

National Agromet Advisory Service Bulletin

Friday 16th May 2014

(For the period 16th to 20th May 2014)



Issued by

National Agrometeorological Advisory Service Centre,

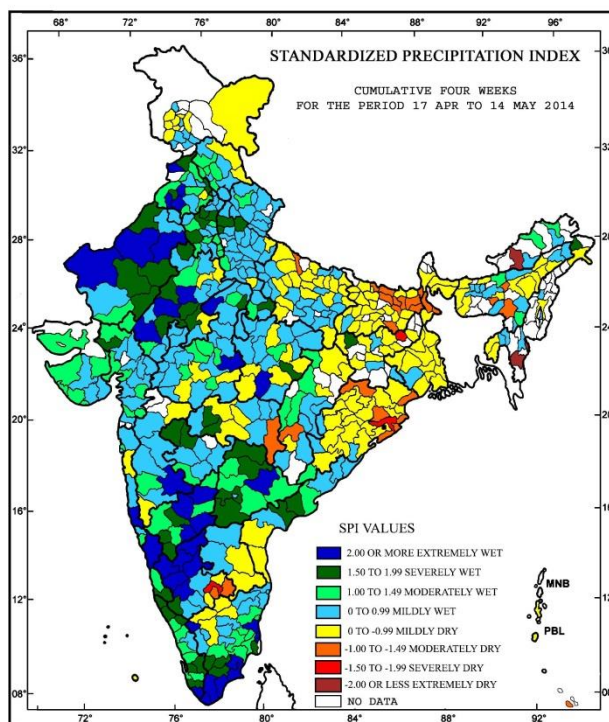
Agricultural Meteorology Division,

India Meteorological Department, Shivajinagar, Pune.



Standardised Precipitation Index
Four Weekly
for the Period 17th April to 14th May 2014

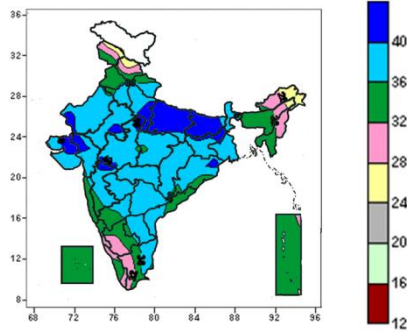
MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely wet/severely wet conditions experienced over Gurdaspur, Amritsar, Sas Nagar(Mohali), Muktsar, Faridkot, Bhatinda, Moga districts of Punjab; Karnal, Jind, Kaithal, Bhiwani districts of Haryana; Sri Ganganagar, Bikaner, Churu, Jodhpur, Nagaur, Pali, Udaipur, Bhilwara, Ajmer, Tonk, Bundi, Kota, Chittorgarh districts of Rajasthan; Patan district of Gujarat region; Muzaffarnagar and Bijnor districts of Uttar Pradesh; Sheopur, Datia, Raisen, Seoni, Dindori districts of Madhya Pradesh; Aurangabad, Jalna, Akola, Washim districts of Maharashtra; Adilabad, Karimnagar, Warangal, Krishna, West Godavari, Rangareddy, Mehbubnagar districts of Andhra Pradesh; Kasargod, Kannur, Waynad, Alapuzha, Pathanamthitta, Kollam, Thiruvananthapuram districts of Kerala; most districts of Coastal and South Interior Karnataka and South Tamilnadu.
- Moderately/ severely dry conditions experienced in East Kameng district of Arunachal Pradesh; Kamrup (metro), Morigaon districts of Assam; Jaintia Hills district of Meghalaya; Lunglei district of Mizoram; some parts of Bihar, Odisha; Deogarh district of Jharkhand, Gadchiroli district of Maharashtra; Kanker district of Chhattisgarh; Bangalore rural, Bangalore Urban and Kolar districts of Karnataka.
- Rest of the country experienced mild wet/dry conditions.

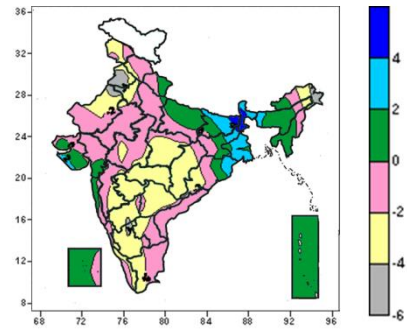
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 14.05.2014

Actual Mean Maximum Temperature ($^{\circ}$ C) in India for the week ending 14.05.2014



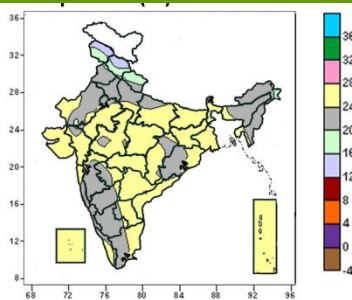
- 40 to 44 $^{\circ}$ C over many parts of East Uttar Pradesh, Bihar, some parts of Rajasthan, West Uttar Pradesh, Jharkhand, Gujarat, Saurashtra & Kutch, Madhya Pradesh, Odisha, Madhya Maharashtra.
- 36 to 40 $^{\circ}$ C over many parts of Uttarakhand, West Uttar Pradesh, Rajasthan, Haryana, Delhi, Jharkhand, West Bengal & Sikkim, Odisha, Central India, Andhra Pradesh, Vidarbha, Madhya Maharashtra, Marathwada, Gujarat, Saurashtra & Kutch, some parts of Bihar, North Interior Karnataka, Konkan, Tamil Nadu.
- 32 to 36 $^{\circ}$ C over many parts of Punjab, Assam & Meghalaya, Mizoram, Tripura, Karnataka, Konkan & Goa, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Haryana, Odisha, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Kerala, Madhya Maharashtra, Madhya Pradesh.
- 24 to 32 $^{\circ}$ C over many parts of Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh, Nagaland, some parts of Assam & Meghalaya, Tamil Nadu, Kerala, Coastal & South Interior Karnataka.

Mean Maximum Temperature ($^{\circ}$ C) Anomaly in India for the week ending 14.05.2014



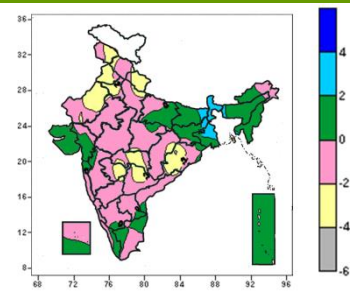
- 4 to 6 $^{\circ}$ C over many parts of Sub-Himalayan West Bengal, some parts of Bihar.
- 2 to 4 $^{\circ}$ C over many parts of Bihar, Sikkim, Gangetic West Bengal, some parts of Jharkhand, Sub-Himalayan West Bengal, Assam, Odisha, Saurashtra.
- 0 to 2 $^{\circ}$ C over many parts of East Uttar Pradesh, Assam & Meghalaya, Mizoram, Tripura, Konkan, Saurashtra & Kutch, Lakshadweep, Andaman & Nicobar Islands, some parts of Uttarakhand, West Uttar Pradesh, Bihar, Jharkhand, Arunachal Pradesh, Mizoram, Odisha, Gujarat.
- -4 to 0 $^{\circ}$ C over many parts of Jammu & Kashmir, Himachal Pradesh, Haryana, Delhi, Rajasthan, West Uttar Pradesh, Arunachal Pradesh, Manipur, Odisha, Central India, Gujarat, South India, Madhya Maharashtra, Marathwada, Vidarbha, some parts of Uttarakhand, East Uttar Pradesh, Bihar, Jharkhand, Assam, Nagaland, Saurashtra, Lakshadweep Islands.
- -6 to -4 over many parts of South Interior Karnataka, some parts of North Interior Karnataka, Kerala.

Actual Mean Minimum Temperature ($^{\circ}$ C) in India for the week ending 14.05.2014



- 24 to 28 $^{\circ}$ C over many parts of East Rajasthan, East Uttar Pradesh, Bihar, Jharkhand, West Bengal, Central India, Gujarat, Saurashtra & Kutch, Vidarbha, Andhra Pradesh, Lakshadweep, Andaman & Nicobar Islands, some parts of West Rajasthan, East Uttar Pradesh, Sikkim, Assam, Tripura, Odisha, Tamil Nadu, Kerala, North Interior Karnataka, Konkan, Madhya Maharashtra, Marathwada.
- 20 to 24 $^{\circ}$ C over many parts of West Rajasthan, Punjab, Haryana, Delhi, Sikkim, North East India, Odisha, Karnataka, Tamil Nadu, Madhya Maharashtra, Marathwada, Goa, some parts of Uttarakhand, East Rajasthan, East Uttar Pradesh, Bihar, West Madhya

Mean Minimum Temperature ($^{\circ}$ C) Anomaly in India for the week ending 14.05.2014



- 2 to 4 $^{\circ}$ C over many parts of West Bengal & Sikkim, some parts of Bihar, Jharkhand, Assam.
- 0 to 2 $^{\circ}$ C over many parts of East Uttar Pradesh Bihar, Jharkhand, North East India, Gujarat, Saurashtra & Kutch, Andaman & Nicobar Islands, some parts of Gangetic West Bengal, East Madhya Pradesh, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Kerala, South Interior Karnataka, Konkan, Madhya Maharashtra.
- -2 to 0 $^{\circ}$ C over entire country except many parts of Jammu & Kashmir, Punjab, Haryana, Delhi, West Uttar Pradesh, Bihar, Jharkhand, west Bengal & Sikkim,

Pradesh, Chhattisgarh, Rayalaseema, Kerala, Konkan.

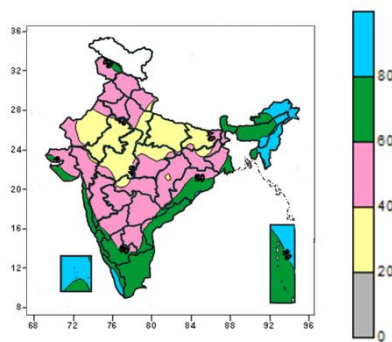
- 16 to 20^oC over many parts of Jammu & Kashmir, some parts of Himachal Pradesh, Uttarakhand.
- 12 to 16^oC over some parts of Jammu & Kashmir, Himachal Pradesh.

North East India, Odisha, Gujarat, Saurashtra & Kutch, Andaman & Nicobar Islands, some parts of Himachal Pradesh, West Rajasthan, East Madhya Pradesh, Maharashtra, Andhra Pradesh, Tamil Nadu, Kerala, South Interior Karnataka, Lakshadweep Islands.

- -4 to -2^oC over many parts of Jammu & Kashmir, Uttarakhand, Punjab, Haryana, Delhi, Odisha, Vidarbha, some parts of Himachal Pradesh, West Rajasthan, West Uttar Pradesh, Chhattisgarh, East Madhya Pradesh, Telangana, Marathwada.

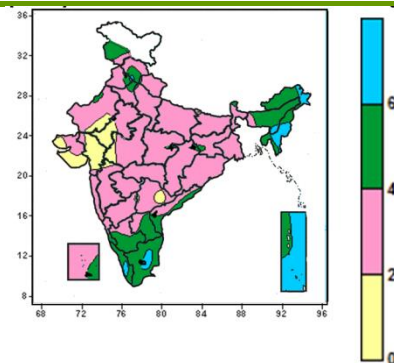
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 14.05.2014

Relative Humidity (%) over India for the week ending 14.05.2014



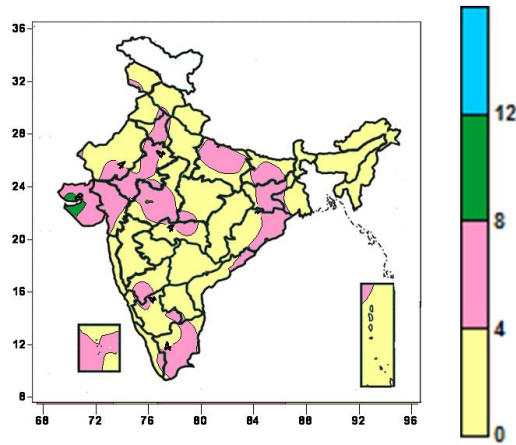
- 80 to 100% over many parts of Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Lakshadweep Islands, some parts of Assam & Meghalaya, Kerala, Andaman & Nicobar Islands.
- 60 to 80% over many parts of Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Odisha, Coastal Andhra Pradesh, Tamil Nadu, Coastal & South Interior Karnataka, Konkan & Goa, Andaman & Nicobar Islands, Some parts of Jammu & Kashmir, Gangetic West Bengal, Telangana, Rayalaseema, Kerala, North Interior Karnataka, Madhya Maharashtra, Saurashtra & kutch.
- 40 to 60% over many parts Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, West Uttar Pradesh, Jharkhand, Gangetic West Bengal, Chhattisgarh, East Madhya Pradesh, Telangana, Rayalaseema, North Interior Karnataka, Madhya Maharashtra, Marathwada, Vidarbha, Gujarat, Saurashtra & Kutch, some parts of Rajasthan, West Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, Odisha, West Madhya Pradesh, South Interior Karnataka, Konkan.
- 20 to 40% over many parts of East Uttar Pradesh, Rajasthan, Bihar, West Madhya Pradesh, some parts of Uttarakhand, West Uttar Pradesh, Jharkhand, East Madhya Pradesh, Chhattisgarh, Vidarbha, Gujarat.

Cloud amount (okta) over India for the week ending 14.05.2014



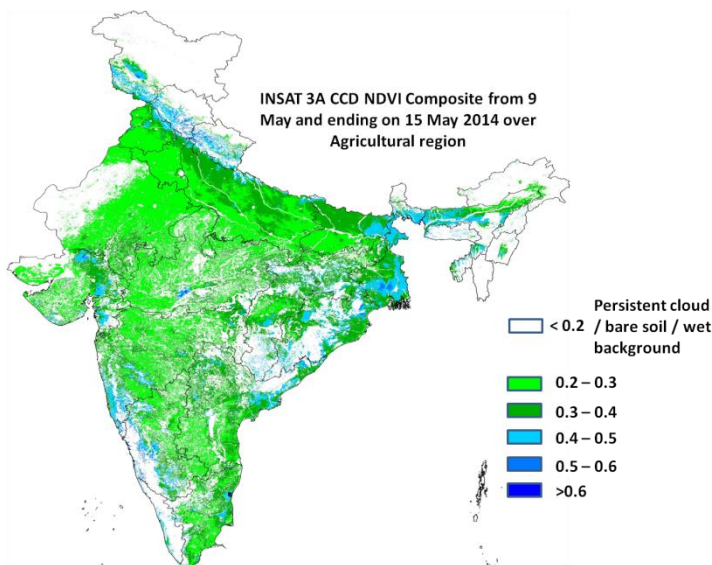
- 6 to 8 okta over many parts of Mizoram, Andaman & Nicobar Islands, some parts of Arunachal Pradesh, Manipur, Tripura, Tamil Nadu, Kerala.
- 4 to 6 okta over many parts of Jammu & Kashmir, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Rayalaseema, Tamil Nadu, Kerala, Coastal & South Interior Karnataka, some parts of Himachal; Pradesh, Punjab, Haryana, Jharkhand, Sikkim, Tripura, Coastal Andhra Pradesh, Lakshadweep, Andaman & Nicobar Islands.
- 2 to 4 okta over entire country (except many parts of Jammu & Kashmir, North East India, Gujarat, Saurashtra & Kutch Rayalaseema, Tamil Nadu, Kerala, Coastal & South Interior Karnataka, Andaman & Nicobar Islands, some parts of Himachal; Pradesh, Punjab, Haryana, Jharkhand, Sikkim, Coastal Andhra Pradesh, Rajasthan, West Madhya Pradesh, Madhya Maharashtra, Telangana Lakshadweep).
- 0 to 2 okta over many parts of Gujarat, Saurashtra & Kutch, some parts of Rajasthan, West Madhya Pradesh, Madhya Maharashtra, Telangana.

Wind speed (knots) over India for the week ending 14.05.2014



- 8 to 12 knots over some parts of Saurashtra & Kutch.
- 4 to 8 knots over many parts of Haryana, Delhi, West Uttar Pradesh, Bihar, Jharkhand, Odisha, East Rajasthan, Saurashtra & Kutch, Gujarat, East Madhya Pradesh, Tamil Nadu, Lakshadweep Islands, some parts of Jammu & Kashmir, Himachal Pradesh, West Uttar Pradesh, Punjab, Gangetic West Bengal, East Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh, Rayalaseema, Interior Karnataka, Kerala, Andaman & Nicobar Islands.
- 0 to 4 knots over entire parts of country except many parts of Haryana, Delhi, West Uttar Pradesh, Bihar, Jharkhand, Odisha, East Rajasthan, Saurashtra & Kutch, Gujarat, East Madhya Pradesh, Tamil Nadu, Lakshadweep Islands, some parts of Jammu & Kashmir, Himachal Pradesh, West Uttar Pradesh, Punjab, Gangetic West Bengal, East Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh, Rayalaseema, Interior Karnataka, Kerala, Andaman & Nicobar Islands.

INSAT 3A CCD NDVI COMPOSITE OVER AGRICULTURAL REGION 9th – 15th May 2014



- Agricultural vigour is moderate over few pockets of central West Bengal where NDVI varies between 0.4 to 0.5 upto 15th May 2014. The NDVI remains within the range of 0.2 to 0.4 over rest of India. There is no change in NDVI from last week.

Source: SAC, Ahmedabad

Monsoon Watch

- Conditions have become favourable for advance of southwest monsoon over south Andaman sea and southeast Bay of Bengal during next 48 hours.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 19th May, 2014)

- Rain/thundershowers would occur at most places over Andaman & Nicobar Islands during the period.
- Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya during next 24 hours and at a few places thereafter.
- Rain/thundershowers would occur at a few places over Nagaland, Manipur, Mizoram and Tripura during next 24 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Jammu & Kashmir during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at isolated places over Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, east Rajasthan, Tamilnadu & Pudduchery during the period.
- Rain/thundershowers would occur at isolated places over Madhya Pradesh, Chhattisgarh, Vidarbha, Telangana, Rayalaseema during next 24 hours and over Punjab, west Rajasthan, Gujarat State, Madhya Maharashtra during next 48 hours and mainly dry thereafter.
- Mainly dry/dry weather would prevail over Uttarakhand, Haryana & Delhi, Coastal Karnataka, South Interior Karnataka and Kerala during next 24 hours and rain/thundershowers would occur at isolated places thereafter.
- Mainly dry/dry weather would prevail over rest of the country.
- Rise in maximum temperature by 2-3°C over many parts of Punjab, Haryana & Delhi, Uttar Pradesh and Rajasthan.
- Fall in maximum temperatures by 2-3°C over many parts of east India leading to abatement of heat wave conditions and no significant change over rest of the country during next 3 days.

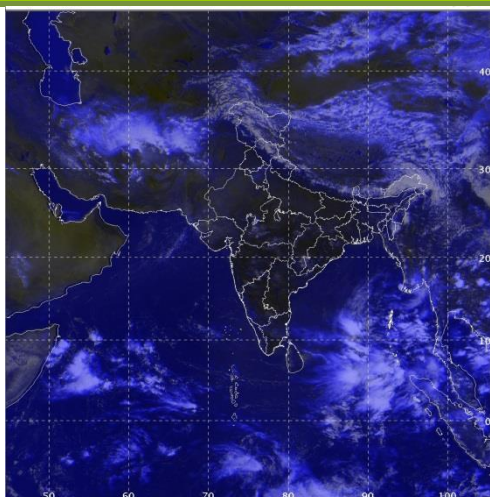
Weather Warning during next 3 days

- **16 May (Day 1):** Isolated heavy rainfall would occur over Andaman & Nicobar Islands, Arunachal Pradesh and Assam & Meghalaya. Heat wave conditions would prevail at isolated places over Bihar, Odisha and Gangetic West Bengal.
- **17 May (Day 2):** Isolated heavy rainfall would occur over Andaman & Nicobar Islands. Heat wave conditions would prevail at isolated places over Gangetic West Bengal.
- **18 May (Day 3):** Isolated heavy rainfall would occur over Andaman & Nicobar Islands.

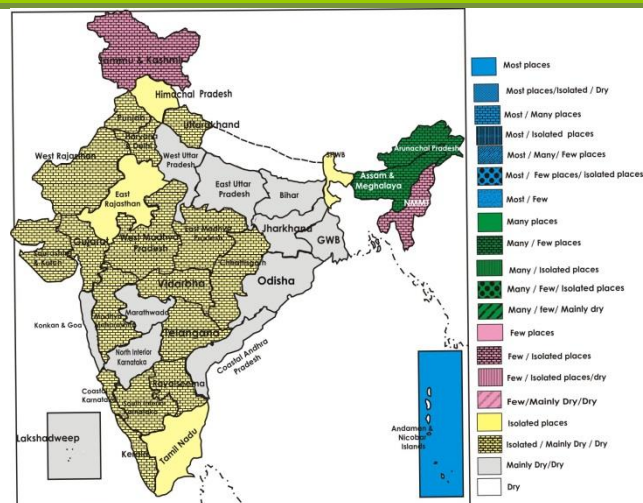
Weather Outlook for subsequent 4 days from 19th to 23rd May 2014

- Rain/thundershowers would occur at a few places over western Himalayan region and at isolated places over adjoining plains.
- Rain/thundershowers would occur at a few places over northeastern states and at isolated places over south Peninsular India.
- Rain/thundershowers would occur at most places over Andaman & Nicobar Islands.
- Weather would be mainly dry over rest of the country.

Satellite image dated 16.05.2014, 0630 UTC



Weather Forecast Map (Valid upto 0830 hours of 19th May, 2014)



Salient Advisories

- As rain/thundershowers would occur at many places along with isolated heavy falls over **Assam, Meghalaya** and **Arunachal Pradesh** on 16th May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops and keep harvested produce at safer places in sheds. Also provide adequate drainage in crop fields to avoid water stagnation.
- As heat wave conditions would prevail at isolated places over **Bihar** and **Odisha** on 16th May and over **Gangetic West Bengal** on 16th and 17th May, it is advised to apply light and frequent irrigation to the standing crops or do soil mulching/ mulching with straw/polythene to cope up with the excess evaporative demand due to high temperature.
- In view of increasing temperature, it is advised to irrigate tomato crop once in a week to encourage maximum fruit setting and development of fruits in Central Plain Zone of **Punjab**. Also protect fruit trees from scorching sun by white washing the trunk, providing shade arrangements to young trees and by applying light and frequent irrigation to young as well as fruit bearing trees.
- In view of prevailing high temperatures, apply light and frequent irrigation in groundnut and vegetables in Middle **Gujarat** Zone. Use mulching in sapota to maintain the temperature.

Detailed Zonewise Agromet Advisories

NORTH INDIA [Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh & Rajasthan]



Sugarcane



Bottle Gourd



Onion



Mango

- **Realised Rainfall:** Rainfall occurred at all districts of Himachal Pradesh except Lahaul & Spiti and Sirmaur districts, all the districts of Jammu & Kashmir except Jammu, Kargil, Ladakh (Leh), Poonch, Reasi and Samba; Bhatinda, Faridkot, Gurdaspur, Ludhiana, Moga, Muktesar, Ropar, Sangrur and Mohali districts in Punjab; Bhiwani, Chandigarh, Gurgaon, Hissar and Jind districts in Haryana, Central Delhi, North Delhi, South Delhi and South West Delhi in Delhi, Chamoli, Garwal Tehri, Pithoragarh and Uttarkashi districts in Uttarakhand, Bikaner, Churu and Sriganganagar districts in West Rajasthan, Jhunjhunu in East Rajasthan and Baghpat in West Uttar Pradesh.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Jammu & Kashmir during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over Himachal Pradesh and east Rajasthan during the period. Rain/thundershowers would occur at isolated places over Punjab and west Rajasthan during next 48 hours and mainly dry thereafter. Mainly dry/dry weather would prevail over Uttarakhand, Haryana & Delhi during next 24 hours and rain/thundershowers would occur at isolated places thereafter. Mainly dry/dry weather would prevail over rest of the region.
Rise in maximum temperature by 2-3°C over many parts of Punjab, Haryana & Delhi, Uttar Pradesh and Rajasthan. No significant change in maximum temperature over rest of the region during next 3 days.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over western Himalayan region and at isolated places over adjoining plains of northwest India.
- **Advisories:**
 - **Jammu & Kashmir:**
 - In Intermediate Zone of Jammu & Kashmir, undertake nursery sowing of rice and undertake field preparation for sowing of maize, kale, knol khol, beans and bhindi in Valley Temperate Zone utilizing the realised rainfall.
 - Partly cloudy and humid weather conditions are congenial for development of bacterial wilt in tomato in Sub Tropical Zone of Jammu & Kashmir; to manage, apply Streptomycin Sulphate @ 2g per 10 litres of water on a non-rainy day.

▪ **Himachal Pradesh:**

- Continue nursery sowing of cucurbits viz. cucumber, bitter gourd, bottle gourd and summer squash in Mid Hill region of Himachal Pradesh utilizing the realised rainfall.
- Due to hot and humid weather conditions, there is chance of attack of defoliating caterpillars and beetles in apple in Mild-Hills Sub-Humid Zone of Himachal Pradesh; spray Malathion @ 200 ml per 200 litres of water for control.

▪ **Uttarakhand:**

- In Hill Zone of Uttarakhand, undertake sowing of soyabean, urad and planting of potato utilizing the realised rainfall.
- In the prevailing temperature conditions, there is chance of fruit borer in litchi in Bhabar and Tarai Zone of Uttarakhand; spray Numacron 36 EC @ 2 ml per liter of water.
- Due to partly cloudy conditions, there may be incidence of yellow mosaic virus disease in moong and urad crops at flowering & pod formation stage in Bhabar and Tarai Zone of Uttarakhand. To control the whiteflies which act as vector of the disease, spray Metasystox @400 ml/400 litres of water per acre.
- Due to hot weather condition there may be attack of mango hopper in mango in Sub Humid Sub Tropic Zone of Uttarakhand, to control, spray Dimethoate @ 2 ml per litre of water.

▪ **Punjab, Haryana and Delhi:**

- In view of increasing temperature, it is advised to irrigate tomato crop once in a week to encourage maximum fruit setting and development of fruits in Central Plain Zone of Punjab. Also protect fruit trees from scorching sun by white washing the trunk, providing shade arrangements to young trees and by applying light and frequent irrigation to young as well as fruit bearing trees.
- As hot weather conditions are prevailing and mainly dry weather is likely, apply light and frequent irrigation in turmeric till emergence in Western Plain Zone of Punjab. Spread paddy / wheat straw over the crop to conserve moisture and for controlling the weeds. Due to prevailing hot weather conditions irrigate sugarcane crop at 7-12 days interval for better growth.
- As dry weather is likely to prevail, apply light and frequent irrigation in all vegetable crops and new horticultural plantations in Eastern Zone of Haryana. Irrigation should be done in the morning or evening hours.
- In Delhi, in view of increasing temperature, apply light and frequent irrigation in all vegetable crops in the morning or evening hours. Optimum moisture level should be maintained in cucurbitaceous crops by applying light and frequent irrigation, as dry conditions may lead to poor pollination and thus drop in yield.

▪ **Uttar Pradesh**

- As mainly dry weather would prevail, apply irrigation in sugarcane, vegetables and fruit crops and continue intercultural operations in sugarcane in West Uttar Pradesh.
- Due to hot weather conditions, there is chance of attack of grass hopper and hairy-tobacco caterpillar in sunflower in Central Plain Zone of Uttar Pradesh. To control, spray Phospimadan @250 ml in 600 litres of water.

▪ **Rajasthan:**

- As mainly dry weather is prevailing, apply light and frequent irrigation in all vegetable crops and fruit crops in Rajasthan.
- Due to prevailing hot weather, there is possibility of attack of stem and fruit borer in okra in Southern Humid Plain Zone of Rajasthan; to control spray Malathion @ 2 ml or Thioron 1 ml in one litre of water.
- Due to rise in temperature, chilli crop is affected by leaf curl and mosaic disease in Semi Arid Eastern Plain Zone of Rajasthan and likely to spread. To manage, uproot and burn the affected plants and spray Dimethoate 30 EC @ 1.0 ml per litre of water.
- Due to rise in temperature, there is possibility of attack of sucking pests in tomato nursery in Flood Prone Eastern Plain Zone of Rajasthan. To control, spray Imidacloprid @ 1ml per 3 litres of water.

• **Animal Husbandry**

- Due to prevailing high temperature in Uttar Pradesh, Uttarakhand and West Rajasthan, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade or in sheds during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule.

• **Poultry**

- Due to prevailing hot weather conditions, give balanced feed to the poultry birds in Central Plain Zone of Uttar Pradesh and Rajasthan. Make proper ventilation in poultry sheds and keep the sheds clean. White wash the poultry shed from outside especially the roof. This will help to reflect the sun rays.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane



Chilli



Okra



Green Gram

- **Realised Rainfall:** Rainfall occurred in Bastar district of Chhattisgarh. Weather was mainly dry over rest of the region.
- **Weather forecast:** Rain/thundershowers would occur at isolated places over Madhya Pradesh, Chhattisgarh during next 24 hours and mainly dry thereafter.
No significant change in maximum temperature over the region during next 3 days.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be mainly dry over the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - As prevailing temperature is high, apply light and frequent irrigation in vegetables in Madhya Pradesh.
 - As mainly dry weather and high temperature conditions are prevailing, apply light and frequent irrigation in summer vegetables, mango, guava and lemon orchards in Gird Zone, Jhabua Hill Zone and Kymore Plateau Zone of Madhya Pradesh.
 - As mainly dry weather would prevail, continue harvesting of matured cauliflower, tomato, brinjal, chilli, *capsicum* etc. in Satpura Plateau Zone, Kymore Plateau Zone and Nimar Valley Zone of Madhya Pradesh.
 - As prevailing temperature is high, undertake soil mulching / apply mulch in young fruit plants in Jhabua Hill Zone of Madhya Pradesh.
 - Due to prevailing hot weather, there is possibility of attack of stem & fruit borer in brinjal, tomato & okra in Jhabua Hill Zone of Madhya Pradesh; spray Trizophos @ 30 ml/pump.
 - Due to prevailing hot weather, there is possibility of attack of early shoot borer and scale insect in sugarcane in Central Narmada Valley Zone of Madhya Pradesh; apply Forate 10 g @ 10-15 kg/ha.
 - Due to prevailing hot weather, there is possibility of attack of stem borer in sugarcane in Vindhya Plateau Zone of Madhya Pradesh; apply Forate 10 g @ 10 kg/ha.
 - **Chhattisgarh:**
 - As no significant rainfall is expected, apply irrigation in summer rice, maize, sugarcane and mango and litchi orchards in North Hill Zone of Chhattisgarh.
 - Due to prevailing high temperature, apply irrigation in summer rice, groundnut and vegetables. Undertake mulching by paddy straw in summer vegetables (okra, tomato and brinjal) and soil mulching in groundnut and moong in Chhattisgarh Plain Zone.
 - Due to hot weather, there is possibility of attack of stem borer in summer maize in North Hill Zone of Chhattisgarh, apply Carbofuran @ 2-3 grain per plant.
 - Due to dry weather, there is possibility of attack of termite in sugarcane in North Hill Zone of Chhattisgarh. Soil drenching may be done by Chloropyriphos 20 EC.
- **Animal Husbandry**
 - Vaccinate poultry birds with F-1 or Lasota strain vaccine against Ranikhet disease and cattles against FMD disease during the season. Also protect chicks against high temperature and provide cold and clean water to animals for drinking 3 times a day in Madhya Pradesh.
 - Due to increase in temperature, cover the window and doors of poultry farms with gunny bags and keep wet with water in Bundelkhand Zone of Madhya Pradesh.
 - Due to prevailing high temperature, special attention should be given to milch animals with regard to feed and water in North Hill Zone of Chhattisgarh. Provide plenty of clean water to the animals and keep them in the shaded place.

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



Mango



Sugarcane



Green Gram



Onion

- **Realised Rainfall:** Rainfall occurred in many districts of Sub-Himalayan West Bengal (except Malda, North Dinajpur and South Dinajpur), in West Sikkim, North Sikkim and East Sikkim districts of Sikkim, in Sahibganj district of Jharkhand, in Boudhgarh, Gajapati and Malkangiri districts of Odisha. Mainly dry/ dry weather prevailed over rest of the region.
- **Weather forecast:** Rain/thundershowers would occur at isolated places over Sub-Himalayan West Bengal & Sikkim during the period. Mainly dry/ dry weather would prevail over rest of the region. Fall in maximum temperatures by 2-3°C over many parts of east India leading to abatement of heat wave conditions during next 3 days.
- **Weather Warning:** Heat wave conditions would prevail at isolated places over Bihar, Odisha on 16th and over Gangetic West Bengal on 16th and 17th May.
- **Weather Outlook:** Weather would be mainly dry over the region.
- **Advisories:**
 - As heat wave conditions would prevail at isolated places over Bihar and Odisha on 16th May and over Gangetic West Bengal on 16th and 17th May, it is advised to apply light and frequent irrigation to the standing crops or undertake soil mulching/ mulching with straw/polythene to cope up with the excess evaporative demand due to high temperature.
 - **Odisha:**
 - High diurnal variation of temperature favours incidence of blast in rice in East and South Eastern Coastal Plain Zone and North Central Plateau Zone of Odisha. For control; spray Tricyclazole @ 0.6g per litre of water. Also due to hot weather, there is chance of Stem borer; to manage fix 4-5 pheromone traps per acre or spray Triazophos @ 2 ml / litre of water.
 - In the present weather, Gundhi bug infestation has become severe in rice during milk and soft dough stage in Western Undulating Zone of Odisha and likely to continue; spray Monocrotophos @ 2 ml/litre of water.
 - High diurnal variation of temperature may aggravate whitefly problem in green gram at flowering to pod formation stage in North Eastern Ghat Zone of Odisha. Use yellow sticky traps and spray Dimethoate/Triazophos @ 2 ml / litre of water to control whitefly population.
 - **West Bengal:**
 - Taking the advantage of prevailing mainly dry weather over Gangetic West Bengal, continue harvesting of matured *boro* rice.
 - In Terai Zone of West Bengal, continue planting of ginger and turmeric utilizing the available moisture.
 - In New Alluvial Zone of West Bengal, high temperature and humidity may cause fungal fruit rot & stem rot diseases in summer vegetables. To control it, apply Carbendazim @ 1 g or Blitox @ 4 g/ litre of water. Attack of white fly, jassid, thrips and red spider mites may occur. To control it, apply Thiamethoxam @ 1 ml per 5 litres or Acephate @ 1 ml per 3 litres of water. Use Pegasus @ 1 ml per litre of water for red spider mites.
 - **Bihar:**
 - As high temperature is prevailing, apply light and frequent irrigation in onion, sunflower, green gram, summer vegetables, mango and litchi in North West Alluvial Plain Zone of Bihar. Also apply regular irrigation in sugarcane, *boro rice* and moong in North East Alluvial Plain Zone of Bihar.
 - **Jharkhand:**
 - As mainly dry weather would prevail, apply irrigation in moong, vegetables and in mango and litchi orchards in Western Plateau Zone and in moong and summer rice in South Eastern Plateau Zone of Jharkhand.
 - Due to hot weather, attack of leaf roller or stem borer in rice is noticed and likely to spread in some pockets of Western Plateau Zone of Jharkhand. For control, spray Monocrotophos or Trizophos @ 2.5 ml. per litre of water during evening.
 - High day and night temperature favours production of case worms, leaf folders or hispa, brown plant hopper and stem borer eggs and their infestation are also being seen in rice in South Eastern Plateau Zone of Jharkhand; spray Monocrotophos @ 1 ml per liter of water.

- **Animal Husbandry**

- As heat wave conditions would prevail at isolated places over Bihar, Odisha and Gangetic West Bengal, keep animals under shade or in sheds during noon hours and provide plenty of water mixed with minerals for drinking. Make arrangement of curtains and proper ventilation in poultry house.
- Prevailing high temperature may adversely affect the milk production of milch animals in North West Alluvial Plain Zone of Bihar. Provide plenty of clean water to animals and keep them in the shade during noon hours

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



Green Gram

Rice

Okra

Sugarcane

- **Realised Rainfall:** Rainfall occurred in Changlang, East Kameng, East Siang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh, all districts of Assam (except Karbi Anglong), East Garo Hills, East Khasi Hills, Jaintia Hills and West Garo Hills districts of Meghalaya, Aizwal, Mamit and Saiha districts of Mizoram, Bishnupur, Chandel, Imphal East and Imphal West districts of Manipur, Kohima and Mokokchung districts of Nagaland and all districts of Tripura.
- **Weather forecast:** Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya during next 24 hours and at a few places thereafter. Rain/thundershowers would occur at a few places over Nagaland, Manipur, Mizoram and Tripura during next 24 hours and at isolated places thereafter.
- **Weather Warning:** Isolated heavy rainfall would occur over Arunachal Pradesh and Assam & Meghalaya on 16th May.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over northeastern states.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - As rain/thundershowers would occur at many places along with isolated heavy falls over Assam, Meghalaya and Arunachal Pradesh on 16th May, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops and keep harvested produce at safer places in sheds. Also provide adequate drainage in crop fields to avoid water stagnation.
 - Due to cloudy weather and increase in humidity, there is chance of attack of blast disease in *ahu* rice in Hill Zone, North Bank Plain Zone and Central Bramhaputra Valley Zone of Assam. Spray with Bavistin @ 1g/litre of water or Carbendazim @ 1g/litre of water after current spells of rain.
 - Due cloudy and rainy weather, there may be infestation of rice bug in *boro* rice in Central Bramhaputra Valley Zone and North Bank Plain Zone of Assam. Dusting of Malathion 5% powder may be done after current spells of rain.
 - Due to increase in humidity, there is chance of attack of sheath blight disease in *boro* rice in Lower Bramhaputra Valley Zone of Assam. To control the disease spray Bavistin @ 0.5g/ litre of water or Hexaconazole @ 2 ml/ litre of water after current spells of rain.
 - **Nagaland, Manipur, Mizoram and Tripura:**
 - Warm and humid conditions may cause cercospora / sigatoka leaf spot in banana in Mid Tropical Hill Zone of Mizoram. Spray Mancozeb+ Carbendazim @ 2g/litre of water on a non-rainy day.
 - Apply mulching in maize and bottle gourd with locally available materials like straw, grasses to conserve moisture in Temperate Sub Alpine Zone of Meghalaya.
 - Due to cloudy weather and increase in humidity, there is chance of attack of blast disease in *boro* rice in Temperate Sub Alpine Zone of Meghalaya. Spray with Mencozeb @ 2g/litre of water or Carbendazim @ 1g/litre of water on a non-rainy day.
 - Partly cloudy and humid weather is conducive for attack of fruit & shoot borer in summer brinjal and tomato in Mild Tropical Plain Zone of Tripura. To manage the attack, apply Cypermethrin @ 1.5 ml or Flubendamid @ 0.5 ml per litre of water on a non-rainy day.
 - Due to cloudy and rainy weather, there is chance of infestation of Gundhi bug in *boro* rice in Mild Tropical Plain Zone of Tripura. Spray Imidacloprid 2 ml per litre of water on a non-rainy day.
- **Animal Husbandry**
 - In Mild Tropical Hill Zone of Tripura, vaccination for the cattle may be undertaken prior to monsoon season to

protect from disease like anthrax, black quarter, Haemorrhagic Septicaemia.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Rice

Groundnut

Green Gram

Mango

- **Realised Rainfall:** Rainfall occurred in North Goa, South Goa, Sindhudurg districts in Konkan and Goa, Sholapur district in Madhya Maharashtra. Weather remained mainly dry/dry over rest of the region.
- **Weather forecast:** Rain/thundershowers would occur at isolated places over Vidarbha during next 24 hours; over Gujarat State, Madhya Maharashtra during next 48 hours and mainly dry thereafter. Mainly dry/dry weather would prevail over rest of the region.
No significant change in maximum temperature over the region during next 3 days.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be mainly dry over the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, as mainly dry weather is expected, apply irrigation in coconut and cashew orchards and vegetables. Mango is at fruit development / maturity stage; harvest the 80-85% matured fruits early in the morning and in the evening. Considering the high temperature, keep the harvested fruits in shade to prevent the spongy tissue diseases and transport the harvested fruits during night hours.
 - As day temperature is prevailing around 38-42°C in north Madhya Maharashtra, apply mulch of crop residues and other plant waste product in the orchards and sugarcane trash in sugarcane. Apply irrigation in sugarcane by alternate furrow method in water stress condition. Apply 20 litres of water to each banana plant/day. Cover banana bunch with white plastic (100 gauge and 6% porous) or dried banana leaves to protect from scorching sun.
 - As mainly dry weather is expected in Marathwada in Maharashtra, apply irrigation to summer groundnut, sugarcane, orchard crops like banana, pomegranate, fig and vegetable crops in morning and evening hours. As prevailing day temperature is around 36- 40°C, apply mulch of crop residues and other plant waste products in the orchards and sugarcane trash in sugarcane.
 - In Vidarbha, considering the prevailing high temperature (36-40°C), reduce the duration between two irrigations as well as apply mulch of plant waste products in orange and sweet lime orchards. Newly planted fruit crops may be protected from sun burn by erecting temporary shed. Cover the heads of cauliflower with its leaves to protect them from scorching sun. As no significant rain is expected, apply irrigation to water melon, musk melon, summer vegetables, summer groundnut and summer green gram. Maintain upto 10 cm water level in already transplanted rice field in Gondia, Bhandara, Chandrapur and Gadchiroli districts.
 - Due to partly cloudy and humid weather, there may be infestation of powdery mildew in water melon and musk melon in Central Vidarbha Zone; spray Karathane @ 10 ml / 10 litres water.
 - **Gujarat:**
 - Under prevailing hot and dry weather condition, irrigate vegetable crops regularly in the morning and evening in Bhal and Coastal Zone. Apply irrigation at regular intervals in orchards like mango, citrus fruits, sapota and pomegranate which are in fruit development stage.
 - In view of prevailing high temperatures, apply light and frequent irrigation in groundnut and vegetables in Middle Gujarat Zone. Use mulching in sapota to maintain the temperature.
 - Under prevailing high temperature, apply irrigation in groundnut at pod development stage at regular interval to maintain the proper moisture in North Gujarat Zone. Irrigate pomegranate, sapota, lemon and papaya orchards. Cover papaya fruits using gunny bags.
 - As no significant rain is likely, apply light irrigation in groundnut at pegging stage and pod development stage, in sesame, in mango orchards and in lemon orchards at regular intervals to prevent fruit cracking and fast development of fruits in North Saurashtra Zone.
 - There are chances of infestation of sucking pests in vegetables due to high temperature in Middle Gujarat Zone. Spray Phosphamedon 40 sl @10 ml /10 liter of water to control.
 - Due to hot and humid weather, mite infestation is observed in some fields of summer groundnut in North Saurashtra Zone and is likely to continue. Monitor the crop for mite infestation; if found, spray Dicofol @ 20 ml

or Propergyte @ 10 ml per 10 liter of water for control. Under present weather (hot and humid) conditions, heavy infestation of white fly and yellow mosaic virus disease is observed in green gram. The yellow mosaic virus disease is likely to be transmitted rapidly by white fly. To control white fly, spray Trizophol @ 20 ml per 10 litres of water.

- **Animal Husbandry**

- In Gujarat, to protect cattle from summer heat, shower the animals with cold water two to three times in a day. Increase the green fodder quantity for feeding. Arrange adequate amount of fresh drinking water. Keep animals under shade during noon hours and avoid feeding between 11 to 15 hrs. Put curtains on west side of poultry house and sprinkle water on curtains during noon time. Avoid transportation of poultry birds during noon time.
- In Maharashtra considering the prevailing high temperature, provide clothing from outside the poultry shed and sprinkle it with water. Cover the roof with grass or gunny bags.

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



Rice



Sugarcane



Onion



Okra

- **Realised Weather:** Rainfall occurred in most of the districts in Coastal Andhra Pradesh except Nellore and Prakasam; all the districts in Telangana; most of the districts in Coastal Karnataka; most of the districts in North Interior Karnataka except Bidar; most of the districts in South Interior Karnataka except Bangalore Rural & Urban, Chickballapur, Kolar, Ramanagara and Tumkur and all the districts in Kerala and Tamil Nadu.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Andaman & Nicobar Islands during the period. Rain/thundershowers would occur at isolated places over Tamilnadu & Pudduchery during the period. Rain/thundershowers would occur at isolated places over Telangana, Rayalaseema during next 24 hours and mainly dry thereafter. Mainly dry/dry weather would prevail over Coastal Karnataka, South Interior Karnataka and Kerala during next 24 hours and rain/thundershowers would occur at isolated places thereafter. Mainly dry/dry weather would prevail over rest of the region.
No significant change in maximum temperature over the region during next 3 days.
- **Weather Warning:** Isolated heavy rainfall would occur over Andaman & Nicobar Islands during next three days.
- **Weather Outlook:** Rain/thundershowers would occur at isolated places over south Peninsular India.
- **Advisories:**
 - **Karnataka:**
 - Undertake land preparation for sowing of pulses in the Southern Dry Zone of Karnataka with available moisture.
 - **Andhra Pradesh:**
 - Prevailing high temperature conditions are congenial for the incidence of sucking pest in tomato and fruit borer in mango in Scarce Rainfall Zone of Andhra Pradesh. Spray Dimethoate @ 2 ml / litre of water or Methyl Dematon @ 2 ml / litre of water to manage sucking pest and chloropyriphos @ 2.5 ml/lit of water to manage fruit borer .
 - Prevailing high temperatures are congenial for the occurrence of sucking pests and mites in vegetables and fruit fly in mango in the Southern Telangana Zone of Andhra Pradesh. To control, spray Acephate @ 1.5 g or Fipronil @ 2 ml per litre of water for sucking pests, spray Propargite @ 2 ml per litre of water to control mites and hang the plastic containers with mixture of Methyl Eugenol @ 2 ml + Carbofuran 3G @ 3 g per litre of water to manage fruit fly.
 - **Tamil Nadu:**
 - Drain out the excess rainwater present in the thaladi paddy fields to improve better aeration in the root zone in the Cauvery Delta Zone of Tamilnadu.
 - Continue planting of black pepper, clove, nutmeg and cinnamon in the High Rainfall Zone of Tamil Nadu utilizing the realised rainfall.
 - **Kerala:**
 - Continue nursery preparation for *virippu* rice in the Southern Zone of Kerala utilising the realised rainfall.
 - Prevailing humid conditions are congenial for fungal diseases in vegetables. Spray Copper oxy Chloride 4g / litre of water to control anthracnose on cow pea. Spray Indofil M 45 @4g/ litre of water on cucurbitaceous vegetables in the Southern Zone of Kerala.

- **Animal Husbandry**

- Vaccinate animals against haemorrhagic septicaemia before the onset of monsoon in the Problem Area Zone of Kerala.

Districtwise realised rainfall and % departure for past three weeks is given below in Annexure I

Annexure I
Week by week Rainfall Distribution

State/Districts	30.04.14		07.05.14		14.05.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	25.4	-84	54.0	-28	156.0	129
Dibang Valley	4.0	-97	5.0	-88	2.0	-96
East Kameng	6.6	-84	4.2	-89	30.1	-46
East Siang	11.1	-84	43.7	-38	322.7	465
Kurung Kumey	**	**	**	**	**	**
Lohit	45.7	-42	40.4	-47	502.0	758
Lower Dibang Valley	37.8	-70	76.4	82	621.1	1216
Lower Subansari	**	**	**	**		
Papumpara	17.4	-75	68.2	-21	272.4	116
Tawang	70.0	64	52.0	-17	98.0	45
Tirap	14.1	-83	41.2	-41	57.9	7
Upper Siang	49.4	-56	19.1	-71	252.8	303
Upper Subansari	37.8	-3	54.0	107	133.2	489
West Kameng	2.4	-94	58.6	-6	80.6	19
West Siang	9.3	-82	32.3	-34	72.5	131
Assam						
Baksa	2.0	-97	58.0	-26	164.5	113
Barpeta	15.0	-77	96.6	23	248.2	221
Bongaigaon	10.4	-82	110.0	2	257.8	199
Cachar	55.0	-22	96.5	11	365.7	337
Chirang	22.5	-61	97.1	-10	440.7	411
Darrang	27.0	-50	106.0	27	138.0	101
Dhemaji	7.0	-86	21.0	-69	106.0	61
Dhubri	20.1	-61	89.5	19	132.8	61
Dibrugarh	16.7	-73	45.8	-37	236.3	276
Goalpara	15.9	-77	151.3	70	108.5	54
Golghat	6.8	-80	57.8	-16	55.9	8
Hailakandi	37.4	-53	84.8	-20	233.8	214
Jorhat	11.6	-79	67.3	4	63.2	4
Kamrup(Rural)	13.1	-74	67.4	-2	156.0	160
Kamrup(Metro)	3.5	-93	96.7	41	37.8	-37
Karbi Anglong	1.3	-96	57.8	82	16.3	-19
Karimganj	26.7	-74	74.4	-43	389.7	175
Kokrajhar	19.1	-74	64.8	-36	154.9	114
Lakhimpur	7.3	-86	44.2	-35	185.1	182
Morigaon	0.4	-99	52.5	18	27.4	-11
N.C.Hills	5.6	-86	68.7	25	166.2	132
Nowgong	23.4	-38	27.2	-39	30.1	-24
Nalbari	19.9	-73	83.2	-24	186.4	132
Sonitpur	4.8	-89	50.2	-24	150.5	161
Sibsagar	12.3	-58	24.9	-64	66.4	16
Tinsukia	11.7	-79	53.1	-14	215.5	228

Udalgiri	30.5	-43	50.1	-40	231.8	237
Meghalaya						
East Garo Hills	30.1	-70	24.8	-69	225.7	135
East Khasi Hills	9.0	-91	105.3	-33	438.8	172
Jaintia Hills	33.0	-65	2.0	-99	65.0	-28
Ribhoi	16.8	-69	41.6	-28	17.3	-72
South Garo Hills	46.0	-36	51.0	-30	3.0	-96
West Garo Hills	24.2	-66	48.8	-33	55.2	-30
West Khasi Hills	0.0	-100	0.0	-100	2.0	-97
Mizoram						
Aizwal	26.7	-63	57.1	-21	262.4	315
Champhai	0.0	-100	1.0	-98	2.0	-95
Kolasib	1.0	-98	1.0	-99	1.0	-98
Lawngtlai	**	**	**	**	**	**
Lunglei	3.0	-93	12.0	-77	1.0	-98
Mamit	30.0	-58	7.0	-91	37.0	-41
Saiha	2.0	-94	21.0	-59	67.0	3
Serchhip	1.0	-98	8.0	-85	19.0	-61
Manipur						
Bishnupur	2.0	-91	6.0	-77	63.0	59
Chandel	8.0	-55	14.0	-64	59.0	92
Churachandpur	12.0	-75	20.0	-67	**	**
Imphal east	14.2	-57	60.6	41	109.1	123
Imphal west	34.0	83	122.6	198	72.0	126
Senapati	15.0	-37	18.0	-57	15.0	-68
Tamenglong	**	**	**	**	**	**
Thoubal	9.0	-30	12.0	-50	6.0	-87
Ukhrul	0.0	-100	0.0	-100	5.0	-81
Nagaland						
Dimapur	6.5	-66	62.0	61	10.5	-69
Kephire	2.0	-96	4.0	-93	**	**
Kohima	45.3	51	101.6	211	33.4	6
Longleng	**	**	**	**	**	**
Mokokchung	0.0	-100	3.0	-92	37.0	-53
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	14.0	-53	50.0	53	1.0	-97
Tuensang	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	26.2	-61	98.0	-3	333.0	228
North tripura	29.3	-55	70.8	-29	244.6	146
South tripura	3.0	-95	9.6	-87	128.8	62
West tripura	22.8	-62	20.8	-73	122.2	44
Himachal Pradesh						
Bilaspur	0.0	-100	7.5	103	29.7	129
Chamba	0.0	-100	3.1	-51	56.3	155
Hamirpur	0.2	-97	16.8	148	32.7	175

Kangra	0.0	-99	8.1	-18	32.0	160
Kinnaur	1.0	-94	0.0	-100	27.3	29
Kullu	2.1	-87	11.7	-23	51.8	154
Lahaul and Spiti	0.0	-100	0.0	-100	14.5	-49
Mandi	0.1	-99	35.8	302	37.3	93
Shimla	0.3	-97	23.7	99	32.9	64
Sirmaur	0.0	-100	4.1	-32	19.1	130
Solan	0.0	-100	20.1	183	47.2	197
Una	0.0	-100	6.7	-5	22.7	229
Punjab						
Amritsar	0.9	-79	0.0	-99	9.9	59
Barnala	0.0	-100	0.0	-100	9.3	363
Bhatinda	0.0	-100	6.5	364	24.5	745
Faridkot	0.0	-100	2.0	-23	36.0	929
Fatehgarh Sahib	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.2	-94	8.0	29
Gurdaspur	0.0	-100	1.3	-73	32.9	399
Hoshiarpur	0.0	-100	5.9	38	8.6	23
Jalandhar	0.0	-100	0.8	-83	1.3	-83
Kapurthala	0.0	-100	2.0	-43	8.7	77
Ludhiana	0.0	-100	1.3	-68	24.5	401
Mansa	0.0	-100	3.7	131	6.3	184
Moga	0.5	-82	2.0	-38	47.9	771
Muktesar	0.0	-100	1.2	-8	22.0	948
Nawashahar	0.4	-92	0.3	-91	5.8	-18
Patiala	0.0	-100	1.6	-51	17.8	270
Ropar	0.0	-100	2.3	-31	25.9	194
Sangrur	0.0	-100	0.0	-100	25.9	325
Mohali	0.0	-100	19.0	459	23.5	164
TarnTaran	0.0	-100	4.0	186	8.6	28
Haryana						
Ambala	0.0	-100	3.2	-1	16.2	153
Bhiwani	0.0	-100	1.4	-4	25.5	411
Chandigarh	0.0	-100	33.5	1576	23.5	133
Faridabad	0.0	-100	0.0	-100	14.6	108
Fatehabad	0.0	-100	0.8	-50	5.8	-4
Gurgaon	16.0	789	0.0	-100	24.6	447
Hissar	0.0	-100	0.2	-88	20.4	271
Jhajar	0.0	-100	3.0	0	12.0	251
Jind	0.0	-100	0.0	-100	26.5	357
Katihah	0.0	-100	5.3	425	11.2	229
Karnal	0.0	-100	17.3	518	12.4	188
Kurukshetra	0.0	-100	0.4	-71	3.8	12
Mahendragarh	0.0	-100	0.0	-100	12.8	73
Mewat	0.0	-100	0.0	-100	7.3	172
Palwal	0.4	33	0.0	-100	7.5	188
Panchkkula	0.0	-100	10.8	108	10.3	23
Panipat	0.0	-100	0.7	-62	15.4	241
Rewari	0.0	-100	0.0	-100	2.4	-29

Rohtak	0.0	-100	0.0	-100	8.8	22
Sirsa	0.0	-100	1.0	-44	8.7	97
Sonepat	0.0	-100	3.0	1	10.5	62
Yamunanagar	0.0	-100	7.3	-12	14.8	125
Delhi						
Central Delhi	0.0	-100	11.0	182	24.0	229
East Delhi	0.0	-100	0.0	-100	2.0	-73
New Delhi	0.0	-100	10.9	179	19.8	171
North Delhi	0.0	-100	3.2	-18	25.4	247
North East Delhi	0.0	-100	**	**	9.0	23
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	2.1	-46	25.1	243
South West Delhi	0.0	-100	0.5	-87	25.5	249
West Delhi	0.0	-100	0.0	-100	16.0	119
Jammu & Kashmir						
Anantnag	3.7	-87	7.0	-60	32.1	3
Badgam	2.0	-92	2.7	-74	26.3	25
Bandipore	**	**	**	**	**	**
Baramula	6.0	-85	6.0	-77	57.8	49
Doda	8.2	-68	11.2	-39	49.0	91
Ganderbal	12.0	-50	14.4	7	45.4	138
Jammu	0.0	-100	8.2	163	2.8	-66
Kargil	0.0	-100	0.0	-100	0.0	-100
Kathua	0.0	-100	0.0	-100	35.2	780
Kistwar	**	**	**	**	**	**
Kulgam	1.0	-96	1.4	-92	22.9	-26
Kupwara	2.2	-95	3.6	-81	100.2	263
Ladakh(Leh)	0.0	-100	0.0	-100	0.3	-81
Poonch	0.0	-100	9.5	-24	18.3	34
Pulwama	5.1	-79	2.2	-83	23.2	2
Rajouri	2.1	-43	10.2	50	31.7	264
Ramban	1.5	-94	4.8	-74	34.6	35
Reasi	0.0	-100	6.2	-32	12.4	-39
Samba	0.0	-100	26.6	758	1.6	-81
Shopian	2.0	-92	9.0	-32	24.0	6
Srinagar	1.7	-93	1.5	-89	33.1	73
Udhampur	0.0	-100	2.7	-70	20.7	1
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.5	-68
Chhatarpur	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.3	-83	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	2.9	7	1.8	800
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.3	-78	1.1	-13
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100

Rewa	0.0	-100	0.0	-100	4.2	223
Sagar	0.0	-100	0.2	-28	0.2	-71
Satna	0.0	-100	0.2	-50	0.1	-93
Seoni	0.0	-100	2.2	-6	7.5	400
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	4.4	57
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100
West Madhya Pradesh						
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.2	-66	1.0	67
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	3.2	113
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	6.7	850	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	1.0	-17
Gwalior	0.2	-62	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.2	-50	0.0	-100
Indore	0.0	-100	0.2	-60	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	4.5	650	0.0	-100
Morena	0.0	-100	2.5	250	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	2.5	722	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	7.0	775
Shivpuri	0.0	-100	1.3	79	0.0	-100
Ujjain	1.0	400	1.8	483	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
Chhattisgarh						
Bastar	15.6	90	4.7	-45	25.8	166
Bijapur	0.0	-100	0.0	-100	11.0	197
Bilaspur	0.0	-100	2.3	-51	3.7	-11
Dantewara	0.0	-100	7.0	79	0.0	-100
Dhamtari	0.0	-100	0.0	-100	3.4	48
Durg	1.2	9	9.8	277	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100

Kanker	0.0	-100	0.0	-100	0.0	-100
Korba	**	**	0.0	-100	6.0	161
Koriya	0.0	-100	0.0	-100	0.0	-100
Kawardha	**	**	**	**	**	**
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100
Raigarh	**	**	**	**	**	**
Raipur	0.1	-95	3.5	-13	0.0	-100
Rajandgaon	0.0	-100	4.6	70	2.2	-37
Surguja	0.0	-100	0.5	-88	0.0	-100
East Uttar Pradesh						
Allahabad	0.0	-100	2.9	190	0.0	-100
Ambedkar Nagar	0.0	-100	1.0	-76	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	0.0	-100	0.0	-100
Ballia	0.0	-100	4.4	56	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	0.0	-100
Barabanki	0.0	-100	0.2	-93	0.0	-100
Basti	0.0	-100	1.0	-67	0.0	-100
Chandauli	0.0	-100	11.1	327	0.0	-100
Deoria	0.0	-100	8.3	112	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	1.9	-49
Fatehpur	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	10.4	271	2.0	-47
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	10.6	140	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.9	-81
Jaunpur	0.0	-100	5.1	113	0.0	-100
Kannauj	0.0	-100	2.6	-7	0.0	-100
Kanpur City	0.2	-67	1.8	23	0.0	-100
Kanpur Dehat	0.0	-100	0.7	-39	0.0	-100
Kaushambi	0.0	-100	0.9	-54	0.0	-100
Kheri	0.0	-100	5.3	9	0.0	-100
Kushi nagar	0.0	-100	2.0	-69	0.0	-100
Lucknow	0.0	-100	1.3	-32	0.0	-100
Maharajganj	0.0	-100	19.0	164	0.0	-100
Mau	0.0	-100	4.0	25	0.0	-100
Mirzapur	0.0	-100	9.5	692	0.0	-100
Pratapgarh	0.0	-100	2.0	43	0.0	-100
RaiBareilly	0.0	-100	1.4	35	0.1	-96
Sahuji Maharajnagar	0.0	-100	5.1	467	0.0	-100
Sant Kabirnnagar	0.0	-100	3.0	-33	0.0	-100
Sant Ravidas Nagar	0.0	-100	1.5	-42	0.0	-100
Shrawasti	0.0	-100	**	**	**	**
Sidharthnagar	0.0	-100	11.0	182	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.3	-90

Sultanpur	0.0	-100	0.2	-93	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	9.7	186	0.0	-100
West Uttar Pradesh						
Agra	0.2	-70	6.0	330	0.0	-100
Aligarh	0.0	-100	0.0	-100	2.1	-76
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	1.0	-44	2.2	-54
Baghpat	0.0	-100	4.0	74	27.0	630
Bareilly	0.0	-100	6.1	175	2.7	-50
Bijnor	0.0	-100	25.7	1412	15.0	213
Bulandsahar	0.0	-100	0.2	-93	5.3	29
Etah	0.0	-100	0.7	-71	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	2.6	86	0.0	-100
GBNagar	0.0	-100	5.0	200	18.0	329
Ghaziabad	0.0	-100	0.3	-88	5.1	31
Hamirpur	0.0	-100	7.0	775	0.0	-100
Jalaun	0.0	-100	2.8	175	0.0	-100
Jhansi	0.0	-100	0.7	-52	1.4	-42
Jotiba Phule Nagar	0.0	-100	0.0	-100	4.3	-2
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	2.5	127	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	10.0	426	0.0	-100
Meerut	0.0	-100	2.5	-19	7.2	67
Moradabad	0.0	-100	0.8	-53	5.0	2
Muzzaffarnagar	0.0	-100	11.0	511	15.0	329
Pilibhit	0.0	-100	1.7	-31	0.0	-100
Rampur	0.0	-100	1.1	-50	2.1	-62
Saharanpur	0.0	-100	0.0	-100	8.3	46
Shahjahanpur	0.0	-100	3.3	-19	0.3	-93
Uttarakhand						
Almora	0.0	-100	22.9	186	5.4	-55
Bageshwar	0.0	-100	35.0	338	8.6	-28
Chamoli	1.4	-85	13.4	16	26.3	14
Champawat	0.0	-100	24.0	233	3.0	-78
Dehradun	0.0	-100	4.5	-22	7.8	-37
Garhwal Pauri	0.0	-100	14.0	204	9.3	-22
Garhwal Tehri	0.0	-100	37.5	681	30.1	92
Haridwar	0.0	-100	1.0	-79	9.8	48
Nainital	0.0	-100	20.5	205	6.3	-58
Pithorgarh	0.0	-100	36.1	201	21.2	-16
Rudraprayag	0.0	-100	42.0	120	19.2	-27
Udham Sing Nagar	0.0	-100	11.9	310	3.1	-57
Uttarkashi			24.7	126	35.6	24
Bihar						

Araria	9.7	-43	16.6	-2	0.0	-100
Arwal	0.0	-100	0.0	-100	**	**
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	3.5	-54	0.0	-100
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.7	-94	5.0	-64
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.2	-94	0.0	-100
Darbhanga	0.0	-100	7.3	-35	0.0	-100
East Champaran	0.0	-100	13.9	53	2.4	-77
Gaya	0.0	-100	1.1	-63	0.1	-97
Gopalganj	0.0	-100	2.0	-38	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.5	-92	0.0	-100
Kathihar	0.0	-100	9.8	-42	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100
Kishanganj	7.4	-70	14.5	-51	5.8	-79
Lakhisarai	0.0	-100	0.0	-100	**	**
Madhepura	0.0	-100	5.3	-62	0.0	-100
Madhubani	0.0	-100	10.4	-2	0.0	-100
Monghyar	0.0	-100	0.0	-100	0.2	-98
Muzaffarpur	0.0	-100	2.2	-75	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.3	-94
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	1.9	-58	0.0	-100
Purnea	0.0	-100	6.6	-67	0.0	-100
Rohtas	0.0	-100	0.0	-100	7.3	78
Saharsha	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	**	**
Saran	0.0	-100	4.8	8	0.0	-100
Sheikpura	0.0	-100	0.0	-100	**	**
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	2.9	-74	0.0	-100
Siwan	0.0	-100	3.5	58	0.0	-100
Supaul	0.0	-100	16.1	42	0.0	-100
Vaishali	0.0	-100	4.6	-2	2.1	-63
West Champaran	0.0	-100	**	**	0.0	-100
Jharkhand						
Bokaro	0.0	-100	5.1	-45	0.0	-100
Chatra	0.0	-100	1.2	-14	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	10.4	3	0.0	-100
Dumka	0.0	-100	7.3	-54	0.0	-100
East Singbhum	0.0	-100	42.6	298	0.1	-99
Garhwa	0.0	-100	3.5	169	0.5	-90
Giridih	0.0	-100	10.3	69	0.0	-100
Godda	0.0	-100	**	**	0.0	-100
Gumla	0.0	-100	10.4	-5	0.0	-100

Hazaribagh	0.0	-100	21.0	275	0.0	-100
Jamtara	0.0	-100	19.9	75	**	**
Khunti	0.0	-100	29.0	559	0.0	-100
Koderrna	0.0	-100	1.5	-66	0.0	-100
Latehar	0.0	-100	**	**	0.0	-100
Lohardagga	0.0	-100	**	**	0.0	-100
Pakur	0.0	-100	**	**	0.0	-100
Palamau	0.0	-100	47.9	1611	0.0	-100
Ramgarh	0.0	-100	29.4	425	**	**
Ranchi	0.0	-100	7.3	30	0.0	-100
Sahebganj	0.0	-100	**	**	25.4	53
Saraikela	0.0	-100	**	**	0.0	-100
Simdega	0.0	-100	**	**	0.0	-100
West Singbhum	0.0	-100	**	**	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.2	-73	14.1	1075
Alwar	0.0	-100	1.9	-1	4.6	-20
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	1.6	14	0.0	-100
Bhilwara	0.0	-100	0.0	-100	13.8	964
Bundi	0.0	-100	0.0	-100	9.7	1281
Chittorgarh	0.0	-100	0.0	-94	1.5	0
Dausa	0.0	-100	0.0	-100	0.8	-79
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	3.0	67
Jaipur	0.0	-100	0.0	-98	8.6	121
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.6	-69	20.3	198
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.3	-34	3.2	250
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	2.3	-2
Sawai Madhopur	0.0	-100	0.0	-100	0.3	-92
Sikar	0.0	-100	0.0	-100	1.0	-84
Sirohi	0.0	-100	0.0	-100	3.3	83
Tonk	0.0	-100	0.9	24	4.5	59
Udaipur	0.0	-100	4.4	452	1.8	14
West Rajasthan						
Barmer	0.0	-100	0.3	-75	2.3	187
Bikaner	0.0	-100	0.3	-79	31.2	845
Churu	0.0	-100	2.5	55	48.0	860
Hanumangarh	0.0	-100	0.3	-68	10.7	110
Jaisalmer	0.0	-100	1.3	329	3.1	244
Jalore	0.0	-100	0.0	-100	2.0	147
Jodhpur	0.0	-100	1.9	26	9.7	469
Nagaur	0.0	-100	0.0	-100	17.1	350
Pali	0.0	-100	0.0	-100	14.4	929
Sri Ganganagar	0.0	-100	0.0	-100	22.6	584

Gujarat Region						
Ahmedabad	0.0	-100	0.0	-92	1.2	-39
Anand	0.0	-100	0.0	-100	2.1	112
Banaskantha	0.0	-100	0.0	-100	1.8	200
Baroda	0.0	-100	0.0	-100	0.1	-57
Broach	0.0	-100	0.0	-100	0.0	-100
DNH	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	**	**	**	**	**	**
Dangs	0.0	-100	5.0	317	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.1	-89
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.4	-38	0.3	-64
Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	0.0	-100	0.0	-100	0.4	315
Tapi	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100
S K & Diu region						
Amreli	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.0	-100	0.0	-100	0.2	-74
Diu	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	2.1	590
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.6	50
Surendranagar	0.0	-100	0.0	-100	0.0	-100
Maharashtra						
Konkan & Goa						
Goa	1.0	-64	0.5	-96	38.6	962
Mumbai	0.0	-100	0.0	-100	0.0	-100
Raigad	0.0	-100	0.0	-100	0.3	-58
Ratnagiri	0.0	-100	0.9	-48	3.8	245
Sindhudurg	0.0	-100	0.0	-100	66.0	2438
Thane	0.0	-100	0.0	-100	0.5	0
Madhya Maharashtra						
Ahmednagar	0.0	-100	7.3	152	2.6	30
Dhule	0.0	-100	**	**	**	**
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	3.4	-63	1.7	-83	2.0	-72
Nandurbar	0.0	-100	**	**	**	**
Nasik	0.0	-100	0.0	-100	3.8	241
Pune	0.0	-100	4.7	-3	2.3	-27
Sangli	1.8	-75	11.7	2	13.3	105
Satara	1.5	-74	15.6	151	12.4	175

Solapur	1.6	-26	4.0	-4	25.6	630
Marathwada						
Aurangabad	0.0	-100	0.0	-100	7.4	576
Beed	1.3	-22	3.6	90	0.3	-88
Hingoli	0.0	-100	0.0	-100	0.0	-100
Jalna	1.3	157	0.9	-22	0.0	-100
Latur	2.3	1	3.3	31	1.3	-53
Nanded	0.0	-100	4.1	117	0.1	-98
Usmanabad	4.5	124	6.6	152	6.5	55
Parbhani	0.0	-100	3.8	82	0.5	-68
Vidarbha						
Akola	0.0	-100	1.8	157	1.4	60
Amraoti	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	14.8	490	0.0	-99
Buldhana	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.6	-76	3.2	52	6.4	64
Gadchiroli	0.0	-100	0.4	-88	0.3	-94
Gondia	0.0	-100	2.2	54	0.0	-100
Nagpur	0.1	-90	9.7	343	0.0	-100
Wardha	0.0	-100	0.7	-73	0.0	-100
Washim	0.0	-100	2.5	127	2.3	56
Yeotmal	0.0	-100	0.4	-79	0.1	-96
Odisha						
Angul	0.1	-99	7.5	1	4.1	-75
Balasore	16.0	-9	4.8	-78	1.7	-94
Bargarh	0.0	-100	0.0	-100	5.2	36
Bhadrak	3.3	-84	11.6	-39	6.1	-81
Bolangir	3.3	-31	0.2	-96	5.3	-51
Boudh	0.0	-100	0.0	-100	27.7	24
Cuttack	0.0	-100	0.5	-96	4.6	-79
Deogarh	0.0	-100	13.2	140	6.2	-16
Dhenkanal	0.0	-100	0.0	-100	11.6	-30
Gajapati	12.1	-61	44.0	51	28.6	-43
Ganjam	2.3	-78	2.7	-78	5.7	-84
Jagatsingpur	0.0	-100	0.0	-100	0.8	-98
Jajpur	0.0	-100	0.0	-100	7.9	-72
Jharsuguda	0.0	-100	1.4	-83	3.6	-54
Kalahandi	2.5	-68	3.9	-47	4.0	-72
Kandhamal	0.2	-98	25.5	122	6.5	-71
Kendrapara	0.3	-97	0.0	-100	0.8	-96
Keonjhar	4.7	-81	11.4	-38	1.9	-93
Khurda	0.0	-100	0.0	-100	3.0	-86
Koraput	4.5	-65	28.9	25	19.9	-22
Malkangiri	10.0	18	20.8	106	50.4	198
Mayurbhanj	7.8	-63	28.2	66	6.8	-75
Nawapara	0.9	-85	2.6	-66	13.7	56
Nawarangpur	20.9	237	14.2	-32	18.3	17
Nayagarh	0.0	-100	5.6	-34	8.7	-18
Puri	0.0	-100	0.0	-100	0.8	-97

Rayagada	16.1	32	12.9	-23	18.9	-49
Sambalpur	0.0	-100	4.4	-20	5.3	-28
Sonepur	0.2	-95	0.8	-84	0.7	-90
Sundargarh	0.0	-100	0.9	-85	0.8	-88
West Bengal						
GWB						
Bankura	0.0	-100	33.4	135	0.1	-99
Birbhum	0.0	-100	13.1	1	9.3	-51
Burdwan	0.0	-100	14.1	-6	0.0	-100
East Midnapore	0.0	-100	32.5	30	0.6	-97
Hooghly	0.0	-100	42.3	113	5.0	-75
Howrah	0.0	-100	33.9	119	0.5	-98
Kolkata	0.0	-100	24.2	18	0.1	-99
Murshidabad	0.0	-100	24.0	70	16.0	14
Nadia	0.0	-100	30.7	56	6.2	-68
24 Pargana (N)	0.0	-100	46.8	79	1.2	-94
Purulia	0.0	-100	32.0	227	0.0	-100
24 Pargana (S)	0.0	-100	69.0	230	0.0	-100
West Midnapore	0.0	-100	70.4	269	1.4	-94
SHWB & Sikkim						
Cooch Behar	7.0	-88	70.9	24	45.1	-34
Darjeeling	19.3	-61	67.3	38	57.2	13
East Sikkim	21.4	-57	132.0	137	66.6	-6
Jalpaiguri	12.3	-76	69.7	21	128.3	88
Malda	2.0	-86	12.4	-38	6.0	-75
North Dinajpur	0.0	-100	8.0	-73	0.0	-100
North Sikkim	32.8	-41	119.3	58	79.7	12
South Dinajpur	10.2	-63	12.6	-57	0.0	-100
South Sikkim	8.1	-84	49.9	-10	11.7	-84
West Sikkim	25.7	-54	41.0	-46	26.7	-62
Karnataka						
Coastal Karnataka						
Dakshin Kannada	25.3	87	83.0	266	91.0	382
Udupi	12.7	13	44.3	109	67.5	304
Uttar Kannada	20.7	125	33.2	129	66.1	626
N I Karnataka						
Bagalkote	7.1	2	7.0	-15	38.2	416
Belgaum	13.6	32	17.7	14	42.0	296
Bidar	5.7	19	13.0	170	10.5	59
Bijapur	6.9	1	13.4	144	38.0	556
Dharwad	15.9	-15	53.8	232	62.0	340
Gadag	10.1	-22	9.6	-20	51.3	354
Gulbarga	14.9	171	23.9	388	28.8	306
Haveri	41.3	132	21.9	23	67.8	430
Koppal	8.6	20	16.4	209	62.9	640
Raichur	8.3	86	7.7	108	60.9	592
Yadgir	8.7	38	7.6	138	43.2	409
S I Karnataka						
Bangalore Rural	0.0	-100	1.2	-94	14.1	-17

Bangalore Urban	0.0	-100	2.5	-87	14.9	-34
Bellary	12.8	40	15.6	85	55.6	504
Chamarajnagar	3.5	-85	22.4	-20	35.9	31
Chichballapur	0.0	-100	1.8	-86	11.9	-2
Chickmagalur	29.7	36	44.2	117	84.0	439
Chitradurga	19.8	83	19.7	112	42.5	251
Davangere	36.9	162	13.0	0	74.7	401
Hassan	14.4	-29	49.1	117	62.6	192
Kodagu	21.0	-23	90.8	208	94.6	233
Kolar	0.0	-100	3.8	-65	8.9	-42
Mandya	0.5	-97	31.0	51	34.6	63
Mysore	2.1	-89	44.8	83	44.6	54
Ramnagara	0.0	-100	14.3	-47	16.9	-28
Shimoga	47.6	240	52.5	245	68.8	488
Tumkur	8.1	-25	26.9	68	14.5	-14
Kerala						
Alappuzha	38.4	4	106.5	121	115.9	128
Kannur	1.9	-90	56.9	128	171.5	383
Ernakulam	27.2	-26	47.3	20	183.3	286
Idukki	17.3	-57	91.7	156	117.6	175
Kasaragod	4.1	-77	129.7	700	79.9	185
Kollam	45.2	-3	195.7	326	68.1	30
Kottayam	35.7	5	148.3	236	97.2	111
Kozhikode	27.1	18	35.7	18	175.7	384
Malappuram	9.7	-62	25.4	-32	161.9	269
Palakkad	4.3	-85	26.6	-15	115.3	343
Pathanamthitta	39.4	-20	168.7	167	86.1	49
Thiruvananthapuram	45.2	32	200.4	460	60.1	67
Thrissur	7.1	-68	35.1	-5	175.1	255
Wayanad	33.7	47	37.1	53	100.7	286
Tamil Nadu						
Ariyalur	0.0	-100	57.5	342	41.8	166
Chennai	0.0	-100	22.2	131	4.7	-34
Coimbatore	0.8	-95	38.6	68	38.7	153
Cuddalore	0.0	-100	98.7	709	42.9	324
Dharmapuri	0.0	-100	15.8	-20	27.0	44
Dindigul	1.3	-92	56.6	176	76.6	295
Erode	0.0	-100	20.3	9	21.1	18
Kanchipuram	0.0	-100	19.7	78	10.3	10
Kanyakumari	12.8	-52	179.2	499	95.2	254
Karikal	0.0	-100	119.0	844	39.2	1533
Karur	0.0	-100	28.0	88	31.6	161
Krishnagiri	0.0	-100	26.8	39	18.7	-7
Madurai	3.5	-75	79.1	465	60.2	220
Nagapattinam	0.0	-100	104.9	1149	38.7	372
Namakkal	0.0	-100	45.6	137	22.7	12
Nilgiris	1.4	-93	61.6	169	145.0	520
Perambalur	0.0	-100	35.7	190	62.7	393
Puducherry	0.0	-100	61.1	275	36.1	276

Pudukottai	0.3	-96	57.1	434	43.8	334
Ramanathapuram	0.4	-97	109.2	1169	61.8	387
Salem	1.5	-90	40.6	104	29.7	45
Sivaganga	0.1	-99	86.5	560	66.4	312
Thanjavur	0.1	-99	58.5	388	39.4	218
Theni	7.4	-63	85.0	329	55.6	312
Tirunelveli	11.3	-22	171.4	952	43.7	206
Tirupur	0.0	-100	48.6	166	22.8	61
Tiruvallur	0.0	-100	7.3	-20	14.1	38
Tiruvannamalai	0.0	-100	14.9	26	22.3	70
Tiruvarur	0.0	-100	65.6	507	89.7	694
Toothukudi	0.6	-93	87.8	770	43.3	342
Trichy	0.0	-100	34.5	155	58.0	368
Vellore	0.1	-99	13.2	3	17.9	29
Villupuram	0.0	-100	29.8	186	34.8	223
Virudhunagar	15.2	-3	84.9	364	32.4	91
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	8.8	-10	87.5	180
Guntur	0.0	-100	11.1	114	33.8	49
Krishna	0.0	-100	11.0	104	76.4	453
Nellore	0.0	-100	3.3	-66	6.1	-56
Prakasam	0.0	-100	7.4	-5	7.5	-49
Sirkakulam	1.0	-86	29.4	141	25.5	13
Visakhapatnam	13.9	7	17.6	-9	48.1	40
Vizianagram	0.0	-100	15.3	-12	38.2	23
West Godavari	4.5	-33	19.4	252	95.6	314
Telangana						
Adilabad	0.0	-100	7.5	169	22.1	343
Hyderabad	2.7	-47	0.3	-95	34.4	304
Karimnagar	0.2	-94	19.7	432	30.6	293
Khammam	0.0	-100	12.4	72	56.6	267
Mehabubnagar	5.1	-15	5.2	44	52.3	385
Medak	0.2	-96	6.4	95	38.3	373
Nalgonda	0.0	-100	2.5	-40	35.3	605
Nizamabad	0.5	-72	3.7	-5	25.6	204
Rangareddy	8.0	26	20.4	234	37.1	290
Warangal	0.9	-61	21.5	437	55.0	547
Rayalaseema						
Anantapur	2.2	-65	4.0	-57	19.7	97
Chittoor	0.0	-100	7.1	-43	18.0	36
Cuddapah	0.0	-100	0.7	-90	8.4	-13
Kurnool	0.0	-100	4.3	-44	18.7	54

Legends

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall

	<u>(-20 to -59%) deficient rainfall</u>	<u>**</u>	<u>Data not available</u>
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