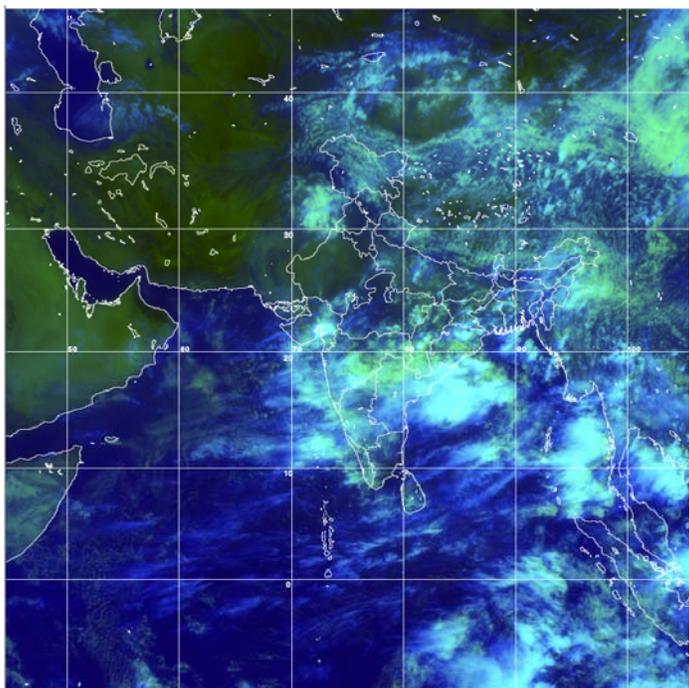




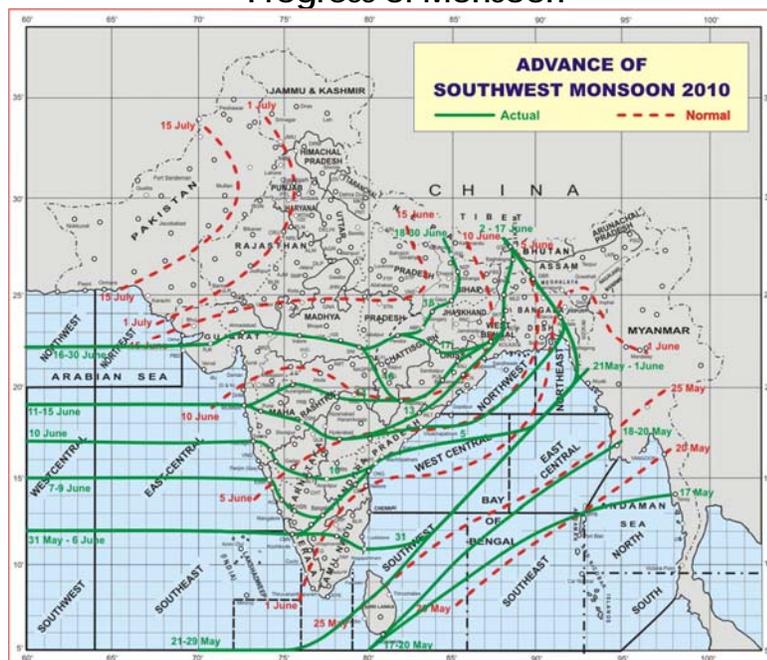
# National Agromet Advisory Bulletin

Thursday, 1<sup>st</sup> July, 2010  
(For the period 1<sup>st</sup> to 5<sup>th</sup> July, 2010)

Satellite image 6 UTC Dated  
2<sup>nd</sup> July, 2010



Progress of Monsoon



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National Agrometeorological Advisory Service Centre  
Agricultural Meteorology Division  
India Meteorological Department  
Shivajinagar  
Pune.

The bulletin is also displayed in the website (<http://www.imdagrimet.gov.in>) of the Division

## Executive Summary

### Status of Progress of Monsoon:

- South-west monsoon has further advanced into some more parts of Madhya Pradesh.
- The Northern Limit of Monsoon continues to pass through Lat. 22.0°N/Long. 60.0°E, Lat. 22.0°N/Long. 69.0°E, Rajkot, Ahmedabad, Indore, Bhopal, Jabalpur, Jabalpur, Ambikapur, Daltonganj, Gaya, Muzaffarpur and Raxaul.

### Numerical Weather Prediction (NWP) Guidance

- The western disturbance would affect Western Himalayan region and plains of northwest India during next 2-3 days.

### Weather Outlook (upto 1430 hours IST of 6<sup>th</sup> July, 2010)

- Increase in rainfall activity over west coast and northwest India.

### Rainfall situation in the States covered by Monsoon in the country for the week ending 23.06.2010

State/ district	Actual Rainfall (mm)
<b>Arunachal Pradesh</b>	
Changlang	80.6
East Siang	304.6
Lohit	72.5
Papumpara	108.7
Tirap	118.7
Upper Siang	39.0
Upper Subansiri	27.7
West Kameng	115.1
<b>Assam</b>	
Barpeta	310.5
Bongaigaon	356.4
Cachar	71.9
Dhubri	125.0
Dibrugarh	74.0
East Khasi Hills	608.3
Goalpara	170.6
Golghat	63.3
Hailakandi	40.4
Jorhat	79.6
Kamrup	107.6
Karbi Analog	45.0
Karimganj	105.7
Kokrajhar	255.8
Lakhimpur	138.1
Morigaon	151.6
Nalbari	111.9
Nowgong	100.3
Sibsagar	73.9
Sonitpur	140.4
Tinsukia	83.8
<b>East Madhya Pradesh</b>	
Balaghat	42.5
<b>State/ district</b>	<b>Actual Rainfall (mm)</b>

Chindwara	49.1
Jabalpur	36.2
Mandla	76.3
Narsingpur	30.6
Seoni	31.8
Sidhi	36.8
<b>West Madhya Pradesh</b>	
Badwani	29.4
Betul	37.3
Bhopal	56.3
Dhar	28.1
Guna	58.2
Gwalior	64.0
Hosangabad	27.1
Jhabua	27.8
Mandsaur	46.5
Morena	37.8
Ratlam	58.8
Sehore	27.4
Shivpuri	35.8
Vidisha	96.2
<b>Chattisgarh</b>	
Bastar	40.1
Dantewara	26.3
Durg	31.1
Jashpurnagar	38.6
Kanker	26.2
Korba	30.6
Mahasumund	76.2
Raigarh	67.1
Rajandgaon	29.5
Surguja	36.8
<b>State/ district</b>	<b>Actual Rainfall (mm)</b>
<b>Bihar</b>	
Bhagalpur	29.5

Darbhangha	27.7
East Champaran	35.4
Gaya	71.3
Gopalganj	37.8
Jhanabad	87.9
Kathihar	62.5
Khagadia	47.2
Kishanganj	147.2
Madhepura	26.3
Monghyar	177.4
Muzaffarpur	40.5
Nalanda	35.4
Patna	54.7
Purnea	114.4
Rohtas	46.9
Saharsha	28.5
Saran	42.4
Sitamarhi	45.0
Siwan	25.3
West Champaran	130.4
<b>Jharkhand</b>	
Bokaro	28.4
Dhanbad	62.1
Giridih	60.5
Godda	33.1
Gumla	91.2
Hazaribagh	30.7
Palamau	44.2
Ranchi	25.6
<b>Gujarat Region</b>	
Dangs	59.0
<b>State/ district</b>	<b>Actual Rainfall (mm)</b>
DNH	80.7
Navsari	28.4
Valsad	97.7
<b>Maharashtra</b>	

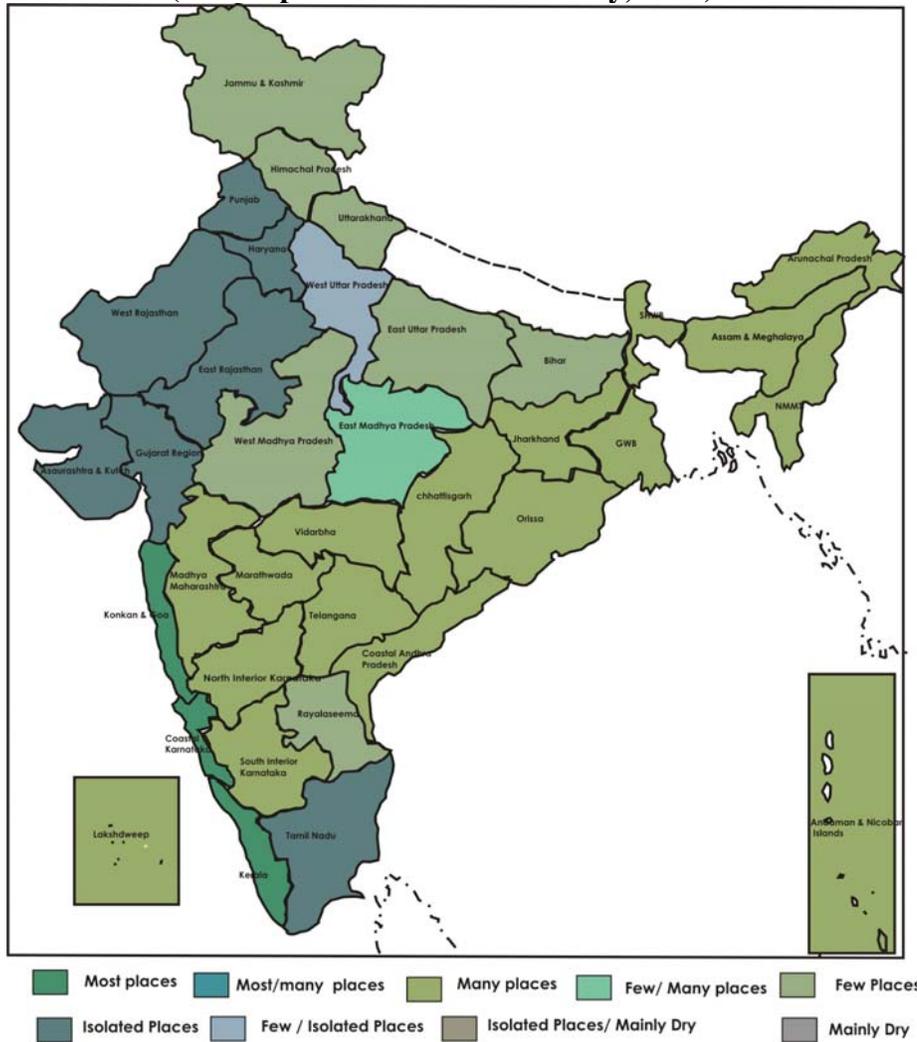
<b>Konkan &amp; Goa</b>	
Mumbai	<b>311.0</b>
Raigad	<b>120.7</b>
Ratnagiri	<b>152.4</b>
Sindhudurg	<b>390.7</b>
Thane	<b>138.0</b>
<b>Madhya Maharashtra</b>	
Kolhapur	<b>45.0</b>
Nandurbar	<b>25.0</b>
Nasik	<b>31.4</b>
Solapur	<b>23.1</b>
<b>Marathwada</b>	
<b>State/ district</b>	<b>Actual Rainfall (mm)</b>
Aurangabad	<b>34.6</b>
Beed	<b>38.7</b>
Hingoli	<b>59.2</b>
Jalna	<b>26.1</b>
Nanded	<b>51.0</b>
Parbhani	<b>28.6</b>
<b>Vidarbha</b>	
Amraoti	<b>53.2</b>
Buldhana	<b>61.7</b>
Chandrapur	<b>49.4</b>
Gadchiroli	<b>30.4</b>
Nagpur	<b>37.5</b>
Wardha	<b>48.7</b>
Washim	<b>83.6</b>
Yeotmal	<b>40.9</b>
<b>Orissa</b>	
Angul	<b>69.5</b>
Balasore	<b>102.4</b>
Bargarh	<b>151.8</b>
Bhadrak	<b>62.7</b>
Bolangir	<b>48.2</b>
Boudh	<b>103.1</b>
Cuttack	<b>176.1</b>
Deogarh	<b>88.8</b>
Dhenkanal	<b>125.8</b>
<b>State/ district</b>	<b>Actual Rainfall (mm)</b>
Gajapati	<b>51.3</b>
Ganjam	<b>118.4</b>

Jagatsingpur	<b>75.4</b>
Jajpur	<b>116.5</b>
Jharsuguda	<b>149.2</b>
Kalahandi	<b>45.1</b>
Kandhamal	<b>94.7</b>
Kendrapara	<b>58.7</b>
Keonjhar	<b>88.9</b>
Khurda	<b>123.8</b>
Koraput	<b>43.2</b>
Mayurbhanj	<b>65.7</b>
Nawapara	<b>38.8</b>
Nawarangpur	<b>25.8</b>
Nayagarh	<b>180.0</b>
Puri	<b>139.0</b>
Rayagada	<b>62.4</b>
Sambalpur	<b>99.1</b>
Sonepur	<b>127.7</b>
Sundargarh	<b>98.4</b>
<b>West Bengal</b>	
<b>GWB</b>	
Bankura	<b>53.1</b>
Birbhum	<b>77.7</b>
Burdwan	<b>88.7</b>
Hooghly	<b>53.2</b>
Howrah	<b>83.4</b>
East Midnapore	<b>83.9</b>
Murshidabad	<b>111.6</b>
<b>State/ district</b>	<b>Actual Rainfall (mm)</b>
Nadia	<b>41.9</b>
24 Pargana (N)	<b>133.4</b>
Purulia	<b>38.3</b>
24 Pargana (S)	<b>61.2</b>
West Midnapore	<b>138.7</b>
<b>SHWB</b>	
Coochbehar	<b>216.3</b>
Darjeeling	<b>227.6</b>
Jalpaiguri	<b>286.4</b>
Malda	<b>134.3</b>
Dinajpur (N)	<b>156.9</b>
Dinajpur (S)	<b>171.0</b>
North Sikkim	<b>88.7</b>
South Sikkim	<b>82.2</b>
<b>State/ district</b>	<b>Actual Rainfall (mm)</b>

<b>Karnataka</b>	
<b>Coastal Karnataka</b>	
Dakshin Kannada	<b>287.9</b>
Udupi	<b>360.2</b>
Uttar Kannada	<b>247.0</b>
<b>South Interior Karnataka</b>	
Chickmagalur	<b>88.9</b>
Kodagu	<b>85.8</b>
Shimoga	<b>130.7</b>
<b>Kerala</b>	
Alappuzha	<b>169.5</b>
Kannur	<b>260.2</b>
Ernakulam	<b>265.2</b>
Idukki	<b>237.0</b>
Kasaragod	<b>222.8</b>
Kollam	<b>134.3</b>
Kottayam	<b>198.4</b>
Kozhikode	<b>321.4</b>
Malappuram	<b>182.3</b>
Palakkad	<b>174.4</b>
Pathanamthitta	<b>125.6</b>
Thiruvananthapuram	<b>77.8</b>
Thrissur	<b>275.5</b>
Wyanad	<b>81.5</b>
<b>Tamil Nadu</b>	
Chennai	<b>64.4</b>
Coimbatore	<b>49.5</b>
Kanchipuram	<b>45.6</b>
Kanyakumari	<b>25.4</b>
Nilgiris	<b>51.2</b>
Salem	<b>30.4</b>
Tiruvallur	<b>53.4</b>
Tiruvarur	<b>23.6</b>
<b>Andhra Pradesh</b>	
<b>Coastal Andhra Pradesh</b>	
Sirkakulam	<b>55.2</b>
Visakhapatnam	<b>23.1</b>
Vizianagram	<b>63.6</b>
<b>Telangana</b>	
Adilabad	<b>58.6</b>
Karimnagar	<b>32.3</b>
Nizamabad	<b>62.4</b>

## Weather Forecast

(Valid upto 1430 hours of 4<sup>th</sup> July, 2010)



- Rainfall is likely to occur at most places over Konkan & Goa, Coastal Karnataka, Kerala, many places over North East India, West Bengal, Sikkim, Orissa, Jharkhand, Vidharbha, Chhattisgarh, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, Telangana, North and South Interior Karnataka, Lakshdweep and Andaman & Nicobar Islands, at many/few places over East Madhya Pradesh, at a few places over Bihar, East Uttar Pradesh, Uttarakhand, Himachal Pradesh, Jammu & Kashmir, West Madhya Pradesh, Rayalaseema, at isolated/few places over West Uttar Pradesh, at isolated places over Haryana, Chandigarh & Delhi, Punjab, Rajasthan, Gujarat, Saurashtra, Kutch, Tamil Nadu & Pondicherry.

### Warning

- Isolated heavy to very heavy rainfall would occur over Kerala, coastal Karnataka, Konkan & Goa, Sub-Himalayan West Bengal & Sikkim, coastal Andhra Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours.

### Salient advisories

- Farmers are advised to withhold sowing in Kerala, coastal Karnataka, Konkan & Goa, Sub-Himalayan West Bengal & Sikkim, coastal Andhra Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during next 48 hours in view of likely occurrence of isolated heavy to very heavy rainfall and continue sowing after that.
- Farmers are advised to undertake nursery sowing of medium and long duration rice varieties and vegetable crops like brinjal, capsicum and tomato in High Altitude Tribal Zone (East Godavari and Khammam districts), Scarce Rainfall zone (Anantapur and Kurnool districts) and Southern Telangana Zone (Medak, Nalgonda, Rengareddy and Warrangal districts), pulse crops like green gram and black gram and nursery sowing of rice in Krishna Godavari Zone (West Godavari, Guntur, Krishna and Prakasam districts) of Andhra Pradesh with monsoon showers received recently. Also continue sowing of groundnut in Anantapur and Kurnool, land preparation and sowing of rice in nursery with short duration varieties by utilizing canal water in Guntur and to undertake nursery sowing of *kharif* crops like rice, pulse crops, groundnut, etc. in remaining parts of Andhra Pradesh.
- Farmers are advised to undertake sowing of groundnut, sunflower, red gram, maize and jowar in Hill Zone (Devangere, Chitradurga, Kodagu and Tumkur districts), sowing of *kharif* crops like red gram and ragi in Eastern Dry Zone; green gram, black gram, soybean and pigeon pea in North East Transition zone; rice, cotton, maize and groundnut in Southern Transition Zone, green gram, red gram, bajra, sesamum and navane in North Dry Zone (Bijapur), rice (drill sown), maize, soybean and groundnut in North Transition Zone (Belgaum, Haveri, Dharwad), sowing of rice in nursery / transplanting in main field in Coastal Zone (Udupi and Dakshi Kannada) and planting of ginger and turmeric in Central Dry Zone (Sirsi) in Karnataka.
- Farmers are advised to undertake transplanting of rice and planting of coconut and cashew in Northern Zone; transplanting of *virippu* rice and planting of ginger and turmeric in Central zone and sowing of bhindi and land preparation for upland rice in Southern and central zone in Kerala utilizing the monsoon showers.
- Farmers are advised to undertake field preparation and nursery sowing / direct sowing of rice and also sowing of maize, ragi, cotton, pulses (green gram, black gram, arhar, cow pea, rice bean), oilseeds (groundnut, soybean, sesamum, niger), vegetable crops etc. in Orissa utilizing recent rainfall and also rainfall likely to occur during next few days.
- Farmers are advised to undertake sowing of maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables like tomato, cabbage, ladies finger, French bean etc. in Bihar and Jharkhand as rain likely to occur during next few days.
- Farmers are advised to prepare wet nursery bed for *aman* rice in New Alluvial Zone, Coastal Saline Zone and Laterite and Red Soil Zone and also to transplant *aus* rice in New Alluvial Zone and to undertake direct sowing of *aus* rice in Laterite and Red Soil Zone and to sow brinjal, okra, pumpkin, bitter gourd, sponge gourd and ridge gourd in upland situation of West Bengal utilizing recent monsoon rainfall as well as rainfall likely to occur during next few days.
- Farmers are advised to sow *sali* rice, jute (for seed purpose), pigeon pea and sesame in Lower Brahmaputra Valley Zone, *sali* rice and sesame in Upper Brahmaputra Valley Zone and North Bank Plain Zone and *sali* rice in Central Brahmaputra Valley Zone in Assam. Farmers of chronically flood affected areas of Upper and Central Brahmaputra Valley Zone and North Bank Plain Zone in Assam may prepare nursery beds with suitable rice varieties which can withstand flood for several days.
- Farmers in Arunachal Pradesh are advised to undertake sowing of *jhum* / WRC rice, maize, vegetable crops like ridge gourd, bitter gourd, bottle gourd, pumpkin, okra, etc. and pulses like black gram, green gram, French bean, etc. and sesame.
- In view of rainfall occurred during last few weeks and likely occurrence of rainfall during next few days, farmers in Maharashtra are advised to undertake sowing of *kharif* crops by selecting improved & high yielding varieties of *kharif* rice, jowar, bajra, groundnut, soybean, sunflower, *kharif* cotton, red gram, moong etc.

- As there was subdued rainfall activities in most of the districts of Gujarat region and Saurashtra and Kutch region, farmers are advised to postpone sowing of crops and wait for monsoon rain to start for resumption of sowing of the *kharif* crops like rice, groundnut, cotton, castor, maize, bajra, pigeon pea, soybean, sesamum, green gram and black gram.
- Farmers in southern parts of Madhya Pradesh are advised to undertake land preparation and sowing of *kharif* crops like soybean, maize, sorghum etc. and raising nurseries for brinjal, tomato, onion, chilli and other *kharif* vegetables in Malwa Plateau Zone, direct sowing of rice in Kymore Plateau and Satpura Hill Zone and raising nursery for *kharif* onion, chilli, tomato, brinjal, etc. in Jhabua Hills Zone in Madhya Pradesh. Farmers in remaining parts of the state are advised to start land preparation and arrange for inputs.
- Farmers in Chhattisgarh Plain and Bastar Plateau Zones are advised to undertake field preparation and sowing of rice in nursery / direct seeding. Farmers in the upland of these zones are advised to undertake sowing of soybean, groundnut, sesame, pigeon pea with seed-cum-fertilizer-drill.
- Farmers in East Uttar Pradesh are advised to undertake land preparation utilizing recent rain and arrange seeds and other inputs for nursery sowing of early and medium varieties of rice and *kharif* crops like soybean, maize, jowar, black gram, green gram, groundnut, sesamum and pigeon pea on the arrival of monsoon. However farmers having irrigation facilities are advised to undertake nursery sowing / transplanting of long duration varieties and aromatic varieties of rice and also jowar, bajra, maize, soybean and groundnut.
- As monsoon could not advance in some parts of central and also in north India, normal sowing of crops could not be advised, however, farmers are advised to arrange inputs for sowing and prepare the land based on the pre-monsoon shower, if any. The normal sowing of crop in north India takes place upto 15<sup>th</sup> of July. The farmers of these regions may wait for monsoon rainfall to start for sowing of the crops.

### **Zonewise Agromet Advisories**

#### **NORTH WEST INDIA [J & K, H. P., UTTARAKHAND, PUNJAB, HARYANA, DELHI, UP, RAJASTHAN]**

- **Realised Rainfall:** Rain occurred in Bilaspur, Chamba, Kangra, Mandi, Sirmour, Kullu and Una districts in Himachal Pradesh, Faridkot and Ropar in Punjab, Ambala in Haryana, Ambedkar Nagar, Azamgarh, Bahraich, Ballia, Balrampur, Deoria, Gonda, Gorakhpur, Gorakhpur, Kanpur City, Kanpur Dehat, Kheri, Lucknow, Maharajganj, Shrawasti, Baghpat, Jhansi, Lalitpur and Pilibhit in Uttar Pradesh, all the districts in Uttarakhand except Udham Singh Nagar, Baran, Bundi, Chittorgarh, Jhalawar, Kota, Udaipur in Rajasthan. No significant rainfall occurred in the remaining parts of the region during last week.
- **Rainfall Forecast:** Rainfall is likely at a few places in Jammu & Kashmir, Himachal Pradesh, East Uttar Pradesh and Uttarakhand. Either isolated rain will occur or mainly dry weather will prevail over remaining States of the region during the period.
- **Major Crops:**
  - Vegetables (Sowing/transplanting / vegetative) in Himachal Pradesh.
  - Vegetable crops (flowering / fruiting / harvesting), rice(transplanting/early vegetative) in Jammu & Kashmir.
  - Sugarcane (vegetative), rice(nursery sowing/transplanting) in Uttarakhand.
  - Sugarcane (vegetative), cotton, maize (early vegetative), rice(nursery sowing/transplanting) in Punjab.
  - Sugarcane (vegetative), cotton (early vegetative) in Haryana.
  - Summer vegetable crops (fruiting / harvesting) in Delhi.
  - Sugarcane (vegetative), sunflower (head formation), vegetable crops (sowing) in Uttar Pradesh.
  - Sugarcane(Vegetative), Vegetable crops (flowering / fruiting / harvesting) in Rajasthan.
- **Advisory:**

- As rain occurred in Bilaspur, Chamba, Kangra, Mandi, Sirmaur, Kullu and Una districts in Himachal Pradesh, Faridkot and Ropar in Punjab, Ambala in Haryana, Ambedkar Nagar, Azamgarh, Bahraich, Ballia, Balrampur, Deoria, Gonda, Gorakhpur, Kanpur City, Kanpur Dehat, Kheri, Lucknow, Maharajganj, Shrawasti, Baghpat, Jhansi, Lalitpur and Pilibhit in Uttar Pradesh, all the districts in Uttarakhand except Udham Singh Nagar, Baran, Bundi, Chittorgarh, Jhalawar, Kota, Udaipur in Rajasthan, postpone irrigation to the crops in these districts. In view of no significant rainfall in remaining districts of the States in the region, farmers are advised to apply irrigation to the standing crops.
- Farmers in Delhi are advised to continue nursery sowing of rice and pigeon pea (varieties in Annexure I).
- Farmers in Delhi are advised to undertake field preparation for transplanting of tomato, chilli and brinjal and field preparation for sowing of guar, bajra, maize, cluster bean, spinach, amaranthus and ladyfinger.
- Farmers in Himachal Pradesh are advised to undertake field preparation for sowing of ladyfinger, brinjal, cucurbitaceous vegetables and beans in the low hills.
- Farmers in Rajasthan are advised to undertake sowing of maize, soybean and cotton wherever irrigation facilities are available. Farmers in rainfed areas are advised to undertake field preparation and keep the inputs ready for sowing of *kharif* crops like maize, jowar, moong and urd.
- Farmers in Uttarakhand are advised to continue sowing of soybean (varieties in Annexure I) and gahat utilising the rainfall during last week.
- Farmers in Uttarakhand are advised to undertake nursery sowing and transplanting of rice utilizing the realized rainfall during the last week. Undertake land preparation and sowing of *kharif* crops like jowar, bajra, pigeon pea and ground nut utilizing the rainfall received during last week. Farmers in Tehri Garhwal district are advised to complete transplanting of rice under irrigated conditions.
- Farmers in Jammu & Kashmir advised to continue transplanting of rice and sowing of direct seeded rice (Varieties in Annexure I), sowing of groundnut and maize in irrigated areas.
- Undertake land preparation in Doda, Rajouri, Udhampur districts of Jammu & Kashmir for sowing of mash and moong crops with onset of monsoon.
- Farmers in East Uttar Pradesh are advised to undertake land preparation utilizing and arrange seeds and other inputs for nursery sowing of early and medium varieties of rice and *kharif* crops like soybean, maize, jowar, black gram, green gram, groundnut, sesamum and pigeon pea on the arrival of monsoon. However farmers in irrigated areas are advised to undertake nursery sowing/transplanting of long duration varieties and fragrant varieties of rice and also jowar, bajra, maize, soybean and groundnut.
- Farmers in West Uttar Pradesh are advised to undertake land preparation utilising the realized rainfall during last week for undertaking sowing of soybean, maize, groundnut, jowar, bajra and pigeon pea.
- Farmers in Punjab are advised to complete transplanting of rice in western zone (Bhatinda, Moga, Muktsar, Mansa, sangrur districts) and undertake of transplanting of basmati rice varieties in western plain zone (Ferozepur and Faridkot districts) except Basmati 370 and Basmati 380. Apply 130 kg Urea in four equal splits at 2, 4, 7 and 10 weeks after sowing to the direct seeded rice. Also undertake sowing of maize, arhar, mash and moong particularly on light textured soils.
- Farmers in Haryana are advised to prepare the field and start the sowing with certified seeds of guar and bajra in irrigated areas, whereas the farmers in rainfed areas may prepare the field and keep the inputs ready for undertaking sowing of the above mentioned crops.
- Undertake fertilizer application, spraying and intercultural operations in Jammu & Kashmir, Himachal Pradesh, East Uttar Pradesh and Uttarakhand as rainfall is likely at a few places in these States.

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

- **Realised Rainfall:** East Champaran, Gaya, Gopalganj, Jhanabad, Kathihar, Khagadia, Kishanganj, Monghyar, Muzaffarpur, Nalanda, Patna, Purnea, Rohtas, Saran, Sitamarhi and West Champaran districts of Bihar, Dhanbad, Giridih, Godda, Gumla, Hazaribagh and Palamau districts of Jharkhand, most of the districts in Orissa and all the districts of Gangetic West Bengal, Sub-Himalayan West Bengal and Sikkim

received good rainfall during last week. Many of the remaining districts of Bihar and Jharkhand also received some rain during last week. No significant rain occurred over remaining parts of the region.

- **Rainfall Forecast:** Rain is likely to occur at many places in West Bengal, Orissa, Jharkhand and Sikkim and at a few places over Bihar during the period along with isolated heavy to very heavy rainfall over Sub Himalayan West Bengal and Sikkim during next 48 hours.
- **Major Rabi Crops:**
  - Rice, maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables like tomato, cabbage, ladies finger, French bean etc. (land preparation / sowing) in Bihar and Jharkhand.
  - Rice (nursery sowing / direct sowing) and maize, groundnut, pulses, soybean, sesamum, ragi, cotton, vegetable crops (sowing / germination) in Orissa.
  - Sugarcane (vegetative), vegetable crops (vegetative / flowering / fruiting / harvesting), jute (early vegetative / vegetative), *aus* rice (transplanting / early tillering), *aman* rice (nursery sowing / transplanting), pulses and vegetables (sowing / germination) in West Bengal.
  - Large cardamom (secondary flowering / capsule formation), orange (flowering / transplantation of seedling from nursery / early fruiting), seed potato (tuberization), maize (late vegetative / tasseling & silking / flowering & cob filling / cob harvesting), *kharif* vegetable (late vegetative and vegetative in Low hills), off season vegetables late vegetative), ginger (early vegetative), rice early tillering), *rabi* potatoes (harvesting), Paddy (Low Hills): Sowing / Nursery Sowing/ Transplantation/ Early Tillering, summer potato (tuberization), ginger (early vegetative) in Sikkim.
- **Advisories:**
  - As rain is likely to occur at many places in West Bengal, Orissa, Jharkhand and Sikkim, postpone intercultural operation, irrigation and application of plant protection measures and fertilizer to the standing crops. Also arrange for draining out excess water from the fields of already sown crop in Sub Himalayan west Bengal and Sikkim in view of likely occurrence of isolated heavy to very heavy rainfall over these States during next 48 hours.
  - Withhold sowing of crops for next 48 hours in Sub Himalayan west Bengal and Sikkim due to expected heavy rainfall and continue the same after that.
  - Farmers are advised to undertake field preparation and nursery sowing / direct sowing of rice and also sowing of maize, ragi, cotton, pulses (green gram, black gram, arhar, cow pea, rice bean), oilseeds (groundnut, soybean, sesamum, niger), vegetable crops etc. in Orissa utilizing recent rainfall and also rainfall likely to occur during next few days.
  - Farmers are advised to undertake sowing of maize, sesamum, sunflower, groundnut, soybean, castor, black gram, green gram, arhar and vegetables like tomato, cabbage, ladies finger, French bean etc. in Bihar and Jharkhand as rain likely to occur during next few days.
  - Farmers are advised to prepare wet nursery bed for *aman* rice in New Alluvial Zone, Coastal Saline Zone and Laterite and Red Soil Zone and also to transplant *aus* rice in New Alluvial Zone and to undertake direct sowing of *aus* rice in Laterite and Red Soil Zone and to sow brinjal, okra, pumpkin, bitter gourd, sponge gourd and ridge gourd in upland situation of West Bengal utilizing recent monsoon rainfall as well as rainfall likely to occur during next few days.
  - Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
  - Heavy rainfall along with high humidity may lead to rhizomes rot of ginger and turmeric in Coastal saline Zone in West Bengal. Raise the level of beds to help the surplus rain water to flow freely, drench the soil around the rhizome with any Copperoxychloride preparation (0.4%) @ 5 litre / sq.m. or spray with Metalaxyl 75 WP @ 1.5 g / litre of water after current spells of rainfall.
  - Under present weather condition, attack of root and stem rot may be prevalent in jute in New Alluvial Zone of West Bengal. To control the diseases, apply 0.1 % carbendazim or 0.25 % mancozeb after current spells of rainfall.

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

- **Realised Rainfall:** Rainfall occurred in most of the districts of the states in the region during last week.
- **Rainfall Forecast:** Rainfall is likely to occur at many places in the region during the period along with isolated heavy to very heavy rainfall during next 48 hours.
- **Major Crops:**
  - Vegetables (flowering / fruiting / harvesting), sugarcane (cane development), maize, jute, mesta (vegetative), *Sali* rice (nursery sowing / transplanting) and arhar and sesamum (sowing) in Assam.
  - *Jhum* / WRC rice, pulses, sesame and vegetables (sowing) and maize (sowing / vegetative) in Arunachal Pradesh.
  - Upland rice (tillering), *aman* rice (nursery sowing and vegetables like pumpkin, ridge gourd, cucumber, ladies finger (sowing) in Tripura.
  - *Sali* rice and transplanted *ahu* rice (transplanting), arhar and potato (sowing / planting), ladies finger, bottle gourd, pumpkin, ridge gourd, cucumber, bitter gourd, snake gourd etc. (sowing), tomato, chilli and brinjal (transplanting) and maize (vegetative) in Meghalaya.
- **Advisory:**
  - As there was rainfall during last few weeks in most of the districts of this region and there is also possibility of rain / thundershower at many places over the region during the period, postpone irrigation, intercultural operation, application of fertilizers and plant protection measures to maize, sugarcane, jute, green gram, black gram, ginger, turmeric and vegetable crop fields. As there is possibility of isolated heavy to very heavy rainfall during next 48 hours, arrange for draining out excess water from the fields of these crops.
  - Farmers are also advised to withhold sowing and transplanting in the States of this region in view of likely heavy to very heavy rainfall during next 48 hours.
  - Farmers are advised to sow *sali* rice, jute (for seed purpose), pigeon pea and sesame in Lower Brahmaputra Valley Zone, *sali* rice and sesame in Upper Brahmaputra Valley Zone, *sali* rice in Central Brahmaputra Valley Zone and *sali* rice and sesame in North Bank Plain Zone in Assam. As sufficient rain received, farmers are also advised to transplant 25 to 30 days old seedlings of *Sali* rice in the main field at a spacing of 15 x 20 cm.
  - Farmers of chronically flood affected areas of Upper and Central Brahmaputra Valley Zone and North Bank Plain Zone in Assam may prepare nursery beds with suitable rice varieties which can withstand flood for several days.
  - Farmers in Arunachal Pradesh are advised to undertake sowing of *jhum* / WRC rice, maize, vegetable crops like ridge gourd, bitter gourd, bottle gourd, pumpkin, okra, etc. and pulses like black gram, green gram, French bean, etc. and sesame.
  - Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
  - Farmers are advised to drain out excess water from green gram and black gram crop fields immediately as the crop can not withstand stagnant water.
  - Farmers in Assam should provide proper support and drain out excess water to reduce the probable damage to fruit crops like papaya and banana due to high wind speed.
  - Due to higher relative humidity, the citrus plants may be infested by 'Gummosis' disease in North Bank Plain Zone in Assam. The affected portion should be cleaned nicely and washed with 'potash water' and Bordeaux mixture. As preventive measure draining out of excess water from the area is essential.
  - As there is chance of infestation of stem borer in sugarcane crop due to cloudy sky, continuous light to moderate rainfall, high humidity, make frequent visits to the field to destroy the egg masses. Stem borer infestation may also be checked by burying or burning the infested canes. Postpone application of chemical pesticides as there is chance of getting rainfall during next 5 days.

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

- **Realised Rainfall:** All the districts in Kerala, Sirkakulam, Visakhapatnam, Vizianagram districts in Coastal Andhra Pradesh, Adilabad, Karimnagar, Nizamabad districts in Telangana, all the districts in Coastal Karnataka and Chickmagalur, Kodagu, Shimoga, Tumkur in South Interior Karnataka, Chennai, Coimbatore, Kanchipuram, Perambalur, Kanyakumari, Nilgiris, Salem, Tiruvallur and Tiruvarur districts in Tamil Nadu received rainfall during last week. No significant rainfall occurred in the remaining parts of the region during last week.
- **Rainfall Forecast:** Rain is likely to occur at most/many places over Kerala and Coastal, North Interior Karnataka, South Interior Karnataka, Telanagana and coastal Andhra Pradesh and at a few places over Rayalaseema during next three days. Rain is likely at a isolated places over Tamil Nadu. Heavy rainfall is likely at isolated places in Coastal Karnataka and Kerala during next 48 hours.
- **Major Crops:**
  - *Kharif* crops viz., rice, groundnut, red gram, castor, etc. (sowing) in Andhra Pradesh.
  - *Kharif* crops viz., redgram, ragi, green gram, black gram, jowar, soybean, maize and groundnut (sowing) and sugarcane (cane development) in Karnataka.
  - *Virippu* rice (transplanting), bhindi (sowing), upland rice (land preparation), coconut, cashew, ginger and turmeric (planting) and plantation crops (coconut, arecanut, pepper and cashew – various stages) in Kerala.
  - Rice (*kuruvai* – transplanting) in Tamil Nadu.
- **Advisories:**
  - Rain is likely to occur at most/many places over Kerala and Coastal, North Interior Karnataka, South Interior Karnataka, Telanagana and coastal Andhra Pradesh, farmers are advised to postpone irrigation to sugarcane and vegetable crops. Arrange for drainage facilities in Coastal Karnataka and Kerala as heavy rainfall is likely at isolated places during next 48 hours.
  - As there was rainfall in Chennai, Coimbatore, Kanchipuram, Perambalur, Kanyakumari, Nilgiris, Salem, Tiruvallur and Tiruvarur districts in Tamil Nadu, farmers are advised to postpone irrigation to standing crops.
  - Farmers in High Altitude Tribal Zone (East Godavari and Khammam districts) are advised to undertake nursery sowing of medium, short duration and long duration varieties of rice and sowing of maize.
  - Farmers in Scarce Rainfall zone (Anantapur and Kurnool) and Southern Telangana Zone (Medak, Nalgonda, Rengareddy and Warrangal) of Andhra Pradesh are advised to undertake nursery sowing of medium and long duration rice varieties and vegetable crops like brinjal, capsicum and tomato with monsoon showers received in the region. Farmers in Anantapur and Kurnool are also advised to continue sowing of groundnut (varieties in Annexure I) with groundnut planter to cover more area and also undertake sowing of other rainfed crops like, jowar, green gram, groundnut, redgram and castor.
  - Farmers in Krishna Godavari Zone (West Godavari, Guntur, Krishna and Prakasam districts) are advised to undertake sowing of pulse crops like green gram and black gram and nursery sowing of rice with the rains received(varieties in Annexure I). Farmers in Guntur may start land preparation and sowing of rice in nursery with short duration varieties by utilizing canal water.
  - As sufficient rainfall was received in remaining parts of Andhra Pradesh, farmers are advised to undertake nursery sowing of *kharif* crops like rice, pulse crops and groundnut etc.
  - Utilizing the monsoon showers, farmers are advised to undertake sowing of redgram (varieties: TTB-7, BRG-1 and Hyd-3C) and ragi (varieties: Indaf-8, MR-1) in Eastern Dry Zone, green gram, blackgram, soybean and pigeon pea in North East Transition zone and rice, cotton, maize and groundnut in Southern Transition Zone in Karnataka.

- Taking advantage of rains received at most of the places during last week, farmers are advised to undertake sowing of green gram, red gram, bajra and sesamum, navane in North Dry Zone (Bijapur), rice (drill sown), maize and soybean and groundnut in North Transition Zone (Belgum, Haveri, Dharwad) in Karnataka.
- Farmers in Hill Zone (Devangere, Chitradurga, Kodagu and Tumkur districts) are advised to undertake sowing of *kharif* crops like groundnut, sunflower, redgram, maize and jowar utilizing the monsoon rainfall during last week.
- As sufficient rainfall received during last week, farmers are advised to undertake sowing of rice in nursery/transplanting in main field in Coastal Zone (Udupi and Dakshin Kannada) and nursery sowing of rice, planting of arecanut and black pepper in Central Dry Zone (Sirsi) in Karnataka.
- As high wind speed is expected Southern zone (Theni, Kovilpatti and Ramanathapuram districts) of Tamil Nadu, farmers are advised to provide mechanical support to banana and sugarcane crops to prevent from lodging.
- Farmers in cauvery delta zone of Tamil Nadu are advised to undertake transplanting of rice.
- Farmers are advised to undertake transplanting of rice and planting of coconut and cashew in Northern Zone, transplanting of *virippu* rice and planting of ginger and turmeric in Central zone and sowing of bhindi and land preparation for upland rice and transplanting of rice in Southern zone in Kerala utilizing the monsoon showers.
- Due to receipt of good amount of rainfall in Ernakulam district of Central Zone and Pathanamthitta district of Southern zone in Kerala, farmers are advised to undertake sowing of bhendi in the main field and chilli and brinjal in nursery (varieties in Annexure I).
- Due to favourable weather conditions, there are chances of incidences of stem borer in rice in Problem Areas Zone and leaf folder in rice in Southern Zone in Kerala.
- Due to prevailing humid and cloudy weather condition is favourable for the occurrence of sigatoka leaf spot disease in banana. Farmers are advised to undertake two spray of 1% Boredeaux. Mixture or Carbendazim 1g or Mancozeb 2g/litre at fortnight intervals.
- Farmers are advised to undertake plant protection measures after current spells of rain in Kerala.
- Due to expected weather is conducive for brown leaf spot incidence in rice in Coimbatore district in western zone of Tamil Nadu. Farmers are advised to monitor the crop for incidence and spray Edifenphos @ 200 ml/acre.

#### **Animal husbandry:**

- Prevailing weather conditions are congenial for the occurrence of Hemorrhagic Septicemia, Foot and mouth disease in cattle, ET and sheep pox in sheep and Ranikhet disease in poultry in Andhra Pradesh. To prevent the diseases, vaccinate the animals at the earliest.
- Vaccinate the livestock against Foot and mouth disease (FMD vaccination), Hemorrhagic Septicemia, Black Quarter. Vaccinate sheep and goats against Enterotoxaemia (ET vaccine) in Karnataka.

#### **WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**

- **Realised Rainfall:** Rain occurred in Dangs and Valsad districts of Gujarat region; all the districts of Konkan; Kolhapur and Nasik districts of Madhya Maharashtra; Aurangabad, Beed, Hingoli and Nanded districts of Marathawada and most of the districts of Vidharbha during last week. Many of the remaining districts of Gujarat and Saurashtra and Kutch and Maharashtra State also received some rain during last week. No significant rain occurred in remaining parts of the region.
- **Rainfall Forecast:** Rain is likely at most places in Konkan and Goa, at many places in remaining regions of Maharashtra and at isolated places in Gujarat region and Saurashtra, Kutch & Diu during the period. Isolated heavy to very heavy rainfall would occur over Konkan & Goa during next 48 hours.
- **Major Crops:**
  - Maharashtra: *Kharif* rice (nursery sowing / germination in East Vidarbha and germination / early seedling in Konkan, Kolhapur, Nashik & Pune (western parts) divisions), jowar, soyabean, bajra,

cotton, sunflower, groundnut, red gram, moong (sowing / germination) and irrigated cotton (germination / early vegetative growth).

- Gujarat: Rice, groundnut, cotton, castor, maize, bajra, pigeon pea, soybean, sesamum, green gram and black gram (land preparation / sowing / germination).

- **Advisory:**

- As no significant rain occurred in Gujarat region and also in Saurashtra and Kutch region except in Dangs and Valsad districts of Gujarat region, apply irrigation to the already sown crops to save the seedlings. Postpone irrigation to the crops in above mentioned districts.
- As rain is likely to occur in all the regions of Maharashtra during the period, postpone irrigation, intercultural operation and application of fertilizer and plant protection measures to the crops. Farmers in Konkan and Goa are also advised to postpone sowing of crops and drain out excess water from the fields in view of likely occurrence of heavy to very heavy rainfall during next 48 hours and resume sowing after that.
- In view of rainfall occurred during last few weeks and likely occurrence of rainfall during next few days, farmers in Maharashtra are advised to undertake sowing of *kharif* crops by selecting improved & high yielding varieties of *kharif* rice, jowar, bajra, groundnut, soybean, sunflower, *kharif* cotton, red gram, moong etc.
- As there was subdued rainfall activities in most of the districts of Gujarat region and Saurashtra and Kutch region, farmers are advised to postpone sowing of crops and wait for monsoon rain to start for resumption of sowing of the *kharif* crops like rice, groundnut, cotton, castor, maize, bajra, pigeon pea, soybean, sesamum, green gram and black gram.
- Recommended varieties of major crops to be sown in different States of the region are mentioned in Annexure I.
- Prevailing weather condition is favourable for occurrence of oily spot disease in pomegranate in Maharashtra, to control collect & destruct diseased fruits and spray blue Copper @ 30 g with Metasistox @ 20 ml with streptocyclin @ 6 g in 10 litres of water after current spells of rain. Undertake second spraying at 8 to 10 days interval, if necessary.
- Present weather condition is favourable for infestation of wilt disease in irrigated cotton in Maharashtra, apply solution of 1.5 kg urea & 1.5 kg potash in 100 litres of water @ 250 ml / plant.
- Apply plant protection measures after current spells of rain in Maharashtra.

#### CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rain occurred over Balaghat, Chindwara, Jabalpur, Mandla, Narsingpur, Sagar, Seoni, Sidhi district in East MP, Badwani, Betul, Bhopal, Dewas, Dhar, Guna, Gwalior, Hosangabad, Jhabua, Khandwa, Mandsaur, Morena, Ratlam, Sehore, Shivpuri and Vidisha in West MP and all the districts of Chhattisgarh except Bilaspur, Dhamtari, Janjgir, Koriya, Kowardna districts during the period.
- **Rainfall Forecast:** Rain is likely at many places over Chhattishgarh, at a few places over East MP during next 24 hours and at many places thereafter and at a few places over West MP.
- **Major Crops:**
  - *Kharif* crop like soyabean, maize, sorghum, (sowing) in south Madhya Pradesh.
  - *Kharif* crops like black gram, green gram, soyabean, maize, etc (sowing), Rice (nursery sowing) and Sugarcane (cane development) in Chhattisgarh.
- **Advisory:**
  - Farmers in southern part of Madhya Pradesh are advised to undertake land preparation and sowing of *kharif* crops like soybean, maize, sorghum etc. and raising nursery for brinjal, tomato, onion, chilli and other *kharif* vegetables in Malwa Plateau Zone, direct sowing of rice in Kymore Plateau and Satpura Hill Zone and raising nursery for *kharif* onion, chilli, tomato, brinjal, etc. in Jhabua Hills Zone in

Madhya Pradesh. Farmers in remaining parts of the state are advised to start land preparation and arrange for inputs to take up the sowing with the arrival of monsoon.

- Farmers in Bhundelkhand Zone of Madhya Pradesh are advised to start land preparation and arrange for inputs for sowing of crops like jowar, maize, lobia, sesamum, red gram and other pulse crops to take up the sowing with the arrival of monsoon.
- Postpone irrigation, intercultural operations and application of fertilizers and pesticides in sugarcane in Chhattisgarh and East Madhya Pradesh as rain is likely at many places during next three days. Looking to the monsoon activities, farmers in Chhattisgarh Plain and Bastar Plateau Zones are advised to undertake field preparation and sowing of rice in nursery / direct seeding. Farmers in the upland of these zones are advised to undertake sowing of soybean, groundnut, sesame, pigeon pea with seed –cum–fertilizer-drill(varieties in Annexure I).

**Animal husbandry:**

- Prevailing weather conditions are congenial for the occurrence of Antrax, Galghotoo, foot and mouth disease in cattle in the region. To prevent the diseases, vaccinate the animals at the earliest.

## Annexure I

**Delhi**

**Rice:** Hybrid varieties- KRH 2, PHB 71, Arich 6444, Pant hybrid Dhan1, Narendra hybrid Dhan 1 and PRH 10; High yielding varieties - Pusa Sughand 5, Pusa Improved Basmati, Pusa 44, Pusa Sughand 4, Pant Dhan 10, Pant Dhan 4, Narendra Dhan 359, Pusa 834, Ranvir Basmati and Taravadi Basmati.

**Pigeon pea:** Pusa 2001, Pusa 991 and Pusa 992, Paras, Manak and UPAS 120

#### **Uttarakhand:**

**Soybean:** Brag, PK-262, PK-327, VL Soya-2 and VL Soya-21, Pant Soybean-1024, Pant Soybean-1042, Pant Soybean-1092, Pant Soybean-1347

**Ghagat:** VLG-1

#### **Jammu & Kashmir**

**Rice:** Jaya, RR-8585, PC-19, IET-1410 and Ratna

**Groundnut:** Punjab No.1, M-13 & JL-24

**Maize:** GS-2, super composite, mansar, C-6, C-8 and local varieties

#### **East Uttar Pradesh**

**Rice:** Taravadi, Bansmati, Bansmati-370, Pant-15 & Pusa Bansmati-1, Pusa-1121, Sugandh-4

**Groundnut:** Type-64, Chandra, Kaushal, Prakash & Amber

**Soybean:** Pant soyabean-1024, Pant Soyabean-1092, PK-262, PK-472, PK -416, PS -564

**Jowar:** Hybrid: Vasha, CSH-16, CSH-9, CSH-14, Sankul: CSV-13, CSV-15

**Maize:** Hybrid: Ganga-2, Ganga-1, Sankul: Navin, Kanchan, Sweta, Azad, Surya, Uttam, Desi:Meerut Pili.

**Bajra:** Hybrid: Pusa-322, Pusa-23, ISMH-451, Sankul: ICMV-155, WCC-75, ICTP-8203, Raj-171, Desi: Mainpuri

#### **Punjab:**

**Rice:** PR-120, PR-118, PR-116, PR-114, PR-111 and PR-113

#### **Rajasthan**

**Maize :** Him – 129, Aravali Makka, PEHM-1, PEHM- 2, Pratap Makka-1, Pratap Makka-3, Pratap Makka-5

**Jowar :** CSV – 15, CSV – 17, Pratap Jowar – 1430, CSH – 13, CSH – 14

**Soybean :** JS–335, MACS–13, PK – 472, MACS–58, PS – 16, JS – 71 – 05, Pratap Soya-1 **Moong :** RMG – 62, K – 851 and Pusa Baisakhi.

**Urd :** Krishna, T – 9, PU – 19, and Barkha.

#### **Assam**

**Sali rice:** Ranjit, Bahadur, Vasundhara, Kushal, Piyoli, Moniram, Rangali, Bhogali, Ketkijaha etc.

**Rice for flood affected areas:** Jalashree, Plaban, Jalkonwari.

**Red gram:** T-21.

**Sesamum:** AST-1, Madhabi, Binayak, Punjab til -1, Gouri etc.

**Jute (for seed purpose):** Tarun.

#### **Bihar:**

**Rice:** Sita, Kanak, Sujata,IR-36 and Saroj.

**Kharif maize:** Ganga -11, Shaktiman 1, 2, Devki and Suwan etc.

#### **Jharkhand:**

##### **Rice:**

**Medium land:** IR – 36, IR – 64, Rajendra Dhan 202, Kanak, Sugandha, Lalat, BR 10, Birsa Vikar Sugandh Dhan 2, Birsa Vikas Dhan 203, Birsamati, Pro Agro 6444, Birsa Dhan 202, Rajshree etc.

**Low land:** Birsa Dhan 202, Rajshree, Suvarna (MTU 7029), Sambha Mahsoori (BPT 5204).

**Kharif maize:** Suwan Composite – 1, HQMP – 1, Birsa Makai – 1, Kanchan, Birsa Vikas–2 etc.

**Black gram:** T-9, PU-19.

**Green gram:** K-851, Pusa Vishal.

**Groundnut:** Birsa Groundnut 2, 3, Verginia, BAU 13.

**Soybean:** Birsa Soybean, JS 335, Birsa safed soybean 2.

**Arhar:** Birsa Arhar 1, Bahar.

**Orissa:****Rice:**

**Up land:** Khandagiri, Vandana, ZHU XI-26, Parijat, Annada, Heera.

**Medium land:** Lalat, Konark, Surendra, Naveen, Swarna, Kharavela, Pratikhya, MTU-1001 and Geetanjali (aromatic rice).

**Low land:** Mahanadi, Moti, Indravati and aromatic rice like Dubraj and Ketakijoha.

**Maize:**

**Composites:** Navjot, Megha, Pratap, Shakti 1, Pragati.

**Hybrids:** Decan 103, Decan 109, Decan 115, Bio 9681, Pro 311, Ganga II, Cargil 900 M, Cargil 633, Sartaj.

**Ragi:**

**Early varieties:** Dibyasinha, VL 149.

**Medium varieties:** Bhairavi, Subhra, Godavari, Chilika.

**Cotton:** Bunny, Sri Tulasi, Bhaskar and Atal.

**Arhar:** Mahak, UPAS 120, Asha, Laxmi, Jagruti, Maruti, Prabhat, ICPL-86012, Visakha, Pusa-9, Bahar.

**Green gram:** PDM-54, HUM 1, TARM 1, TARM 2, K 851, Dhauli.

**Black gram:** Sarala, Pant U 30, Pant U 35, KU 301, KU 300

**Cowpea:** SEB 2, FS 68, Swarna, SGL 1.

**Brinjal:** Utkal madhury, Utkal tarrini, Utkal keshari, Pusa kranti

**Chilli:** Utkal rashmi, Utkal ava, Pusa jwala, Pant C 1, NP 46A

**Tomato:** Utkal pallavi, Utkal dipti, Panjab chhuara, Pusa hybrid-1

**Onion:** N 53, Arka kalyan, Agrifound dark red, Arka pragati

**Radish:** Pusa chetki, Pusa rashmi, Japanese white.

**Cowpea:** Pusa barsati, Arka garima, Utkal manik, Pusa dofasali.

**West Bengal:****Rice:**

**Aman rice:** IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002, IET-5656, IET-4694, IET-4786, IET-1444, MTU-7029 etc.

**Gujarat:**

**Rice:** GR-11, GR-4, GR-101, GR-102, GR-103 for rice (transplanted) and GR-3, Ambika, Ratna, IR-28 for rice (drill).

**Groundnut:** GAUG-10, GG-11, GG-12, GG-13, GG-20 for groundnut (spreading), GAUG-1, GG-2, GG-4, GG-5 for groundnut (bunch).

**Castor:** GAUCH-1, GCH-2, GCH-4, GCH-5.

**Maize:** GM-3, GM-4, GM-6, Ganga Safed-2, Farm sameri, Narmda Moti.

**Bajra:** GHB-183, GHB-215, GHB-316, GHB-528.

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

**Black gram:** T-9 and GU-1.

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

**Pegion pea:** BDN-2, GTH-1, GT-100 and GT-101.

**Sesamum:** GT-2 or GT-3 for sesamum.

**Soybean:** Guj. Soyabean-1, Guj. Soyabean-2.

**Andhra Pradesh**

**Groundnut:** K-6, K-9, Narayani etc

**Green gram (upland):** ML 267, LGG 450, LGG 460, LGG 407, Pusa 105, PDM 54

**Black gram:** LBG 20, T 9, LBG 623, WBG 26.

**Rice:** MTU1010, MTU1081, Swarna, BPT 5204, BPT 2270, MTU 1010, MTU1081 and NLR34449

**Karnataka**

**Black gram:** TTB-7, BRG-1 and Hyd-3C

**Ragi:** Indaf-8, MR-1

**Kerala**

**Bhundi:** Arka anamika, Arka anamika, Manjima and Varsha upahar

**Brinjal:** Haritha

**Chilli:** Anugraha

### **Maharashtra:**

**Jowar:** CSH-9, 14, SPV-462, SPV-475 and SPV-946.

**Bajra:** Shardha (RHRBH-8609), Saburi (RHRBH-8924), Shanti (RHRBH-9808), ICTP-8203 and Samrudhi.

**Groundnut:** Phule Pragati (JL-24), TAG-24, TG-26, Phule Vyas (JL-220), Phule Unap and TGP-41 for Madhya Maharashtra, Konkan Gaurav and Trombay Konkan (Tapura) for Konkan.

**Red gram:** ICPL – 87119 (Asha) and C-11 for black soil in Vidarbha and ICPL-87, AKT- 8811, Vipula and B.M.S.R. in Madhya Maharashtra.

**Cotton:** Indian improved varieties AKA-5, 7 and 8, Indian hybrid varieties like PKV DH-1, American improved varieties AKH-081, PKV-Rajat and AKH- 8828 for Vidarbha.

**Maize:** Ganga -11, Deccan-105, Trishulata, Pro -311, Bio -9681, Dhaval, African tall.

**Moong:** Vaibhav, Kopergaon-1 and B.P.M.R- 145, Jalgaon 781, S-8, PhuleM-2.

**Soyabean:** P.K-1029, M.A.C.S.-450, JS-335, Phule kalyani (DS-228).

**Sunflower:** EC-68414, Modern, SS-56, K.B.S.H-1, Bhanu, Phule Raviraj.

**Rice:** Early maturing varieties like Karjat-4, 184, Ratnagiri-24, Ratna & Pawana and medium maturing varieties like Phule Samrudhi, Indrayani and Pusa Basmati in Pune division and PKV Khamang, PKV HMT and PKV Makrand for east Vidarbha.

### **Chhattisgarh**

**Rice:** IR-64, IR-36, Poornima, Annada, MTU 1010, MTU 1001, Mahamaya, Karma Mahsuri, Bamleshwari, Swarna etc

**Soybean:** JS 335, Indira, Soya-09, JS 93-05.

### **Madhya Pradesh**

**Rice:**

**Early:** JR-201, Poornima, JRH-5, JRH-8 (Hybrid)

**Medium:** IR-36, IR-64, Pusa sugandha-5, MTU-1001, Pusa basmati-1, Mahamaya, Kranti

**Late:** Syamla, Swarna

**Early:** JM-8, 12, Kiran, JM-421

**Medium:** Navjot, Arun, H-216, Sartaj, Daccan 107

**Late:** Ganga-11, Prabhat, Trisulta, Daccan 103, Daccan 105, HQPM-1

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

**Arhar:** Jawahar Arhar-4, JKM-7 & ICPL – 87119 (Asha), Laxmi, Pragti, Asha, Jagrati, JKM-7 and JKM-189

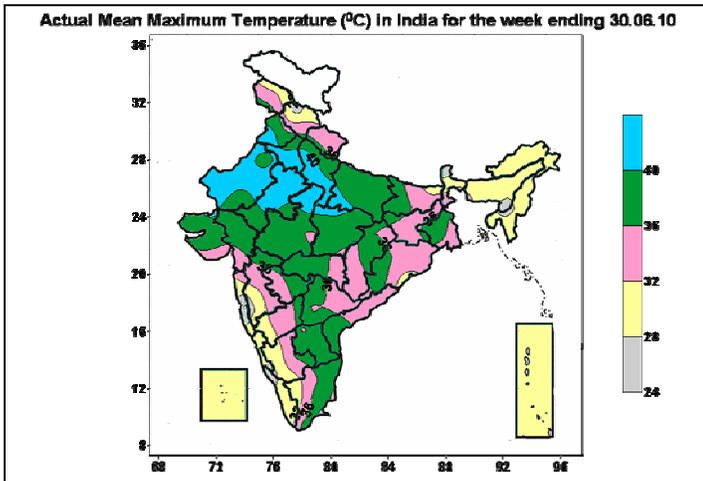
**Soybean:** JS-95-60, JS-93-05, JS-97-52, JS-80-21, JS-335, NRC-37, JS-335, JS 9305, JS-9560, PK-472, NRC-37

**Green gram:** K-851, JHawahar moong-721, Pant Moong-4, TJM -3

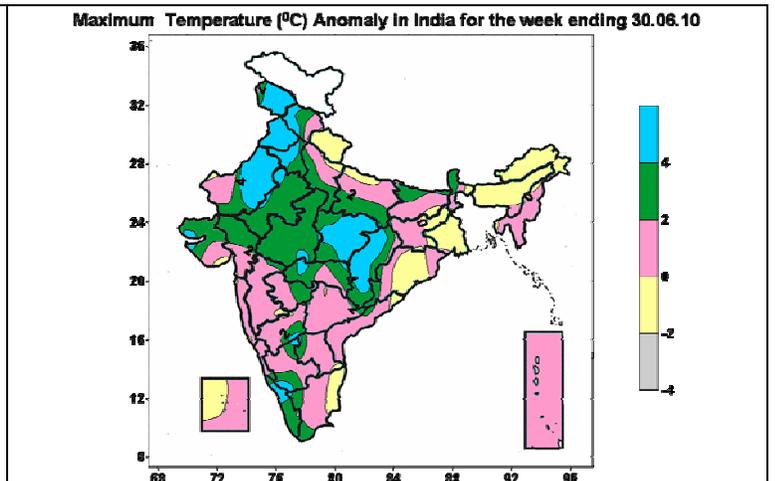
**Black gram:** Pant U 30, RBU – 38, Jawahar Urd-3, JU 86.

## **Annexure II**

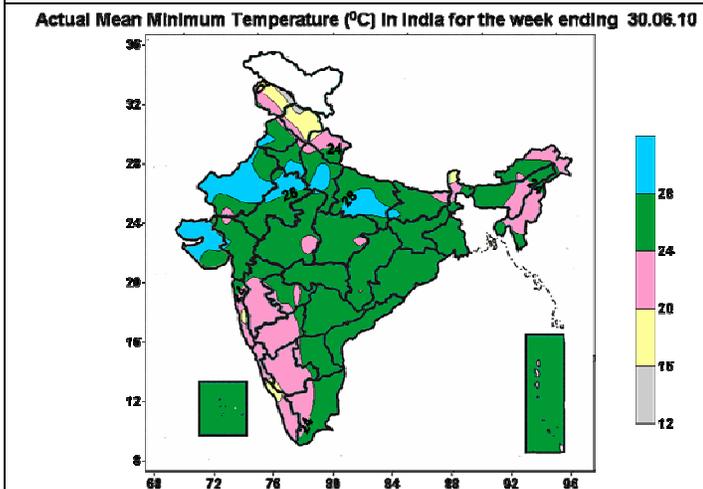
### **Contour maps for the week ending 30.06.10**



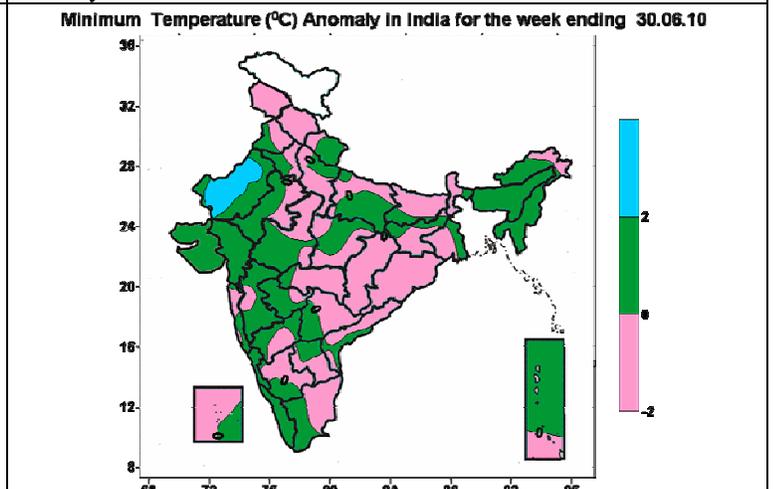
Actual Mean Maximum temperature ranged between 40<sup>0</sup>C and above over most parts of Rajasthan, Haryana, Delhi, some parts of Punjab, Uttar Pradesh, Madhya Pradesh, 36 to 40<sup>0</sup>C over most parts of Punjab, East Uttar Pradesh, Gangetic West Bengal, Madhya Pradesh, Gujarat, Saurashtra & Kutch, Vidarbha, Marathwada, Andhra Pradesh, Tamil Nadu, some parts of Jammu & Kashmir, Uttarakhand, West Uttar Pradesh, Haryana, Chhattisgarh, Orissa, Madhya Maharashtra, South & North Interior Karnataka, 24 to 36<sup>0</sup>C over remaining parts of the country.



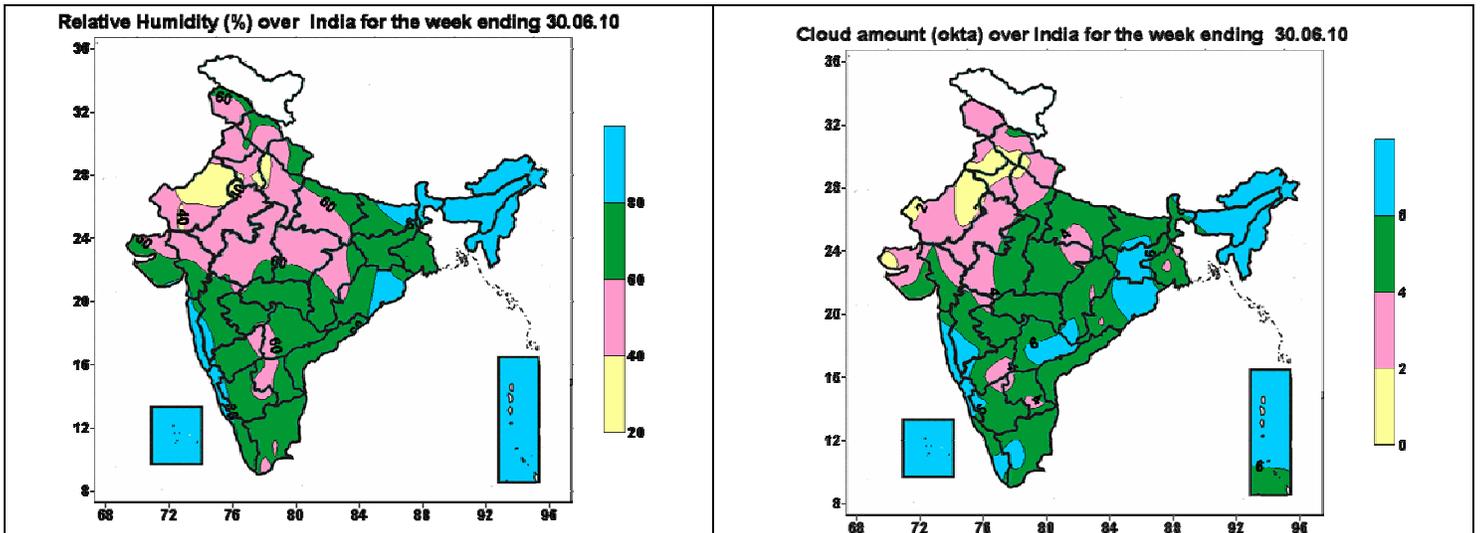
Actual Mean Maximum temperature anomaly ranged between 4<sup>0</sup>C and above over most parts of Jammu & Kashmir, Punjab, West Rajasthan, East Madhya Pradesh, Chattisgarh, some parts of Himachal Pradesh, Haryana, East Rajasthan, West Madhya Pradesh, Vidarbha, Kerala, South & North Interior Karnataka, Saurashtra & Kutch, 2 to 4<sup>0</sup>C over most parts of East Rajasthan, Sikkim, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, Vidarbha, Kerala, some parts of Jammu & Kashmir, Himachal Pradesh, Haryana, Delhi, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal, East Madhya Pradesh, Chattisgarh, Andhra Pradesh, Tamil Nadu, Karnataka, Marathwada, -4 to 2<sup>0</sup>C over remaining parts of the country.



Actual Mean Minimum Temperature ranged between 28<sup>0</sup>C and above over most parts of West Rajasthan, Saurashtra & Kutch, some parts of Punjab, Haryana, Delhi, East Rajasthan, Uttar Pradesh, Bihar, 24 to 28<sup>0</sup>C over most parts of Punjab, Haryana, Delhi, East Rajasthan, Uttar Pradesh, East India (except Sikkim), Arunachal Pradesh, Assam, Central India, South India (except Karnataka, Kerala), Gujarat, Vidarbha, Marathwada, some parts of Uttarakhand, West Rajasthan, Mizoram, Tripura, Konkan, North Madhya Maharashtra, Saurashtra & Kutch, 12 to 24<sup>0</sup>C over remaining parts of the country.

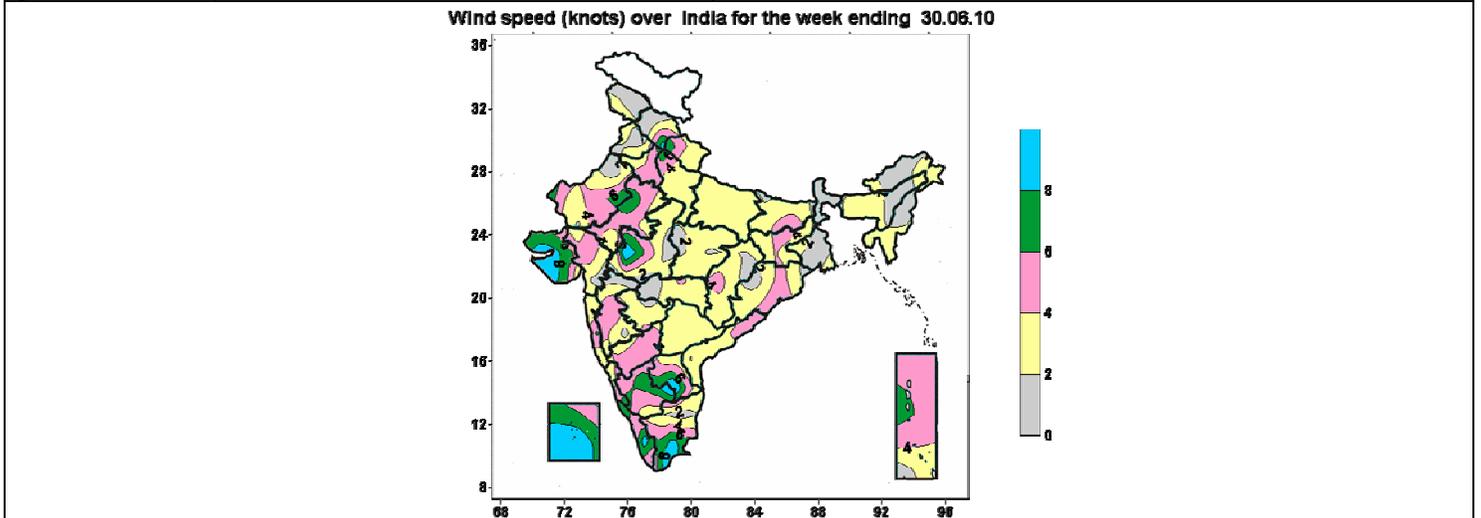


Minimum Temperature anomaly ranged 2<sup>0</sup>C and above over most parts of West Rajasthan, 0 to 2<sup>0</sup>C over most parts of Uttarakhand, East Uttar Pradesh, North East India, West Madhya Pradesh, Gujarat, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra, Marathwada, Kerala, Coastal Andaman & Nicobar Islands, some parts of Punjab, Haryana, West Uttar Pradesh, Bihar, Jharkhand, West Bengal, Andhra Pradesh, Tamil Nadu, Interior Karnataka, Lakshadweep Islands, -2 to 0<sup>0</sup> C over remaining parts of the country.



Relative humidity between 80% and above over most parts of North East India, Sub-Himalayan West Bengal & Sikkim, Konkan & Goa, Coastal Karnataka, Andaman & Nicobar and Lakshadweep Island, some parts of Bihar, Orissa, South Interior Karnataka, Kerala, Madhya Maharashtra, 60 to 80% over most parts of Bihar, Jharkhand, Gangetic West Bengal, Orissa, Chattisgarh, Andhra Pradesh, Tamil Nadu, North & South Interior Karnataka, Kerala, Madhya Maharashtra, Marathwada, Vidarbha, Gujarat, Saurashtra & Kutch, some of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Madhya Pradesh, Konkan, 20 to 60% over remaining parts of the country.

Cloud amount 6 to 8 okta over most parts of North East India, Jharkhand, Konkan & Goa, Lakshadweep, Andaman & Nicobar Islands, some parts of Gangetic West Bengal, Orissa, Chattisgarh, Telengana, Tamil Nadu, Karnataka, Madhya Maharashtra, Kerala 4 to 6 okta over most parts West Uttar Pradesh, Bihar, West Bengal & Sikkim, Orissa, Central India, Andhra Pradesh, Tamil Nadu, Kerala, South & North Interior Karnataka, West India (except Konkan & Goa), some parts of Himachal Pradesh, Rajasthan, West Uttar Pradesh, Jharkhand,, Coastal Karnataka, Konkan, Assam, 0 to 4 okta over remaining parts of the country.

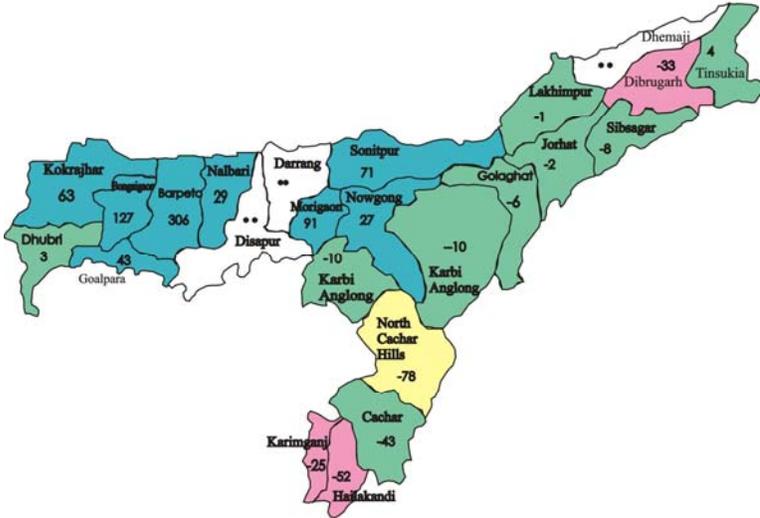


Wind speed ranged between 8 knots and above over some parts of Saurashtra & kutch, West Madhya Pradesh, Rayalaseema, Tamil Nadu, Kerala, South Interior Karnataka, Lakshadweep Islands, 6 to 8 knots over some parts of Himachal Pradesh, Uttarakhand, Rajasthan, West Uttar Pradesh, Saurashtra & Kutch, West Madhya Pradesh, Rayalaseema, Tamil Nadu, Kerala, Coastal & South Interior Karnataka, Andaman & Nicobar, Lakshadweep Islands, 0 to 6 knots over remaining parts of the country.

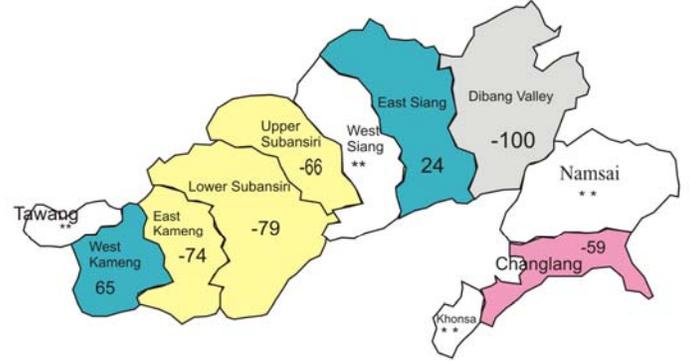
### Annexure III

#### Rainfall maps of some states representing (%) Departure

#### Assam



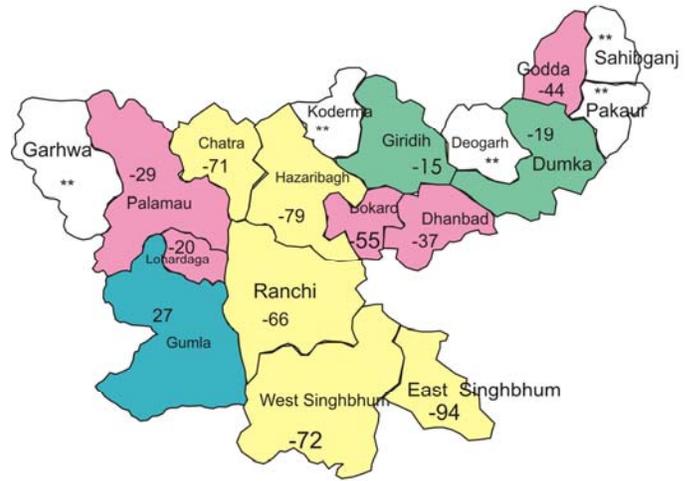
#### Arunachal Pradesh



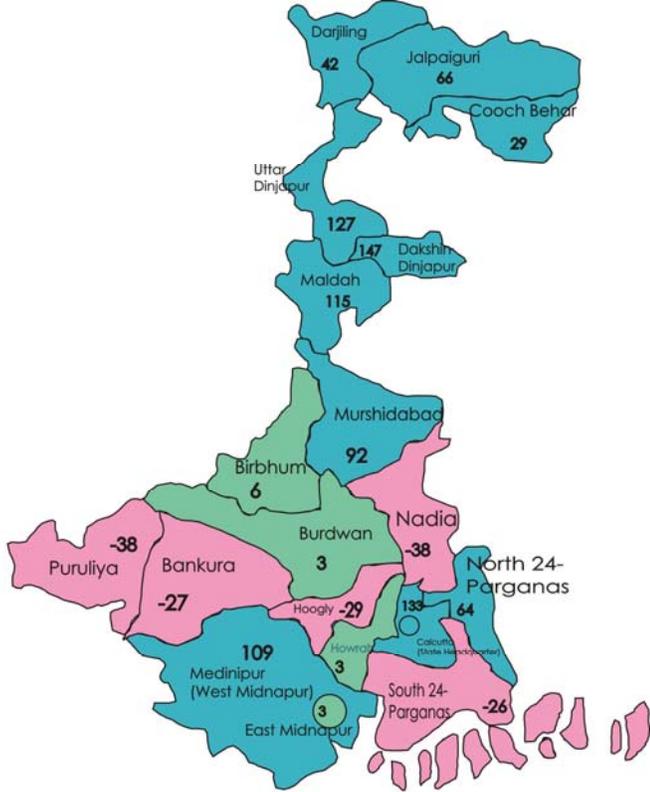
#### Bihar



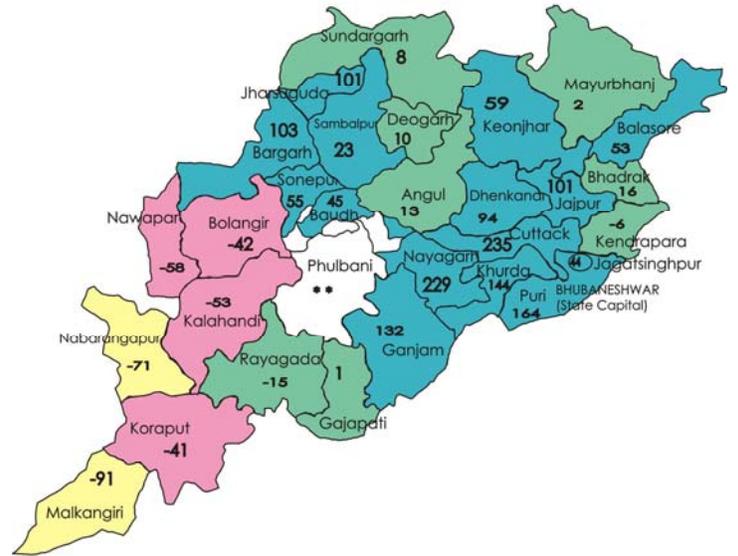
#### Jharkhand



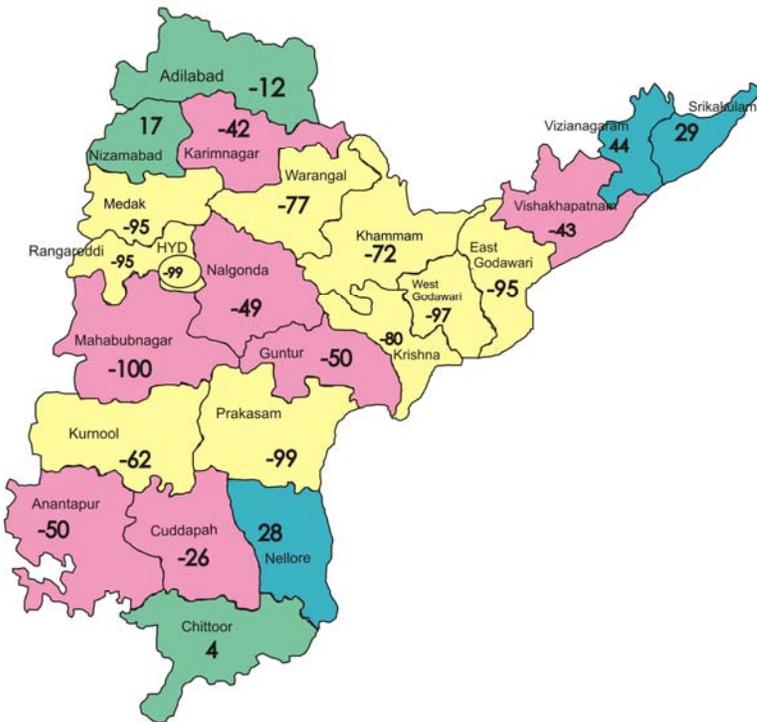
### West Bengal



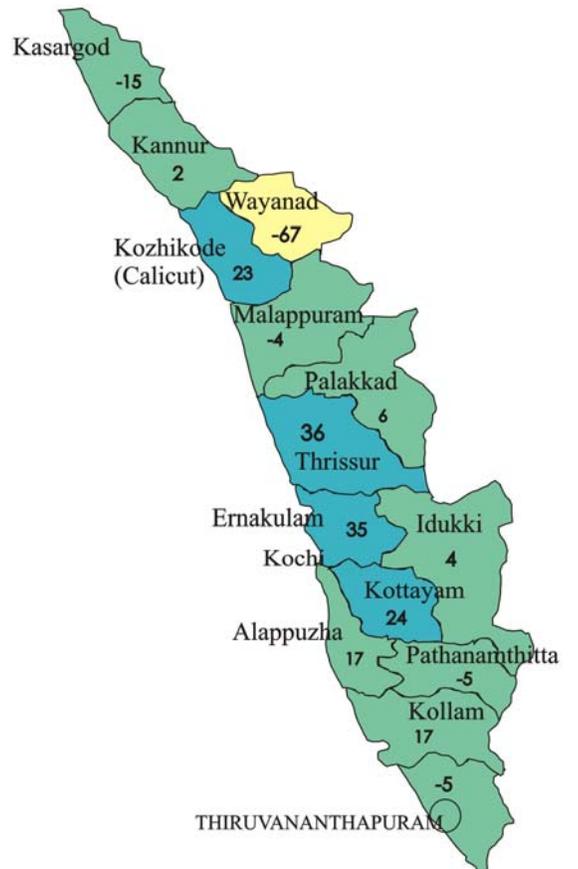
### Orissa



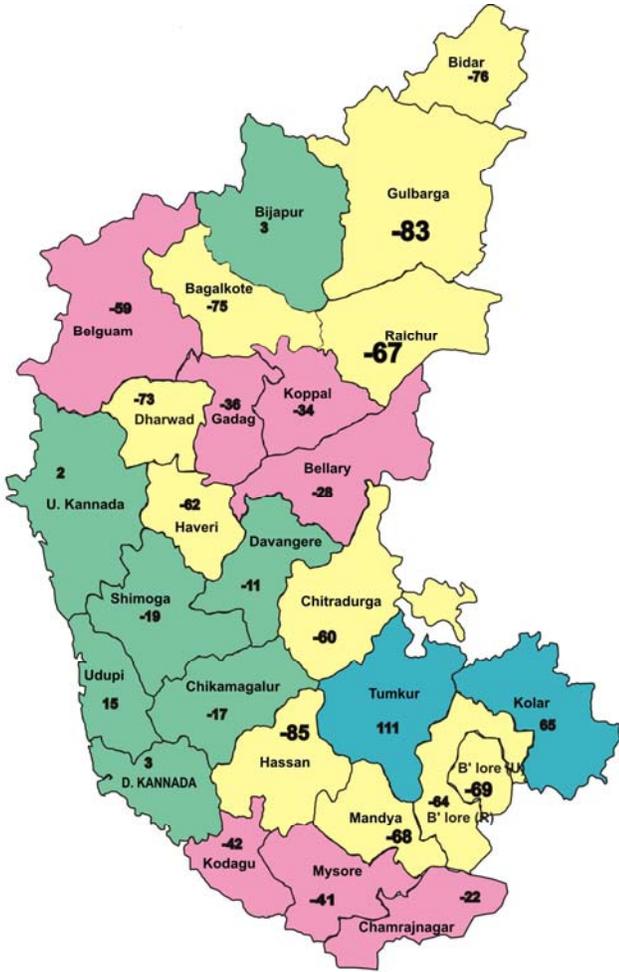
### Andhra Pradesh



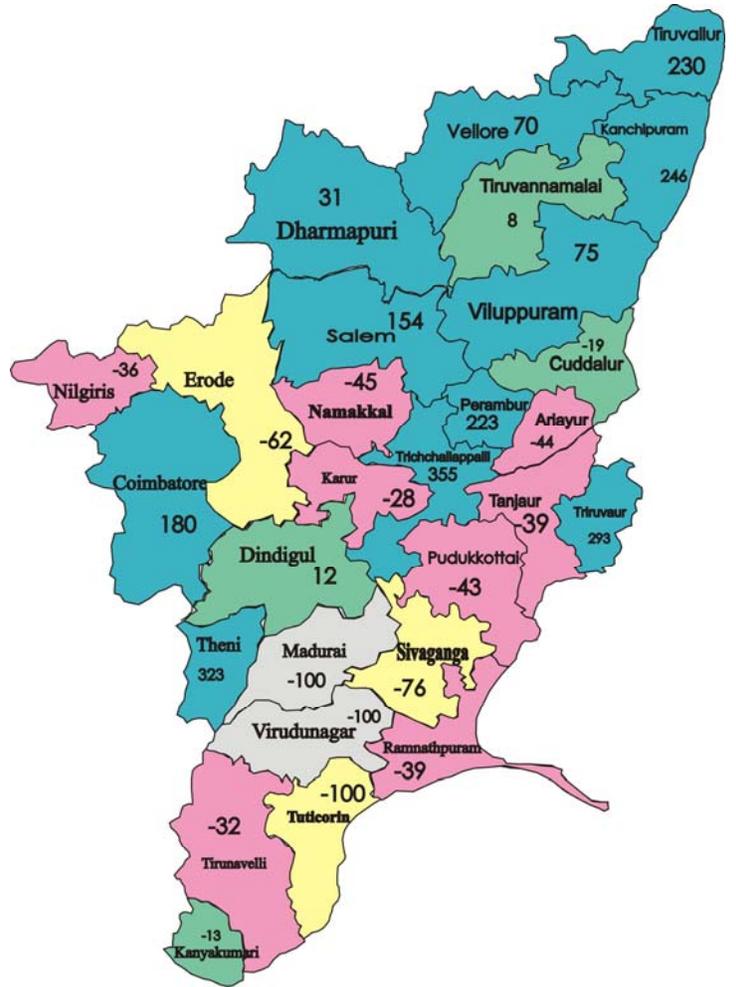
### Kerala



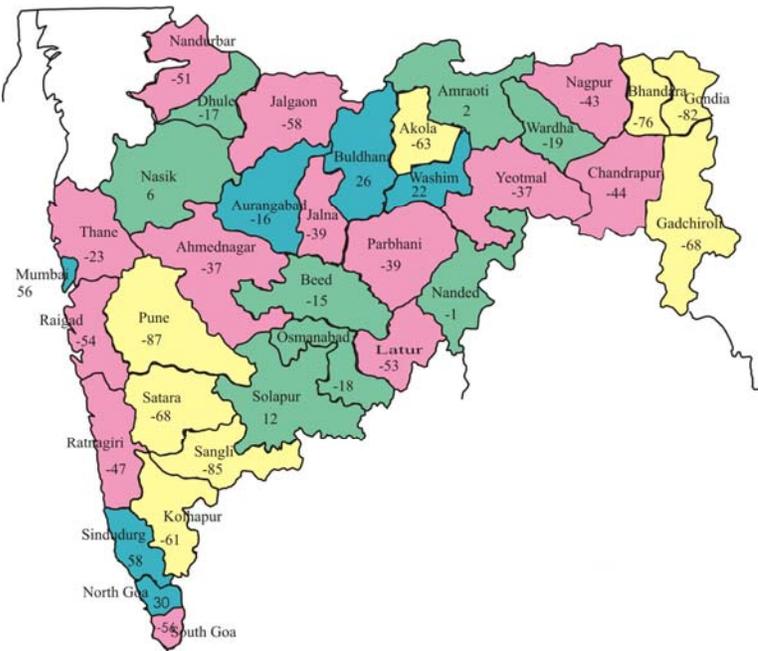
### Karnataka



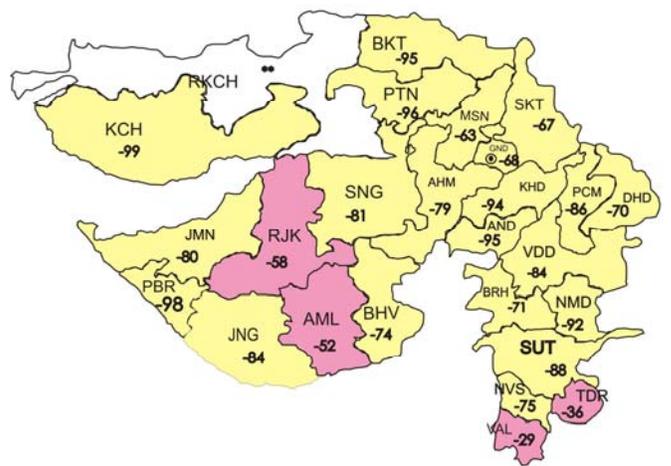
### Tamil Nadu



### Maharashtra



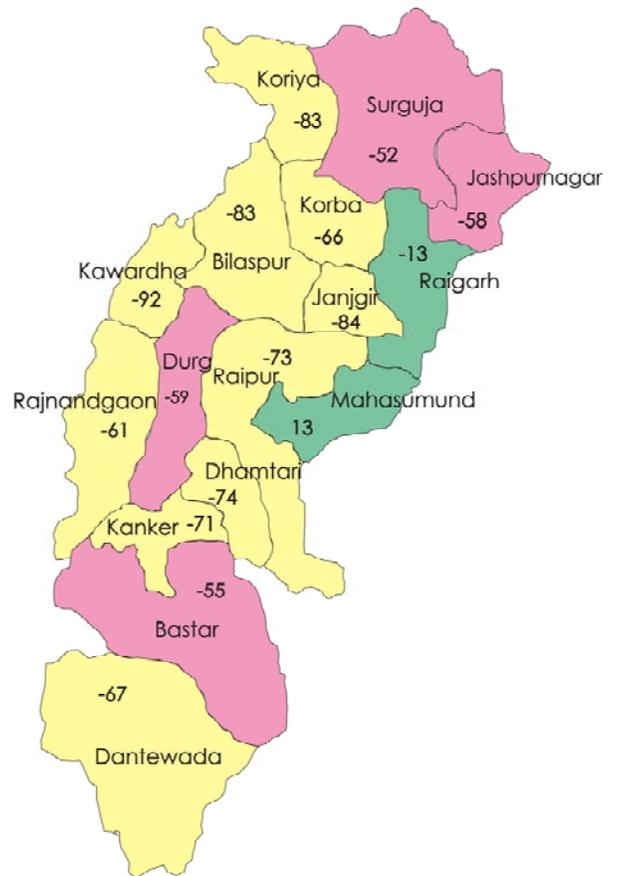
### Gujarat



## Madhya Pradesh



## Chattisgarh



### LEGEND

- EXCESS 20% OR MORE
- NORMAL +19% TO - 19%
- DEFICIENT - 20% TO - 59%
- SCANTY - 60% TO - 99%
- NO RAIN - 100%
- DATA NOT AVAILABLE