himalayan West Bengal & Sikkim and at many places over Bihar, Jharkhand, Gangetic West Bengal and at a few places over Odisha.
- **Weather Warning:** Heavy to very heavy rainfall would occur at a few places over Sub-Himalayan West Bengal & Sikkim and at one or two places over Bihar during next 48 hours.
- **Advisories:**
 - As rain/thundershowers would occur at most places with heavy to very heavy rainfall would occur at a few places over Sub-Himalayan West Bengal & Sikkim during next 48 hours, postpone nursery sowing of *aman* rice. Also provide drainage in ginger, turmeric and vegetable crop fields.
 - In Gangetic West Bengal, farmers are advised to continue nursery sowing of *aman* rice and sowing of pigeon pea. As rain/thundershowers would occur at most places with heavy rainfall at a few places during next 48 hours in Sub-Himalayan West Bengal & Sikkim, provide drainage for vegetable crops.
 - In Odisha, farmers are advised to continue nursery sowing of rice and direct sowing of rice. Also continue sowing of maize, arhar, ragi, groundnut, cotton, sesame and pulses.
 - As rain/thundershowers would occur at most places with heavy to very heavy rainfall would occur at one or two places during next 48 hours, farmers are advised to postpone nursery sowing of rice, direct sowing of rice, sowing of maize and small millets, vegetable crops like bottle gourd, sponge gourd, bitter gourd, ridge gourd, cucumber, cowpea and okra, intercultural operation and application of fertilizer in sugarcane and plant protection measures to the crops. Farmers are also advised to arrange for adequate drainage to avoid stagnation of water in crop fields.

- In Jharkhand, farmers are advised to continue nursery sowing of rice and direct sowing of rice and sowing of soybean, maize, urad, arhar and sowing/transplanting of *kharif* vegetables viz. bhindi, bean, French bean, tomato, cauliflower, cabbage etc. and planting of ginger and turmeric.
- Farmers in Terai Zone of West Bengal are advised to postpone nursery sowing of *aman* rice as rain/thundershowers would occur at most places with heavy to very heavy rainfall would occur at a few places during next 48 hours. Provide adequate drainage to avoid stagnation of water in earlier sown crop fields.
- Farmers are advised to continue sowing of pigeon pea in New Alluvial Zone, Laterite and Red Soil Zone of West Bengal and sowing of wet seeded rice in Coastal Saline Zone of West Bengal.
- Farmers in Laterite and Red Soil Zone of West Bengal are advised to continue sowing of maize and cultivation of flower like Jasmin, Pitunia, Jinia etc.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II
- **Animal Husbandry**
- Farmers in North West Alluvial Plain Zone of Bihar are advised to provide vaccination to their cattle to protect the animals from contagious diseases under current weather condition.

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

- **Realised Rainfall:** Significant rainfall occurred in almost all the districts of the states except Dibang Valley, Lower Dibang Valley, Lower Subansari and Upper Subansari districts of Arunachal Pradesh, Darrang and Hailakandi districts of Assam, East Garo Hills and South Garo Hills districts of Meghalaya, Kolasib, Mamit and Serchhip districts of Mizoram, Bishnupur, Thoubal and Ukhrul districts of Manipur, Kephire and Wokha districts of Nagaland.
- **Weather Forecast:** Rain / thundershowers would occur at most places over the States of the region during the period.
- **Warning:** Heavy to very heavy rainfall would occur at a few places over Arunachal Pradesh and Assam & Meghalaya during next 48 hours. Heavy to very heavy rainfall would occur at one or two places over Nagaland, Manipur, Mizoram & Tripura during next 48 hours.
- **Outlook:** Rain / thundershowers would occur at many places over the States of the region.
- **Advisories:**
 - Rain / thundershowers would occur at most places over the States of the region during the period along with heavy to very heavy rainfall at a few places over Arunachal Pradesh and Assam & Meghalaya and at one or two places over Nagaland, Manipur, Mizoram & Tripura during next 48 hours, farmers are advised to postpone nursery sowing and transplanting of rice and sowing of *kharif* crops like pigeon pea, black gram, cowpea, okra, French bean, planting of ginger, turmeric, papaya and banana and transplanting of chilli, capsicum, tomato and cucurbits. Farmers are also advised to irrigation, intercultural operation and application of plant protection measures and fertilizers and also arrange for adequate drainage to avoid water stagnation in the crop fields.
 - Farmers in Hill Zone, Lower Brahmaputra Valley Zone and Central Brahmaputra Valley Zone of Assam are advised to postpone sowing of pigeon pea and planting of papaya and banana. Also provide drainage for already planted crop fields.
 - Farmers in North Bank Plain Zone and Lower Brahmaputra Valley Zone of Assam are advised to postpone transplanting of *sali* rice seedling from nursery bed to the main field.
 - Farmers in Barak Valley Zone of Assam are advised to avoid water stagnation in the field of maize, fruit crops and vegetables.
 - In view of likely rain / thundershowers at most places with heavy to very heavy rainfall at a few places over Arunachal Pradesh, farmers are advised to postpone planting of banana and transplanting of WRC rice, tomato and brinjal. Provide adequate drainage in already sown crop fields.
 - As rain / thundershowers would occur at most places with heavy rainfall at one or two places over Manipur during next 48 hours, farmers are advised to postpone sowing and transplanting for *kharif* rice, sowing of black gram, cowpea and okra, nursery raising of early cauliflower and transplanting of chilli, capsicum, tomato and cucurbits.
 - Farmers in Mizoram are advised to postpone nursery sowing of rice for low land, sowing of cucurbits and French bean and planting ginger and turmeric as rain / thundershowers would occur at most places with heavy rainfall at one or two places during next 48 hours.
 - Farmers in Temperate Sub Alpine Zone of Meghalaya are advised to postpone nursery sowing of *sali* rice, sowing of pigeon pea as rain / thundershowers would occur at most places with heavy to very

heavy rainfall at a few places during next 48 hours. Provide adequate drainage in earlier sown crop fields.

- In view of likely occurrence of rain / thundershowers at most places with heavy rainfall at one or two places during next 48 hours, farmers in Mild Tropical Plain Zone of Tripura are advised to postpone nursery sowing and transplanting of *aman* rice as. Also postpone planting of banana. Provide adequate drainage in already sown crop fields.
- In Nagaland, farmers are advised to postpone nursery sowing of low land rice.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II.

• **Animal Husbandry**

- Farmers in all the states of the region are advised to deworm and carry out immunizations against FMD, HS and BQ in cattle & buffaloes and swine fever in pigs during this period. Also, vaccinate against Ranikhet disease in one week old chicks and against Gamboro disease in two weeks old chicks.
- In Mild Tropical Plain Zone of Tripura, due to prevailing weather conditions, there is chance of gastrointestinal parasites in pig; farmers are advised to keep good sanitary conditions in pig sheds.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Significant rainfall occurred in almost all districts in Maharashtra except Dhule, Nandurbar, Pune, Sangli, Satara and Solapur District in Madhya Maharashtra. Significant rainfall occurred in Navasari, Surat, Valsad and Bhavnagar districts of Gujarat during last week.
- **Weather Forecast:** Rain / thundershowers would occur at most places over Konkan and Goa, at a few places over Vidarbha and Gujarat and at one or two places over Madhya Maharashtra and Marathwada during the period.
- **Warning:** Heavy to very heavy rainfall would occur at one or two places over Konkan & Goa during next 48 hours.
- **Advisories:**
 - As rain / thundershowers would occur at most places over Konkan and Goa along with heavy to very heavy rainfall at one or two places during next 48 hours, farmers are advised to postpone intercultural operations and application of fertilizers in rice and finger millet nurseries.
 - Taking the advantage of recent monsoon rain, farmers in Madhya Maharashtra are advised to continue sowing of *kharif* jowar, bajra, groundnut, soybean and cotton and continue planting of banana on vapsa condition. Farmers in Western Ghat region are advised to undertake intercultural operations in *kharif* rice and finger millet nurseries and sowing of brinjal, tomato, guar and chilli on raised bed.
 - In Vidarbha, farmers are advised to continue sowing of jowar, soybean, cotton, red gram and sunflower in Vidarbha and nursery sowing of *kharif* rice in Gondia, Bhandara, Gadchiroli and Chandrapur districts in East Vidarbha.
 - Farmers in Marathwada region are advised to continue sowing of *kharif* jowar, soybean, cotton, red gram, green gram and black gram and planting of banana, turmeric and ginger utilizing the recent monsoon rain.
 - In South Saurashtra Zone, carry out hand weeding, intercultural operation and gap filling in early sown groundnut, cotton and thinning in pulses on a non-rainy day.
 - Farmers in South Gujarat Heavy Rainfall Zone are advised to undertake sowing of pearl millet, sesame and black gram.
 - Continue sowing of cucurbits and transplanting of brinjal, tomato and early cauliflower in North Saurashtra Zone utilising recent monsoon rain.
 - In Bhal and Coastal Zone, farmers are advised to undertake nursery sowing of rice and also continue sowing of pearl millet and pigeon pea.
 - In Middle Gujarat Zone, undertake transplanting of *kharif* vegetables and also continue sowing of pearl millet and pigeon pea.
 - In North and North West Zone of Gujarat farmers are advised to carry out sowing of *kharif* crops like pulses and bajara and prepare nursery for *kharif* vegetables.
 - Prevailing rainy and humid weather is congenial for more incidence of anthracnose in pomegranate in Pune Division; spray 1% Bordeaux mixture with sticker.
 - Due to cloudy and rainy weather, there may be increase in incidence of apex and fruit borer in brinjal in Western Maharashtra Scarcity Zone; infested fruits may be collected and destroyed. For control, spray 4% Neemark or Profenophos @ 20 ml or Carbosulfan @ 10 ml / 10 litres of water.

- Decrease in temperature with high cloud cover and humidity are conducive for the incidence of Sigatoka leaf spot in banana in South Gujarat Zone; farmers are advised to spray Carbendazim @ 1 g / liter of water, if incidence is noticed.
 - Stages of the crops are mentioned in Annexure I.
 - Varieties are mentioned in Annexure II.
- **Animal Husbandry**
 - Farmers in Gujarat are advised to vaccinate animals by HF vaccination against FMD and BQ to avoid disease outbreak during monsoon season. Keep animals indoor during rain.

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

- **Realised Rainfall:** Significant rainfall occurred in most of the districts of Coastal Karnataka and Kerala, Bidar and Gulbarga in North Interior Karnataka, Chickmagalur, Hassan, Kodagu and Shimoga in South Interior Karnataka, Coimbatore, Kanyakumari, Nilgiris, Theni and Tirunelveli in Tamil Nadu, East and West Godavari, Srikakulam and Vizianagaram districts in Coastal Andhra Pradesh and most of the districts in Telangana except Mahabubnagar, Nalgonda, Rangareddy and Warangal.
- **Rainfall Forecast:** Rain/thundershowers would occur at most places over Kerala and Coastal Karnataka and at many places over Lakshadweep and Andaman & Nicobar islands. Rain/thundershowers would occur at one or two places over rest of the region.
- **Weather Warning:** Heavy rainfall would occur at one or two places over Kerala and Coastal Karnataka during next 48 hours.
- **Advisories:**
 - In Kerala, farmers are advised to postpone planting of banana, sowing/ transplanting of vegetables as rainfall is expected at most of the places with heavy to very heavy rainfall at one or two places during next 48 hours and also provide drainage for already planted banana and vegetable crop fields and do propping in bunched banana. Continue transplanting of *Virippu* rice.
 - In Coastal zone of Karnataka, farmers are advised to undertake transplanting of *kharif* rice.
 - Farmers in the Hill Zone of Karnataka are advised to continue sowing of cotton and pulses.
 - Farmers in Eastern Dry Zone of Karnataka are advised to prepare field and undertake sowing of red gram, ragi and nursery sowing of rice.
 - Farmers in the North East Transition Zone of Karnataka are advised to continue sowing of pigeon pea.
 - Farmers in the North Dry Zone of Karnataka are advised to continue sowing of green gram, red gram, maize, sunflower, Bt cotton, jowar, bajra, sesamum, and groundnut (bunch type).
 - Farmers in the North Transition Zone of Karnataka are advised to continue sowing of maize, sorghum, green gram, soybean, groundnut, chilli and cotton.
 - Farmers in Southern Transition Zone of Karnataka are advised to continue sowing of maize, red gram, and groundnut.
 - Farmers in the North East Dry Zone of Karnataka are advised to continue sowing of green gram, black gram, cowpea, bajra, jowar, soybean, sesamum and horse gram.
 - Farmers in the Central Dry Zone of Karnataka are advised to continue sowing of maize, cotton and undertake nursery sowing of rice.
 - In South Interior Karnataka, farmers are advised to continue sowing of black gram, green gram, maize, red gram and sesamum and also groundnut in Chickmagalur, Hassan and Shimoga districts.
 - In Tamil Nadu, farmers are advised to undertake transplanting of *Kuruvai* rice with the help of irrigation in Cauvery Delta Region. In South Zone, farmers are advised to continue sowing of green gram and black gram with supplementary irrigation and also give support to banana and propping for sugarcane to prevent the crops from damage, due to high wind speed.
 - Farmers in the North Coastal Zone of Andhra Pradesh are advised to continue sowing of bajra, planting of sugarcane and sowing of rice nurseries and direct seeding of rice utilizing the realised rainfall.
 - Farmers in the High Altitude Zone of Andhra Pradesh are advised to continue nursery sowing of rice, ragi and maize.
 - Farmers in the Scarce Rainfall Zone of Andhra Pradesh are advised to continue sowing of groundnut, pigeon pea, cotton, bajra, castor, maize jowar, and nursery sowing of rice.
 - Farmers in the Southern Telanagana Zone of Andhra Pradesh are advised to continue nursery sowing of medium and long duration rice varieties, red gram, green gram and groundnut.
 - Farmers in the Northern Telangana Zone of Andhra Pradesh are advised to continue sowing of maize, jowar, red gram, green gram, groundnut and nursery sowings of rice.

- The present weather is most conducive for the incidence of bud rot, rhinoceros beetle, red palm weevil and leaf rot diseases in coconut and leaf fall diseases in nutmeg in the Problem Area Zone of Kerala. Farmers are advised to undertake proper field surveillance, plant protection measures, provide adequate drainage to newly planted seedlings and postpone spraying of Bordeaux mixture with sticker to prevent leaf fall diseases.
- There are chances of occurrence of rice case worm in rice in ill drained fields in the Southern Zone of Kerala. Farmers are advised to postpone spraying Carbaryl dust or spray @ 4g/ litre.
- Stages of major crops are mentioned in Annexure I.
- Varieties are mentioned in Annexure II.
- **Animal Husbandry:**
 - Farmers in the Scarce Rainfall Zone of Andhra Pradesh are advised to undertake vaccination of animals against FMD, Brucellosis, Haemorrhagic Septicaemia, Anthrax and small ruminants against PPR and Sheep and Goat Pox.
 - Continuous wet spell in the Western Zone of Tamil Nadu is conducive for bacterial and fungal infection to cattle and milch animals. Farmers are advised to undertake pro-active measures to protect the animals from infectious diseases and provide drainage to cattle and poultry shed to avoid mosquito breeding.
 - Farmers in the North Western Zone of Tamil Nadu are advised to cover the sides of the poultry houses with curtains to control feed wastage and provide high energy diet (2550 kcal/kg diet) to control feed intake, as light precipitation and high wind speed is likely.

Annexure I
Stages of Major Crops

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

- *Capsicum*, tomato, brinjal, chilli (nursery raising / transplanting), cucurbits, French bean, okra (direct sowing), rice (nursery sowing), maize, soybean, mash (sowing), peas (flowering/ pod formation), cauliflower (nursery sowing), cucurbits viz. khira, bitter gourd, tori (direct sowing), potato (sowing) in Himachal Pradesh.
- Rice (nursery sowing / transplanting), ginger (vegetative), autumn sugarcane (vegetative), oat (ear head emergence/pod maturity), moong, urad (pod formation/pod maturity), okra (active vegetative / flowering), sugarcane, cucurbits (planting / seedling), vegetables viz. tomato, Capsicum, chilli, brinjal, cabbage, cauliflower in mid and high hilly area (transplanting), vegetables viz. palak, fenugreek, coriander, bhindi, French bean and lobia (sowing), maize, finger millets, urad, moong, soybean, groundnut, pigeon pea, cowpea, horse gram, rice bean (sowing), sorghum, pearl millets (sowing), in Uttarakhand.
- Bajra, moong, til, sorghum (sowing), chilli, brinjal and early cauliflower (transplanting), maize (sowing), rice (nursery / field preparation) in Delhi.
- Vegetables (flowering / fruiting / picking), rice (nursery raising / transplanting), maize (sowing / germination), cowpea, bajra, pole type beans (sowing), sunflower (early vegetative / vegetative), garlic, cucurbits, okra (early vegetative/ vegetative), radish, spinach (sowing/transplanting), carrot, turnip (sowing/ transplanting), onion, cole crops (nursery sowing / transplanting), oat, berseem (vegetative), fruit crops (nursery / planting), brinjal, chilli, tomato, potato (nursery sowing/transplanting), *kharif* pulses (moong, mash) (sowing / germination) in Jammu & Kashmir.
- *Kharif* maize, jowar (sowing), rice (transplanting), groundnut, arhar, moong and urad (sowing), tomato, brinjal and cucurbits (nursery sowing), moong, urad (pod maturity/harvesting), vegetables (nursery sowing), spring sugarcane (vegetative) in Uttar Pradesh.
- New sugarcane (tillering), cotton (germination), cucurbits, cowpea (sowing), rice (transplanting), soybean / arhar (sowing) in Punjab.
- New sugarcane (vegetative), cotton (sowing/germination), rice (nursery raising/ transplanting) in Haryana.
- Rice (nursery preparation / transplanting), Irrigated groundnut (field preparation / sowing), irrigated cotton (field preparation / sowing), chilli, Shimla Mirch (nursery sowing), *Zaid* crops (moong, groundnut, fodder crops) (early vegetative vegetative), new sugarcane (planting / early vegetative), vegetables (tinda, pumpkin, cucumber, coriander, bhindi, ridge gourd) (flowering / fruiting), groundnut, bajra, sorghum, soybean, moong, guar, sesame, moth, maize, cowpea, cluster bean, castor (sowing), cucurbits (sowing) and ber, aonla, pomegranate, phalsa (new planting), kinnu (new planting) in Rajasthan.

CENTRAL INDIA [M.P., CHHATTISGARH]

- *Kharif* rice (nursery sowing / germination), onion (germination/seedling), maize, jowar, arhar, soybean, sesame, groundnut (sowing/germination), sugarcane (elongation / grand growth), vegetables (sowing / transplanting / early vegetative) in Madhya Pradesh.
- Sugarcane (planting/early vegetative), *kharif* rice (nursery sowing), maize, groundnut, green gram (sowing) jowar, arhar, soybean (sowing/germination), ragi and kodomillet (sowing), ginger, turmeric, papaya (vegetative), onion (vegetative), vegetable crops (sowing/ transplanting) in Chhattisgarh.

EAST INDIA [JHARKHAND, BIHAR, ORISSA, WEST BENGAL &SIKKIM]

- *Kharif* rice, maize (nursery sowing / sowing), sugarcane (early vegetative / tillering), summer vegetables (fruiting / harvesting), moong, urad (harvesting), yam (vegetative) in Bihar.
- *Kharif* rice (nursery sowing), soybean, maize, urad, arhar, marua (sowing), onion (vegetative), ginger and turmeric (planting), *kharif* vegetables viz. bhindi, bean, French bean, tomato, cauliflower, cabbage etc. (sowing) in Jharkhand.
- Rice (direct sowing / nursery sowing), pigeon pea, groundnut, ragi, arhar, maize, cotton and *kharif* vegetables (sowing), turmeric, ginger (planting) Jute (active vegetative), turmeric, ginger, yam (planting / early vegetative), sugarcane (tillering), banana (vegetative), cowpea (pod maturity / harvesting), tomato (fruiting / harvesting), summer vegetables (fruiting / harvesting), sunflower (head formation) in Odisha.

- *Aus rice* (tillering), *aman rice* (nursery sowing), maize (sowing), ginger, turmeric (planting), pigeon pea (sowing), summer vegetables (fruiting / harvesting), jute (vegetative), tomato (fruiting / harvesting), brinjal, bitter melon, pointed gourd, ladies finger (fruiting / harvesting), chilli (fruiting / harvesting), mango (fruiting / harvesting), litchi (fruiting / harvesting) in West Bengal.
- Ginger (vegetative), large cardamom (secondary flowering), *Kharif* vegetables (sowing/transplanting) in Sikkim.

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

- Sugarcane (active vegetative / elongation), transplanted early *ahu rice* (grain formation / maturity / harvesting), transplanted regular *ahu rice* (tillering / panicle initiation / flowering), *sali rice* (nursery raising / seedling), maize (tasselling / cob formation), *Capsularis* jute (active vegetative / harvesting), pigeon pea (sowing), *kharif* vegetables (sowing), ginger, turmeric (planting / early vegetative), banana (fruiting / maturity / harvesting) and papaya (planting) in Assam.
- *Jhum rice* (tillering), main WRC rice (nursery sowing), early WRC rice (transplanting), maize (silking / tasselling / cob formation), soybean (vegetative), green gram, black gram (vegetative), okra (fruiting / harvesting), cucurbits (fruiting / harvesting), potato (tuber formation), banana (fruiting / maturity / harvesting), tomato, brinjal (nursery transplanting) in Arunachal Pradesh.
- *Pre-kharif rice* (grain formation / grain maturity), *kharif rice* (nursery sowing), maize (cob maturity / harvesting), groundnut and soybean (vegetative), turmeric, ginger (vegetative), black gram, rice bean (sowing), cauliflower (nursery raising), cowpea, okra (sowing), chilli, capsicum, tomato, cucurbits (fruiting / harvesting) in Manipur.
- *Kharif* maize (tasselling / cob formation), *ahu rice* (panicle initiation / flowering / grain formation / maturity), *sali rice* (nursery sowing / transplanting), turmeric, ginger (vegetative), pigeon pea (sowing) in Meghalaya.
- Maize (sowing), *jhum rice* (nursery sowing), banana (vegetative / fruiting / harvesting), cucurbits and French bean (sowing), ginger and turmeric (planting) in Mizoram.
- *Kharif* maize (cob formation / cob maturity), upland rice (active tillering / panicle initiation), lowland rice (transplanting), chilli, okra, brinjal (flowering / fruiting / harvesting) and ginger (vegetative) in Nagaland.
- *Jhum rice* (active tillering), *aman rice* (nursery sowing / transplanting), groundnut, maize (sowing) in Tripura.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- Sugarcane (new *adsali*) and sugarcane (new pre seasonal) (tillering / elongation), new *suru* sugarcane (tillering), *kharif rice* (nursery sowing / germination in Konkan, Nasik (Ghat), East Vidarbha and germination in Pune and Kolhapur region), jowar (sowing in Madhya Maharashtra and Marathwada), soybean (sowing / germination in Madhya Maharashtra and sowing in Marathwada and Vidarbha), groundnut (sowing in Madhya Maharashtra and Marathwada), cotton (sowing in North Madhya Maharashtra, Marathwada and Vidarbha), green gram and black gram (sowing in North Madhya Maharashtra, Marathwada and Vidarbha) in Maharashtra.
- *Kharif rice* (nursery sowing / seedling), pearl millet (sowing / germination), groundnut, cotton (sowing / germination / seedling), pulses (sowing / germination), mango (fruit maturity / harvesting), summer vegetables (fruiting / harvesting), *kharif* vegetables (sowing / transplanting), sugarcane (grand growth) in Gujarat.

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

- Summer groundnut (vegetative to pod formation), summer cotton (vegetative/boll formation), *kharif* crops: maize (sowing/ early vegetative), pigeon pea, Bt.cotton, bajra, castor, jowar (sowing), sugarcane (tillering/ grand growth), rice (nursery sowing) and vegetables (sowing) in Andhra Pradesh.
- Summer crops: Black gram (flowering), pulses (maturity) cotton (boll maturity), sesame (maturity/harvest), maize (vegetative/flowering), sorghum (flowering/ grain formation), groundnut (pegging), *kharif* crops: *kuruvai rice* (nursery sowing), groundnut (sowing), sugarcane (grand growth) and *kharif* pulses (sowing) in Tamil Nadu.

- *Viruppu* rice (transplanting/tillering), arecanut (flowering/nut formation), sugarcane (tillering), rainfed banana (planting), rubber (tapping/planting), summer vegetables (flowering/harvest), *Kharif* vegetables (sowing/ planting), pepper, ginger and cardamom (vegetative) in Kerala.
- Sugarcane (grand growth), arecanut (nut formation/maturity), *kharif* crops: sorghum, bajra, sesame, sunflower, navane, Bt. Cotton, ragi and cowpea (sowing), green gram, maize, red gram, groundnut, black gram and soybean (sowing/early vegetative) rice (nursery sowing/transplanting), vegetable crops (nursery/transplanting) in Karnataka.

Annexure II List of Varieties

Delhi

Rice

Hybrid varieties: 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 improved basmati: Pusa sugandha 5, Pusa sugandha 4 (Pusa 1121), Ranvir basmati and Taravadi basmati.

Maize: AH-421, AH-58 or Composites: Pusa composite-3, Pusa composite-4.

Bottle Gourd- Pusa Naveen, Pusa Samridhi.

Bitter Gourd- Pusa Visesh, Pusa-2 mosumi, Pumpkin- Pusa Visvash, Pusa Vikash.

Ridge Gourd- Pusa Chikni.

Jammu & Kashmir

Maize : GS-2, Mansar, Trikuta, C-5 and C-8, Super Composite (Mansar), C-6, Vijay, Him-123 and Local Tall

Rice : direct seeded rice - IET 1410, China-1039, K-39, Ratna, PC-19, Jaya, RR-8585(Ajay) (Subtropical Zone), China-1039, Samwal, K-39, K-84, K-343 & Giza-14 (in Intermediate lower zone)

Brinjal : PPL, PPC & PPR

Chillies : NP-46A, Pusa jawala.

Punjab

Rice: PR-121, PR-122, PR-118, PR-116, PR-114, PR-111, PR-113, PR-115 in Western Plain Zone.

Rajasthan

Rice: P.R.106, B.K.190, Mahi Sugandha Basmati

Groundnut: G.G.-2, J.-38, Pratap Mungphali-1, Pratap Mungphali-2, R.S.-1, R.G.-141, M.13, T.G.37-A, T.B.G.-39, H.N.G.10, H.N.G.69, Mallika, Chandra,

Bikaneri Nerma: RST-9 and Hybrid-4

Chilli: Pusa Jwala, N.P.46-A, PantC-2, Pusa Sadabahar, G-3, G-5 and RCH-1

Shimla Mirch: yellow wonder, California wonder, Bulnose and Arka Mohini

Guar: RGC-936, 197, 986, 1002, 1003, HG-365, 563, HG-2-20, RGC 1066 (Lathi)

Bajra : Raj 171, HHB-67, HHB-67A, HHB-60, RHB-90, RHB-121, RHB-121A, RHB-90, RHB-177A, RHB-154A, GHB-538, ICMH-356, ICTP-8203A,

Sorghum: CSH-6 (90-100 days), CSV-10 (100-110 days), CSV-15 (104-140 days), CSV – 17, Pratap Jowar – 1430, CSH – 13, CSH – 14, Rajasthan chari-1, Rajasthan chari-2 MP chari, SSG 59-3 and JS 20, CSH 16.

Soybean : JS-335, MACS-13, PK – 472, MACS-58, PS – 16, JS – 71 – 05, Pratap Soya-1.

Maize: Bassi selected (80-85 days), Mahi Kanchan (75-80 days) & Ageti-76 (85-95 days), Him – 129, Aravali Makka, PEHM-1, PEHM- 2, Pratap Makka-1, Pratap Makka-3, Pratap Makka-5,

Sesame: RT-46

Moong: Ganga-1(Jamnotri), Ganga-8 (Gangotri), SML-668, MUM-2, SML-668, MUM-2, RMG-62, RMG-268, RMG-492 & RMG-344 and K-851

Moth- RMO-257, 225, 435, 423 and RMO-40

Cowpea: FS-68, RC-19 and RC-101

Cucurbits: bottle guard : Pusa Naveen, Arka Bahar, pumpkin - Pusa Vishwas, Arka Chandan, Puas Alankar, Arka Suryamukhi,

bitter guard - Arka Harit Pusa Vishesh, Priya and **round gourd-** Arka tinda, Bikaneri green, Punjab-48.

Himachal Pradesh

Rice: Pant Dhan-10, Govind, Pant Dhan-12, Ratna, UPR-71-12, Pant Sankar Dhan-1, Narendra Sankar Dhan-2.

Finger millet as VL- Mandua-124 and VL-149 and short duration (95 to

100 days) varieties like VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VLMandua-146.

Uttarakhand

Chote Dhan: VL-163, VL-221, Pant dhan-6, Pant Dhan-11, VL-62, VL-81

Rice - Saket-4, Govind, Narendra-80, Pusa 2-21 (short duration)

Jethi Dhan (unirrigated) : VL-154, V.L.221

Scented rice : Pant Sugandh-15, Tarawadi, Basmati, Pusa Basmati-1, Type-3, Basmati-370

Maize: Hima-129, Navin, Sartaj, VL16, Surya, Him, Ganga Makka-9, 11.

Urad: Pant Urad-19, Pant urad-30, Pant Urd-35, 40.

Soybean: Brag, PK-262, VL Soya-2, VL Soya 21, VL Soya-47, PRS-1, PS-1092.

French bean : VL Rajma-63, **Gahat:** VLG-1, 8

Pigeon pea : Jagrati, UPAS-120, Sagar, Manak, Type-21, Bahar, Pusa-855, Pusa-74 and hybrid varieties like ICPH-8 etc

Mandua- PRM-1,2, VL Mandua-324, 146, 149.

Rice bean – PRR-1, 2

Cow pea- PRA-1, 2, 3 and VL-44.

Grain sorghum : CSH-13 or CSH-15

Pearl millets: MH-179, HHB-60, HHB-67 or composite varieties like HC-4, ICMB-8440, WCC-75 and

Uttar Pradesh

Jowar: Mauta-1, Mauta-2, Varsha, C.S.B.-15 and C.S.H.-5, C.S.H.-9, C.S.H.-14, C.S.H.-16.

Late sown varieties of rice: Sambha Masoori, Swarna sub-1, Jal-Lahari, Jal-Priya

Medium Late sown varieties of rice: Narendra- 359, Malviya-36, Pant Dhan-4, 10 Narendra Dhan-3112 , Narendra Dhan-2064, Swarna, Suraj-52, Pusa Basmati-1, Haryana Basmati

Early sown varieties of rice: Manhar Pant Dhan- 12, I.R- 50, Narendra- 118, Narendra Dhan- 2026.

Arhar: Paras, U.P.A.S-120, Pusa- 992

Groundnut- Moongfali-1, 13, Girnar-2, Ta-64, Kaushal guchedar, Chandra, Ta- 28

Til- Haryana Til-1, Punjab Til-2

Moong- Pusa Baishakhi

Urad- T-9

Cabbage- Patgobhi-3, Early Kuwari, Pusa early synthetic, pusa deepali

Bhindi- Varsha Uphar, Arka Anamika, V.R.O-5, R.O-6

Tomato- pusa early, pusa ruby, H.S. 101

Kharif onion- N.- 53, agrifound darkred

Madhya Pradesh

Rice:

a. Medium: IR-36, IR-64, Pusa sugandha-5, MTU-1001

b. Late: Mahsuri, Safari-17, Syamla, Swarna

Maize:

a. Medium: navjot, Arun, H-216, Jm-13, Sartaj, Daccan 107

b. Late: Ganga-11, Prabhat, Trisulta, Daccan 103, Daccan 105

Jowar: JJ-741, JJ-938, JJ-1022, JJ-1041 and CSV-15

Arhar: Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

Soybean: JS-95-60, JS-93-95, JS-97-52, JS-80-21, JS-335, NRC-37

Onion: Nashik 53, Agrifound dark red, Pusa kalyani

Chhattisgarh

Ragi: PR-202, HR-374, VR-708, RU-08, GPU-45, VC-149 etc.

Kodomillet: GPUK-03, RBK-155 etc.

Odisha

Ginger: Suprava, Suruchi, Surabhi.

Turmeric: Roma, Surama, Rang, Rashm.

Maize: Navjot, Shakti, Decan-107, Decan-109.

Yam:

Local Yam: Shreekirti, Shreerupa, Hatikhoj, Shreeshilpi.

Small yam: Shreelata, Shreekala.

White Yam: Shreesubhra, Shreepriya, Shreedhanya.

Rice:

Early- Khandagiri, Bandana, Pathara, Parijat, Annada.

Medium-MTU- 1001, MTU-1010, Konark, Gajapati, Surendra, Lalat.

Late- CR-1009, CR-1018, Swarna (MTU-7029), Indravati, Mahanadi, Puja, Ramachandi, Kanchana, Sarala, Lunishree and Fine-CR-1014, BPT-5204.

Arhar:

Early-duration- Prabhat, Upas-120, ICPL-86012.

Medium duration- Asha, Visakha.

Cotton: Tulasi, Sigma, Chiruta, Diana, Bunny

Ragi: Divyasinha, AKP-2, AKP-3, AKP-7, Godavari, Neelachal, Bhairavi, Shubhra, and Chilika.

Groundnut: Smruti, AK12-24, TAG-38, Devi

West Bengal

Arum: BCC-17, BCC-33, BCC-02, BCC-01, BCC09.

Pigeon pea: Sweta, Chumi.

Aman rice : IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002.

Jharkhand

Rice: Birsa Dhan- 108, Birsa Vikas Dhan- 109, 110, Vandana etc.

Maize: Birsa Makka -1, Birsa Makka-2, Suwan-1 etc.

Ginger: Vardhaman, Nadia etc.

Turmeric: Rajendra Sona.

Okra: Pusa A-4, Prabhani Kranti, Arka Anamika, Varsa Uphar, Sonal and Sarika.

Marua: A-404, HR-374, Birsa Marua-1 and Birsa Marua-2.

Bihar

Rice: Rajshree, Rajendra Sweta, Rajendra Mansuri, Swarna, Satyam, Kishori, MTU 7029. Rajendra mehsoori-1, Rajendra bhagwati, MTU-1010, MTU-1001, Hybrid seed-PHB 71, A 6444, PRH 10.

Maize: Deok, Shaktiman 1, Shaktiman 2, Sunkar Makka 3 and Ganga 11.

Assam

Ginger: Nadia, Karkai, Maran, Jorhat, Chaina.

Turmeric: Shillong Type, CL-24, PTS-38, PCT-13, VK-145.

Papaya: Ranchi, Washington, Halflong, Coorg Honeydew.

Sali rice:

Long duration high yielding varieties: Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal.

Medium to short duration varieties: Satya, Basundhara, Mahsuri, Luit, Pioli, Moniram.

Flood tolerant varieties: Jalashri, Jalkuwari (for chronically low lying flood affected areas).

Arhar: T-21.

Manipur

Cowpea: Pusa Barsati, Pusa Do-fasli, Long Green.

Tripura

Aman rice: Gomati, Ranjeet, Swarna, Samba Masuri.

Groundnut: TAG 24, TG 37A, ICGS 76.

Maize: DMH- 849, 117, HQPM 1, BQPM 9.

Gujarat

Rice: GR-11, Jaya, IR – 22, Gurjari and Dandi.

Pearl millet: GHB-528, GHB-577, GHB-316 and GHB-183.

Pigeon pea: GT-1, GT-100, GT-101, T-15-15, BDN-2, IPCL-87, Pusa Ageti and GTH-1.

Green gram: GM-3, GM-4 and K-851.

Black gram: T-9 and GU-1.

Cowpea: Gujarat cowpea-1, 2, 4, Pusa Falguni.

Groundnut: GAUG-10, GG-11, 12, 13,

Semi spreading: GG-2, GG-5, GG-7 or TG-26 and GG-20

Bunch: GG-2, GG-5, TAG-24, TG-37 A, TPG-41, TLG-45.

Maharashtra

Kharif Rice: PKV HMT, PKV Khamang, PKV Makarand, PKV Ganesh, Sindewahi 2001 for East Vidarbha.

Rice: Karjat 4, 184, Ratnagiri 24, Pawna and mid late varieties like Phule Samruddhi, Indrayani and Pusa Basmati.

Kharif jowar

Hybrid: CSH 5, CSH 9, CSH 13, CSH 14, CSH 16, CSH 17, CSH 18 and CSH 2.

Improved: SPV 462, CSV 13, CSV 15, CSV 17, PKV 801 for Pune region and CSH 14, CSH 16, CSH 25 for Marathwada.

Bajra

Hybrid: Shraddha (RHRBH 8609), Saburi (RHRBH 8924), Phule Shanti (RHRBH 9808).

Improved: CTP 8203, ICMV – 155 for Pune region and GHB 558, Shraddha, Saburi and Pratibha for Marathwada.

Groundnut: SD 11, Phule Pragati, Phule Vyas, Phule Unap, TPG 41 and TG 26.

Red Gram: ICPL 87, Vipula, BSMR-853, BSMR-736, AKT 8811, Amol for Madhya Maharashtra and ICPL-87119 (Asha) and C-11 for Central Vidarbha.

Sunflower: EC-68414, SS-56 and Bhanu.

Soyabean: JS-335 and Phule Kalyani (DS-228) for North Madhya Maharashtra and MAUS 71, JS-335 for Marathwada.

Green Gram: BM-2002-1, BM 2003-2, AKM-4 and Green Gold for Marathwada.

Kharif Cotton

Improved: AKA-5, AKA-7 and AKA-8.

American improved variety: AKH-081, PKV-Rajat and AKH-8828 for Central Vidarbha Zone.

Banana (June): Grandnina, Ardhapuri, Basrai, Shrimanti for Marathwada and Grandnina, Basrai for Pune region.

Kerala

Rice: Uma, Jyothi, Prathyasa

Bananas: Robusta, Poovan, Njalipoovan, Palayankodan

Tamil Nadu:

Rice : ADT 36, ADT 43, ADT 45 and ADT 47

Green gram : CO 6, CO 7, VBN 2 and VBN 3

Black gram : VBN 3, VBN 4, VBN 5 and CO 5

Karnataka:

Red gram: TTB-7, BRG-1, BRG-2 (For Eastern Dry Zone)

TS-3R (For North Dry Zone)

Maize: DMH-2 and Arjun

Groundnut:

Bunch type of varieties – GPBD-4, JL-24 and TMV-2 (Use 125 kg seeds/ha (i.e 50 kg seeds per acre)

Spreading type of varieties – DSG-1 and JSP-39 (Use 75 kg seeds per hectare (i.e 30 kg seeds per acre)

Soybean: JS-335 (Use 75 kg seeds/ha

Cotton: DHH-11, NCH-145, NHH-44, DHB-105 and Sahana.

Red gram: TTB-7, BRG-1, BRG-2

Andhra Pradesh

Mung bean- LGG 407, Lgg 460, LGG 450, PDM 54, MGG 295, WGG 37, Pusa 105, MGG 348.

Urad bean - LBG 752, Lbg 20, PU 31, T9, LBG 623

Redgram – LRG 30, LRG 41, LRG 38, ICPL 332, ICPL 8719, ICP 8863, ICPL 85063, MRG 66, PRG 158, PRG 100

Soybean – S 335, PK 1029, JS 93-05, Bheema, Basara.

Rice- Swarna, Sonamashuri, Sambamashuri and ragi with varieties Bharati, Srichaitanaya, Hima.