



# India Meteorological Department

## **FDP STORM Bulletin No. 56 (01-05-2018)**

### **1. CURRENT SYNOPTIC SITUATION:**

#### **NWFC INFERENCE (0300UTC of the Day):**

- ◆◆ The Western Disturbance as a cyclonic circulation over Iran and neighbourhood now seen as a trough in mid and upper tropospheric levels with its axis at 7.6 km above mean sea level roughly along Long. 50° E to the north of Lat. 34°N.
- ◆ A fresh Western Disturbance is likely to affect Western Himalayan region from 5th May.
- ◆ The east-west trough from Punjab to southeast Madhya Pradesh extending upto 0.9 km above mean sea level now seen as a north-south trough from north West Rajasthan to north Konkan across West Madhya Pradesh and north Madhya Maharashtra.
- ◆ A cyclonic circulation at 1.5 km above mean sea level lies over south Haryana and neighbourhood.
- ◆ A cyclonic circulation at 0.9 Km above mean sea level lies over north interior Odisha and neighbourhood.
- ◆ A trough at 3.1 Km above mean sea level runs roughly along Long. 86°E to the north of Lat. 20°N.
- ◆ The cyclonic circulation over east Bihar & adjoining West Bengal-Jharkhand extending upto 2.1 km above mean level now lies over Sub- Himalayan West Bengal and adjoining Bangladesh.
- ◆ The trough from the above cyclonic circulation to Manipur across Meghalaya extending upto 1.5 km above mean sea level persists.
- ◆ The north-south wind discontinuity from Telangana to south Tamilnadu now seen as a trough at 1.5 Km above mean sea level from south Chhattisgarh to south Tamilnadu across Telangana and South Interior Karnataka.
- ◆ The low pressure area over Andaman Sea & neighbourhood with associated cyclonic circulation extending upto 3.1 km above mean sea level now lies over north Andaman Sea and neighbourhood.

#### **SATELLITE OBSERVATIONS during past 24 hrs and current observation:**

##### **Current Observation (based on 0900UTC imagery of INSAT 3D):**

##### **Intense Precipitation Advisory for next 3 hrs:**

Heavy rainfall spell (>15mm/hr) is likely over southern parts of North Coastal Andhra Pradesh. Moderate rainfall spell (>5mm/hr) is likely over Manipur, Mizoram, Odisha, rest North Coastal Andhra Pradesh, Kerala & adjoining Tamilnadu.

(For details kindly refer to <http://sigma.cptec.inpe.br/scope/>).

### **Thunderstorm Advisory for Next 3 Hrs:**

Thunderstorm/Convective cells likely over Southwest Jammu & Kashmir, North Coastal Andhra Pradesh, and Central Assam.

(For details kindly refer to <http://www.rapid.imd.gov.in/>).

### **Low Level Circulation (LLC) over Andaman Sea:**

Broken low/medium clouds with embedded intense to very intense convection seen over North Andaman Sea in association with Low Level Circulation over the area (**Minimum CTT Minus 90 DEG C**).

### **Western Disturbance (WD):**

Scattered multi-layered clouds seen over North Afghanistan, extreme North Pakistan, West Jammu & Kashmir, and over the area between Lat 37.0N to 44.0N, Long 66.0E to 80.0E in association with Western Disturbance over the area.

### **Clouds descriptions within India:**

Broken low/medium clouds with embedded intense to very intense convection seen over North Coastal Andhra Pradesh,(minimum CTT minus 80deg C). Scattered low/medium clouds with embedded intense to very intense convection over Jammu & Kashmir. Broken low/medium clouds with embedded moderate to intense convection seen over Andaman Islands. Scattered low/medium clouds with embedded moderate to intense convection seen over Central Chhattisgarh and extreme South Odisha (minimum CTT minus 65deg C). Scattered low/medium clouds with embedded weak to moderate convection seen over North Himachal Pradesh, North Uttarakhand, East Odisha, Sikkim and Northeastern states. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over East Madhya Pradesh, Southern parts of South Interior Karnataka, Kerala, Central Tamilnadu and Nicobar Islands. Scattered low/medium clouds seen over South Himachal Pradesh, South Uttarakhand, and Southwest Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Maharashtra, and rest parts of East and south India.

### **Arabian Sea:-**

Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Southeast Arabian Sea off Kerala Coast.

### **Bay of Bengal & Andaman Sea:**

Broken low/medium clouds with embedded intense to very intense convective seen over West central Baybetween Lat 15.0deg N to 20.0deg N, west of Long 87.0deg E.

### **Past Weather:**

#### **Convection (during last 24 hrs):**

Moderate to Intense convection was observed over J&K Himachal Pradesh Uttarakhand South Haryana Delhi North East Rajasthan Uttar Pradesh Madhya Pradesh Chhatishgarh Bihar Jharkhand Odisha West Bengal Sikkim North-East States South Interior Karnataka Kerala Tamilnadu Andaman & Nicobar islands.

#### **OLR :- .**

Up-to 150  $\text{wm}^{-2}$  observed over West Meghalaya and

Up-to 230  $\text{wm}^{-2}$  observed over East Uttar Pradesh Bihar East Jharkhand South-East Odisha West Bengal Sikkim rest North-East States.

**Synoptic Features:**

**Westerly Trough & jet Stream:**

Westerly Trough roughly along Longitude 86.0E & North Of Latitude 21.0N.

**Dynamic Features:**

Up to 30- 40 kts **wind shear** is observed over North India, Central India & North-East India and 05-20 kts over south peninsula India.

Positive **wind Shear tendency** is observed over the country

Negative **Low Level Convergence** is observed over East Gujarat adjoining Maharashtra Coastal Andhra Pradesh Coastal Orissa .

Positive **Vorticity (850 hPa)** is observed over North Rajasthan Haryana Delhi South Uttar Pradesh Bihar Jharkhand Gangetic West Bengal Telangana Andhra Pradesh.

**Precipitation:**

**IMR:**

Rainfall up-to 150 mm observed over North Orissa .

Rainfall up-to 70-110 mm observed over North Kerala off Costal Kerala Orissa Off Costal Orissa Adjoining South GWB .

Rainfall up-to 20-50 mm observed over Rest South Interior Karnataka North Kerala off Costal Kerala Orissa Off Costal Orissa Adjoining South GWB .

Rainfall up-to 01-20 mm observed over South j & k South East Himachal Pradesh Uttarakhand South Haryana North East Rajasthan South West Uttar Pradesh Central & North East Madhya Pradesh North Central Chhattisgarh Rest Orissa GWB SHWB North East States Rest Kerala Rest South Interior Karnataka North West Tamilnadu South Central Andhra Pradesh (.)

**HEM:-**

Rainfall up- 138.9 to 208.3 mm observed over Kerala & off costal North Orissa(.

Rainfall up- 27.8 to 138.9 mm observed over Rest Kerala & off costal Central West Kerala South East Interior Karnataka Adjoining North Tamilnadu Rest North Orissa South Orissa Off Costal Orissa Adjoining South GWB .Bay Islands North Mizoram North Uttarakhand.

### **RADAR and RAPID RGB Observation:**

Multiple moderate to Strong echoes are seen on DWR Machilipatnam (dBZ around 55 and height 15km) and Chennai (dBZ around 55 and height 15km) domains at around 1700IST. Light to moderate echoes are also seen on DWR Hyderabad, Nagpur, Patiala and Srinagar domains at around 1700 IST.

RAPID RGB Satellite imagery at 1600IST indicates significant convection over Jammu & Kashmir, North Himachal Pradesh, North Uttarakhand, Sikkim, Assam, West Arunachal Pradesh, Tripura, Manipur, Rayalaseema, Coastal Andhra Pradesh, Chhattisgarh, Jharkhand and Nicobar Islands.

### **Environmental Condition (dust etc) and its Forecast based on 00UTC of date:**

Higher Dust concentration was observed over northern Africa, Arab countries and western part of India. Dust concentration is expected to decrease over north India.

Particulate matter concentration is expected to remain in moderate category for next 2 days in Delhi.

<b>Delhi – SAFAR analysis &amp; Forecast</b>	<b>01.05.2018</b>	<b>02.05.2018</b>
PM10 (micro-g/m <sup>3</sup> )	158	142
PM2.5 (micro-g/m <sup>3</sup> )	74	67

## **2. NWP MODEL GUIDANCE:**

### **NCMRWF (NCUM forecast based on 00UTC the day):**

#### **1. Weather Systems:**

##### **Low level Cycirs, Troughs:**

**12UTC of Day 2-3:** Weak CYCIR over NW India and over WB-Bihar

##### **Confluence & Wind Discontinuity Regions:**

**12 UTC of Day 1-3:** 925 hPa N-S discontinuity over Southern Peninsular India and SW-NE discontinuity MP-Chhattisgarh-Odisha

##### **Synoptic Systems:**

**00&12 UTC of Day 2:** WD as a weak trough over J &K.

#### **2. Location of jet and jet core (>60kt) at 500hPa: Nil**

### 3. Convergence at 850 hPa:

#### Day/Index: Subdivisions with Lower Level Convergence $> 15 \times 10^{-5} /s$

Day0: East\_RJ, Odisha, West\_MP, Madhya\_Maharashtra, Marathwada,

Day1: Hry\_Chhd\_Delhi, Jammu\_Kashmir, East\_RJ, Odisha, Madhya\_Maharashtra, Chhattisgarh, NI\_Karnataka, SI\_Karnataka,

Day2: East\_UP, Hry\_Chhd\_Delhi, Punjab, West\_RJ, East\_RJ, Odisha, West\_MP, East\_MP, Madhya\_Maharashtra, Marathwada, Chhattisgarh, TN\_Puducherry, NI\_Karnataka, SI\_Karnataka,

Day3: East\_RJ, East\_MP, Chhattisgarh, NI\_Karnataka,

Day4: NE\_NMMT, East\_MP, Madhya\_Maharashtra, Chhattisgarh, Telangana, NI\_Karnataka, SI\_Karnataka

### 4. Low level Vorticity:-Positive Vorticity:

#### Day/Index: Subdivisions with Lower Level Vortex $> 15 \times 10^{-5} /s$

Day0: Jharkhand, Bihar, East\_RJ,

Day1: Jharkhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, West\_RJ,

Day2: Jharkhand, East\_UP, Hry\_Chhd\_Delhi, Punjab, West\_RJ, East\_RJ, Odisha, Madhya\_Maharashtra, Chhattisgarh,

Day3: East\_RJ,

Day4: Assam\_Meghalaya, NE\_NMMT, West\_UP, Hry\_Chhd\_Delhi, West\_RJ, East\_MP, NI\_Karnataka

### 5. Showalter Index: -3 to -4[Very unstable]:

#### Day/Index: Subdivisions with Showalter Index $< -4$

Day0: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, Konkan\_Goa, Madhya\_Maharashtra, Chhattisgarh, Coastal\_AP, Telangana, Rayalseema, TN\_Puducherry, Coastal\_Karnataka, NI\_Karnataka, SI\_Karnataka, Kerala,

Day1: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, East\_RJ, Odisha, West\_MP, East\_MP, Chhattisgarh, Coastal\_AP, Telangana, TN\_Puducherry, SI\_Karnataka, Kerala,

Day2: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, East\_RJ, Odisha, West\_MP, East\_MP, Vidarbha, Chhattisgarh, Coastal\_AP, Telangana, TN\_Puducherry, SI\_Karnataka, Kerala,

Day3: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, Chhattisgarh, Coastal\_AP, Telangana, TN\_Puducherry, Coastal\_Karnataka, SI\_Karnataka, Kerala,

Day4: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, TN\_Puducherry, Coastal\_Karnataka, SI\_Karnataka, Kerala

## **6. Spatial distribution of TTI: TTI >50 [Scattered Thunderstorms few severe]:**

### **Day/Index: Subdivision with Total Totals Index > 52**

Day0: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, West\_RJ, East\_RJ, Odisha, West\_MP, East\_MP, Chhattisgarh, Coastal\_AP,

Day1: Arunachal\_Pradesh, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, West\_RJ, East\_RJ, Odisha, West\_MP, East\_MP, Vidarbha, Chhattisgarh, Coastal\_AP, Telangana,

Day2: Arunachal\_Pradesh, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, West\_RJ, East\_RJ, Odisha, West\_MP, East\_MP, Vidarbha, Chhattisgarh, Coastal\_AP, Telangana,

Day3: Arunachal\_Pradesh, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, East\_RJ, Odisha, Vidarbha, Chhattisgarh, Coastal\_AP, Telangana, TN\_Puducherry,

Day4: Arunachal\_Pradesh, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, West\_RJ, Odisha

## **7. K-Index :-> 35[Very Unstable thunderstorm likely]:**

### **Day/Index: Subdivisions with K Index > 40**

Day0: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal\_AP, Telangana, Rayalseema, TN\_Puducherry, Coastal\_Karnataka, SI\_Karnataka, Kerala,

Day1: Arunachal\_Pradesh, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal\_AP, Telangana, Rayalseema, TN\_Puducherry, SI\_Karnataka, Kerala,

Day2: Arunachal\_Pradesh, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Punjab, Jammu\_Kashmir, East\_RJ, Odisha, West\_MP, East\_MP, Vidarbha, Chhattisgarh, Coastal\_AP, Telangana, Rayalseema, TN\_Puducherry, SI\_Karnataka, Kerala,

Day3: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, East\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, Chhattisgarh, Coastal\_AP, Telangana, Rayalseema, TN\_Puducherry, SI\_Karnataka, Kerala,

Day4: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, East\_UP, Uttarakhand, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, Chhattisgarh, Coastal\_AP, Telangana, Rayalseema, TN\_Puducherry, Coastal\_Karnataka, NI\_Karnataka, SI\_Karnataka, Kerala

## **8. Rainfall and thunder storm activity:**

### **Day/Index: Subdivisions with Precipitation > 2 cm**

Day1: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, Uttarakhand,

Day2: NE\_NMMT, Gangetic\_WB, Jharkhand, Bihar, East\_UP, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Jammu\_Kashmir, Odisha,

Day3: Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Bihar, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh, Jammu\_Kashmir, Odisha, Chhattisgarh,

Day4: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, Gangetic\_WB, Jharkhand, Odisha,

Day5: Arunachal\_Pradesh, Assam\_Meghalaya, NE\_NMMT, Sub\_Himalayan\_WB, West\_UP, Uttarakhand, Hry\_Chhd\_Delhi, Punjab, Himachal\_Pradesh

### **IMD GFS (T1534) based on 00UTC the day:**

#### **1. Synoptic Systems:**

The analysis based on 00 UTC indicates a North –South Trough from North West Rajasthan to North Konkan across west Madhya Pradesh and North Madhya Maharashtra. The forecast shows the Trough will persist till day 3 with slight eastward shift. The analysis also indicates a cyclonic circulation over South Orissa and adjoining Chhattisgarh in lower Troposphere (925hPa). The forecast shows the circulation will become less marked in next 48 hours. Another cyclonic circulation is seen in the analysis over SHWB and adjoining areas. A trough extends from this cyclonic circulation up to Manipur across Meghalaya and adjoining areas. The forecast shows the Trough will persist till day 2. The analysis shows a North-South Oriented from South Chhattisgarh to South Tamil Nadu across Telangana and South Interior Karnataka. The forecast shows the trough will persist till day 2

#### **2. Location of Jet and Jet Core (>60kt) at 500hPa:**

Although the presence of strong westerlies is found over Eastern and North Eastern parts of India but no jet core over the Indian region for the next 3 days.

### **3. Low Level Vorticity {850hPa Positive Vorticity ( $>12 \times 10^{-1}/s$ ):**

Low level Positive Vorticity is seen mostly along the North- South Trough, the trough from North West Rajasthan to North Konkan, along the cyclonic circulations, over parts of GWB, Orissa, Bihar, Jharkhand and NE states during next 3 days. It is inferred that parts of North West Rajasthan, Punjab, Haryana, Delhi, West Uttar Pradesh, Madhya Pradesh and adjoining areas have Positive Vorticity from day 1 onwards.

### **4. Spatial distribution of T-storm Initiation Index, Lifted Index, Total Total Index, CAPE, CIN and Sweat Index [High potential for thunderstorm]:**

**T-Storm Initiation Index ( $> 3$ ):** The threshold value of the index  $> 3$  is seen over parts of J&K, Punjab, Himachal Pradesh, Uttarakhand, Haryana and Delhi, Gujarat, coastal areas of Gangetic West Bengal and Kolkata, SHWB parts of Orissa, Bihar, Jharkhand, Uttarakhand, Uttar Pradesh, Rajasthan, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Karnataka Konkan and Goa, Tamil Nadu, coastal Maharashtra including Mumbai, Konkan & Goa, Vidharbha, Madhya Maharashtra, Madhya Pradesh, Chhattisgarh, coastal areas along the east coast and west coast, Sikkim, Assam, Meghalaya, Tripura and adjoining area during next 3 days; Maximum value of the index is seen over parts of GWB, SHWB, Orissa, Bihar, Jharkhand, Uttar Pradesh, Chhattisgarh, Telangana, Gujarat, Rajasthan, Punjab, Haryana, Delhi, Madhya Pradesh, North Madhya Maharashtra, Vidharbha, Andhra Pradesh, coastal Maharashtra, coastal Karnataka, Kerala and coastal Tamil Nadu on all 3 days.

**Lifted Index ( $< -2$ ):** The threshold value of the index is below  $-2$  over parts of Gujarat, Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh, J&K, Himachal Pradesh, Uttarakhand, Madhya Pradesh, Bihar, Jharkhand, Andhra Pradesh, Karnataka, Telangana, Rayalaseema, Konkan and Goa, Kerala, Tamil Nadu, southern part of west coast, coastal areas along the east coast, Chhattisgarh, Vidharbha, Orissa, GWB, SHWB, Sikkim and NE states on all 3 days; maximum negative value of the index less than  $-10$  is seen over parts of GWB, Orissa and Andhra Pradesh during next 3 days. Over some parts of Telangana on day 3.

**Total Total Index ( $> 50$ ):** The threshold value of the index is  $> 50$  is seen over most of the parts of the country except Gujarat, Madhya Maharashtra, north west Marathwada, extreme south peninsular India and coastal areas along the west coast on day 1 and 2; over most of the parts of the country except South West Rajasthan, Gujarat, South west Madhya Pradesh, Madhya Maharashtra, Marathwada, Karnataka, Kerala and coastal areas along the west coast; the maximum value of the index  $>60$  is seen over parts of GWB on day 1; over some parts of Orissa on day 2 and 3.

**Sweat Index ( $> 300$ ):** Although the threshold value of the Index  $>300$  is seen in most parts of the country on day 1 and threshold value of the Index  $>300$  is seen in most parts of the country except central parts of Madhya Maharashtra, some parts of Marathwada and west Vidharbha on day 2 and 3; maximum value of the index greater than 800 is seen over parts of GWB, Orissa, Jharkhand and North Chhattisgarh on day 1; over parts of Jharkhand, Orissa and GWB on day 2.

**CAPE ( $> 1000$ ):** Mostly seen over Punjab, Haryana, Delhi, Rajasthan, Himachal Pradesh, Uttarakhand, Uttar Pradesh, southern peninsular India, along west coast and east coast, parts of Madhya Pradesh, Orissa, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Tamil Nadu, Karnataka, coastal Maharashtra including Mumbai, Gujarat, Konkan and Goa, Bihar, Jharkhand, Chhattisgarh, East Vidharbha, GWB, SHWB, Sikkim, Assam, Meghalaya, Tripura and adjoining areas during next 3 days; over parts of J&K on day 1; Maximum value of the index greater than 2500 is seen mostly over parts of GWB, Orissa, Andhra Pradesh, Telangana, Coastal Tamil Nadu during next 3 days; over parts of Vidharbha, Chhattisgarh,



Karnataka on day 1; over parts of Chhattisgarh, coastal Gujarat, Jharkhand and Telangana on day 2 and 3; during next 3 days; over parts of Vidharbha and adjoining East Madhya Pradesh on day 1; over parts of Bihar, adjoining East Uttar Pradesh on day 2; over parts of Haryana, Delhi and adjoining areas, west Uttar Pradesh, Bihar, East Uttar Pradesh, Vidarbha and adjoining areas on day 3.

**CIN (50-150):** Although the threshold value of the Index lies in the range of (50–150) over most part of the country except J&K on day 1; over most of the parts of the country except central parts of Madhya Pradesh, northern parts of Madhya Maharashtra, Marathawada, and West Vidarbha region on day 2 and 3; maximum value of the index greater than 400 is seen over parts of Gujarat, South West Rajasthan, west Uttar Pradesh, Chhattisgarh, Orissa, Punjab, Haryana, Delhi, Himachal Pradesh, Uttarakhand, coastal Maharashtra and North Karnataka on day 1; over parts of Gujarat, west Rajasthan, East Uttar Pradesh, West Madhya Pradesh, coastal Maharashtra, Jharkhand, Orissa Chhattisgarh and North Interior Karnataka on day 2; over parts of Orissa, Gujarat, coastal Maharashtra, north interior Karnataka, West Uttar Pradesh and adjoining areas on day 3.

### **5. Rainfall Activity:**

70- 130 mm Rainfall: over parts of GWB and Orissa on day 1 and 2: over parts of Orissa on day 2.

40- 70 mm Rainfall: over parts of GWB, Jharkhand and Orissa during next 3 days; over parts of Assam, Meghalaya, Tripura and adjoining areas on day 3.

10- 40 mm Rainfall: over parts of J&K, Himachal Pradesh, Uttarakhand, Sikkim, NE states, Foothills of Himalaya, Bihar, Jharkhand, GWB, SHWB, Orissa, Telangana, Andhra Pradesh, Kerala, Karnataka and Tamil Nadu during next 3 days; over parts of Chhattisgarh on day 1 and 3; over parts of Punjab, Haryana and west Uttar Pradesh on day 2.

Up to 10 mm rainfall: Over parts of J&K, Foothills of Himalaya, Himachal Pradesh, Uttarakhand, Punjab, Haryana and adjoining areas, Rajasthan, Uttar Pradesh, Sikkim, NE states, GWB, SHWB, Orissa, Madhya Pradesh, Andhra Pradesh, Kerala, Karnataka, Tamil Nadu, Bihar, Jharkhand, Chhattisgarh, Telangana, Rayalaseema, Vidarbha, Konkan and Goa during next 3 days; over some parts of Haryana, Delhi and adjoining areas on day 2.

### **IMD WRF (9km based on 00UTC of the day):**

#### **1. Model Reflectivity (Max. dBZ):**

**> 25 dBZ Model Reflectivity:** Over parts of J&K, west Rajasthan, GWB, Sikkim, Orissa, Bihar, Jharkhand, central parts of Madhya Pradesh, SHWB, Kerala, Tamil Nadu, Chhattisgarh and NE states on day 1; over parts of J&K, Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh, Himachal Pradesh, Uttarakhand, Tamil Nadu, Chhattisgarh, Orissa, GWB, Bihar, Jharkhand, SHWB, Sikkim and NE states on day 2; over parts of J&K, Himachal Pradesh, Uttarakhand, Uttar Pradesh, GWB, Orissa, Bihar, Jharkhand, Sikkim, SHWB, NE states and some parts of Andhra Pradesh on day 3; maximum value of the Model reflectivity is seen over parts of GWB, SHWB, Orissa, Bihar, Jharkhand during next 3 days; over parts of J&K, Punjab, Rajasthan, Haryana, Delhi, Uttar Pradesh, Himachal Pradesh and Uttarakhand on day 2; over some parts of J&K, Himachal Pradesh, Uttarakhand, Uttar Pradesh on day 3.

#### **2. Spatial distribution of Total Total Index, K-Index, CAPE and CIN [High potential for thunderstorm]:**

**Total Index (> 50):** Above threshold value is observed over most parts of the country except extreme south peninsular India, extreme southern parts of west coast and the east coast, southern parts of Karnataka, coastal Maharashtra, Konkan and Goa, Kerala, Andhra Pradesh, Tamil Nadu, Bihar, Jharkhand, Orissa, GWB, SHWB, NE states and East Uttar Pradesh during the next 3 days; below threshold value is seen over parts of West Uttar Pradesh, Gujarat and Chhattisgarh on day 1; over some parts of Chhattisgarh, West Uttar Pradesh, J&K, Uttarakhand and Punjab on day 2; over parts of J&K, Chhattisgarh, Telangana and Punjab on day 3; the maximum value of the index is seen over parts of J&K, Himachal Pradesh,

Uttarakhand, Punjab, Haryana, Delhi, Rajasthan, Madhya Pradesh, Uttar Pradesh, GWB, Orissa, Madhya Maharashtra, Marathawada, Vidarbha, Bihar, Jharkhand, Telangana, Chhattisgarh, Karnataka and Gujarat on day 1 and 2; over parts of Punjab, Haryana, Rajasthan, Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathawada, Telangana, Karnataka and Chhattisgarh on day 3.

**K-Index (> 35):** Less than threshold value is observed over most of the part of the country during the next 3 days.

**CAPE (> 1500):** Greater than threshold value over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab Haryana, Delhi, Rajasthan, Gujarat, coastal areas of west coast, coastal Maharashtra, Konkan & Goa, coastal areas along the east coast, Bihar, Jharkhand, Uttar Pradesh, East and North west Madhya Pradesh, Chhattisgarh, Vidarbha, Orissa, GWB and Kolkata, SHWB, Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Telangana, Rayalaseema, Extreme south peninsular India, Assam, Meghalaya, Tripura and adjoining areas on day 1 and 2; over parts of Punjab Haryana, Rajasthan, Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, Orissa, GWB, SHWB, NE states, Chhattisgarh, Vidharbha, Telangana, Andhra Pradesh, Tamil Nadu, Kerala and south interior Karnataka on day 3; Maximum value of the index greater than 3500 is seen over the parts of GWB, Orissa, Jharkhand, Andhra Pradesh, coastal Tamil Nadu, Kerala, Chhattisgarh, Telangana, Vidarbha, Karnataka, Konkan and Goa, Gujarat on day 1 and 2; over parts of Bihar and south coastal Maharashtra on day 1; over parts of Chhattisgarh, Vidarbha, Telangana, Andhra Pradesh, Tamil Nadu, Karnataka and Kerala on day 3.

**CIN (50-150):** Although the threshold value of the Index lies in the range of (50–150) over most part of the country except southern parts of west Vidarbha, Madhya Maharashtra and Marathawada on day 1 and over most part of the country except central parts of Madhya Pradesh, west Vidarbha, Madhya Maharashtra and Marathawada region on day 2 and 3; the maximum value of the index > 400 is seen over parts of Gujarat, Rajasthan, Jharkhand, Orissa, Chhattisgarh, North Coastal Maharashtra, Vidarbha, Uttar Pradesh, Telangana Madhya Pradesh, Punjab, Haryana, Delhi, Uttarakhand, Telangana on day 1; over parts of Jammu and Kashmir, Punjab, Himachal Pradesh, Uttarakhand, Haryana, Delhi, West Uttar Pradesh, Gujarat, Rajasthan, Madhya Pradesh, Chhattisgarh, North Karnataka and Orissa on day 2; over parts of Punjab, Haryana, Rajasthan, Gujarat, South Madhya Maharashtra, North Karnataka and East Madhya Pradesh on day 3..

### **3. Rainfall and Thunderstorm Activity:**

70- 130 mm Rainfall: over parts of Assam and Orissa on day 1; over parts of Orissa and GWB on day 2; over some parts of GWB on day 3.

40- 70 mm Rainfall: over parts of GWB, Orissa, SHWB, Jharkhand, Assam and adjoining areas on day 1; over parts of Tamil Nadu, Orissa, GWB, Tripura and adjoining areas, J&K, Uttarakhand, west Uttar Pradesh and adjoining Haryana on day 2; over parts of J&K, GWB, Orissa and Andhra Pradesh on day 3.

10- 40 mm Rainfall: over parts of J&K, Sikkim, Foothills of Himalaya, GWB, SHWB, Bihar, Jharkhand, Orissa, Andhra Pradesh, Kerala, Tamil Nadu, Karnataka, Chhattisgarh and NE states during next 3 days, over parts of Punjab, Himachal Pradesh, Uttarakhand, Haryana and adjoining areas, West Uttar Pradesh on day 2; over parts of Himachal Pradesh, Punjab and Uttarakhand on day 3.

Up to 10 mm Rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Kerala, Tamil Nadu, Orissa, Andhra Pradesh, Telangana, Bihar, Jharkhand, Chhattisgarh, foothills of Himalaya, GWB, SHWB, Sikkim and NE states during next 3 days; over some parts of Rajasthan and Madhya Pradesh on day 1; over parts of Punjab, Himachal Pradesh, Rajasthan and Uttarakhand on day 2 and 3; over parts of Haryana, Delhi and adjoining areas on day 2.

### 3. IOP ADVISORY FOR 24 and 48Hrs:

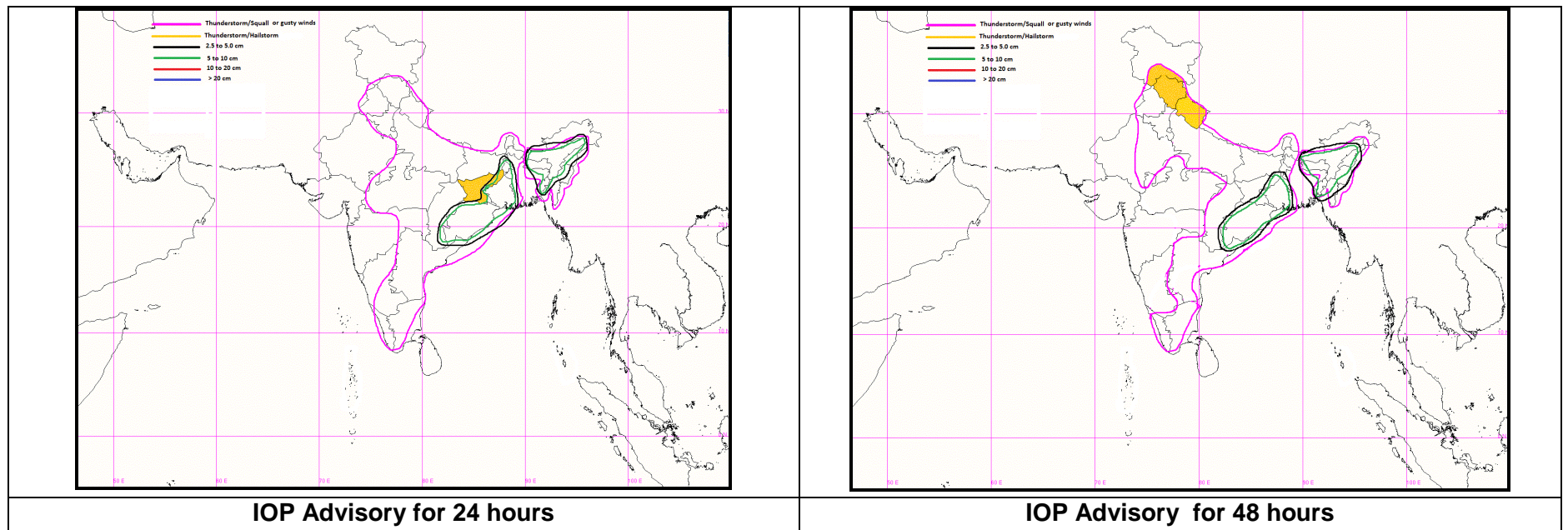
#### Summary and Conclusions:

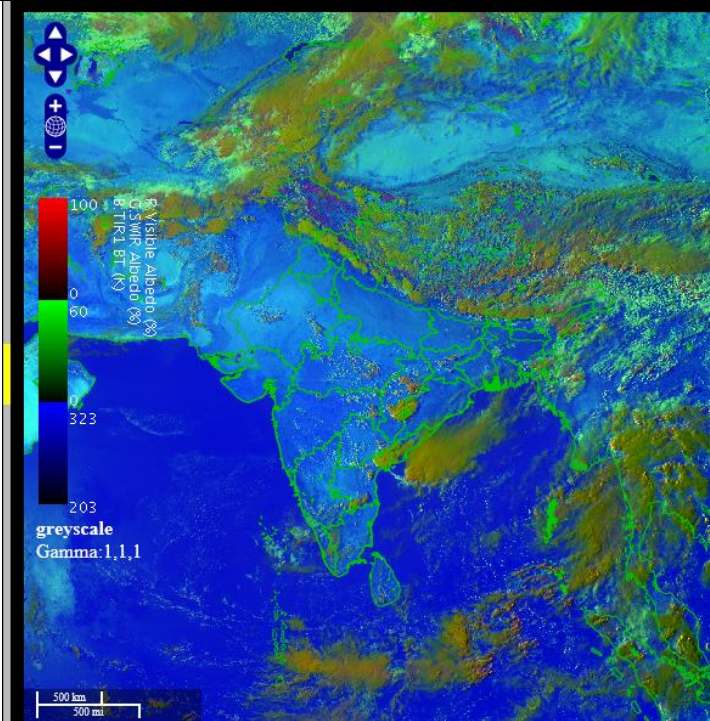
- Synoptic analysis indicates that due to the existence of the cyclonic circulation over east Bihar & adjoining West Bengal Jharkhand and a cyclonic circulation over north interior Odisha and neighbourhood, the eastern parts specifically GWB and Orissa may get the heavy rainfall activity on Day-1 and Day-2. The SHWB and Jharkhand may get the thunderstorm with gusty winds on Day-1.
- The trough from the above cyclonic circulation to Manipur across Meghalaya will trigger the heavy rainfall activity over Assam, Meghalaya and Tripura on Day-1. The thunderstorm with gusty winds activity over entire north eastern states except Arunachal Pradesh on Day-1 and Day-2.
- The northsouth wind discontinuity from south Chhattisgarh to south Tamilnadu across Telangana and South Interior Karnataka. This will be resulting to thunderstorm with gusty winds activity over southern and central parts on Day-1.
- A fresh Western Disturbance is likely to affect Western Himalayan region from 5th May.

#### Day-1 & Day-2:

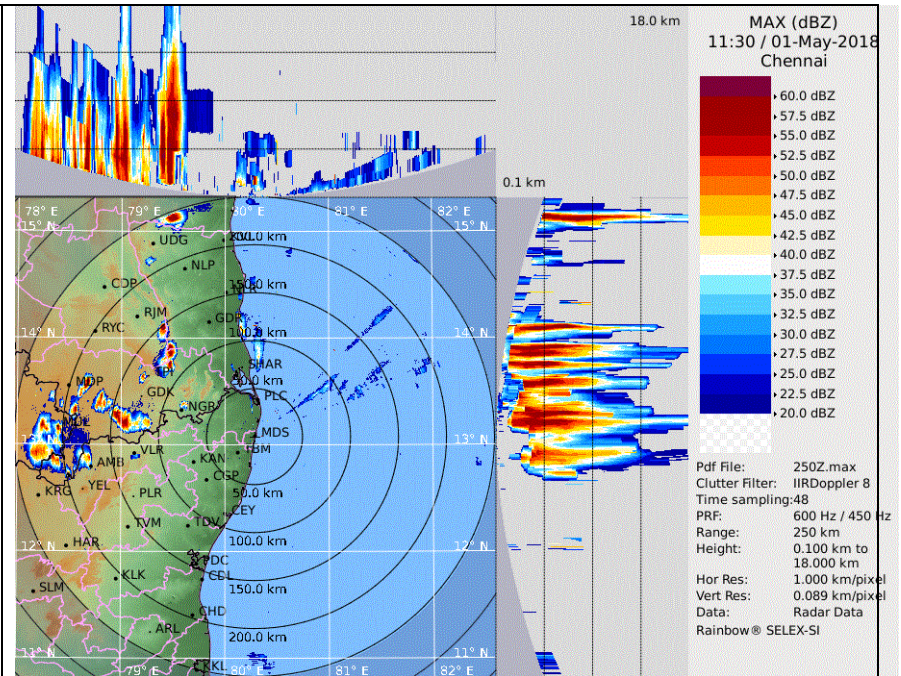
24hour Advisory for IOP:	48hour Advisory for IOP:
<p><b>Significant Rainfall:</b> Assam, Meghalaya, Tripura Gangetic West Bengal, Odisha</p> <p><b>Thunderstorm with squall or gusty winds:</b> Uttarakhand, Madhya Pradesh, Vidarbha, Chhattisgarh Sub Himalayan West Bengal &amp; Sikkim, Gangetic West Bengal, Odisha, Bihar Assam &amp; Meghalaya, Mizoram, Tripura Coastal Andhra Pradesh, Telangana, Rayalaseema, South Interior Karnataka, Interior Tamilnadu, Kerala</p> <p><b>Thunderstorm with squall and hail:</b> Jharkhand</p> <p><b>Thunderstorm and/or Duststorm:</b> Punjab, Haryana, Delhi, Chandigarh, Uttar Pradesh</p>	<p><b>Significant Rainfall:</b> Assam, Meghalaya Gangetic West Bengal, Odisha</p> <p><b>Thunderstorm with squall or gusty winds:</b> Punjab, Haryana, Delhi, Chandigarh, Uttar Pradesh, East Rajasthan Chhattisgarh, Sub Himalayan West Bengal &amp; Sikkim, Gangetic West Bengal, Odisha, Jharkhand, Bihar, Assam &amp; Meghalaya, Nagaland, Manipur, Mizoram, Tripura North Coastal Andhra Pradesh, Telangana, Rayalaseema, Interior Tamilnadu, Kerala</p> <p><b>Thunderstorm with squall and hail</b> Jammu &amp; Kashmir, Himachal Pradesh, Uttarakhand</p> <p><b>Thunderstorm and/or Duststrom:</b> West Rajasthan</p>

## Graphical Presentation of Potential Areas for Severe Weather:

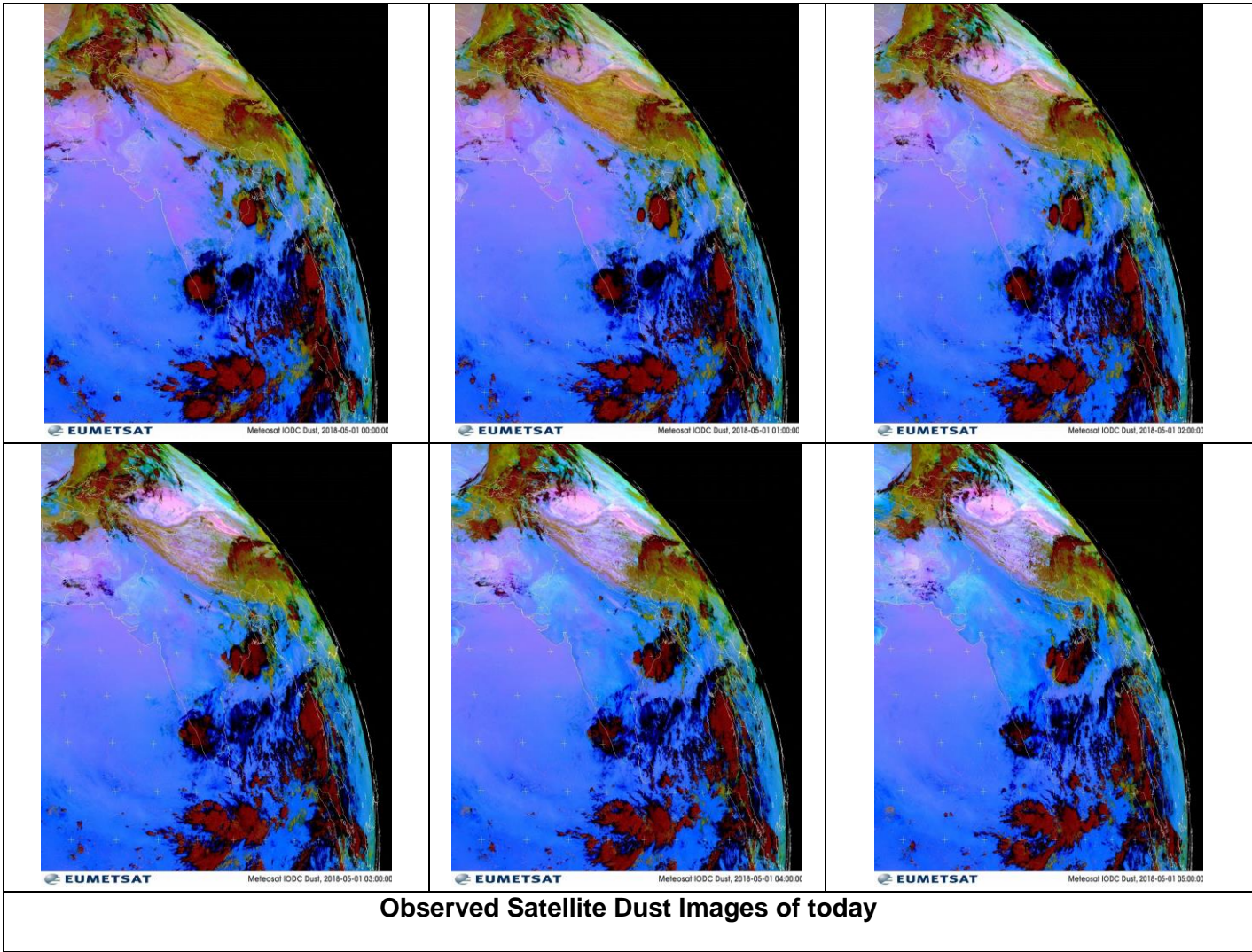




**RAPID RGB Imagery at 1600 IST of the Day**

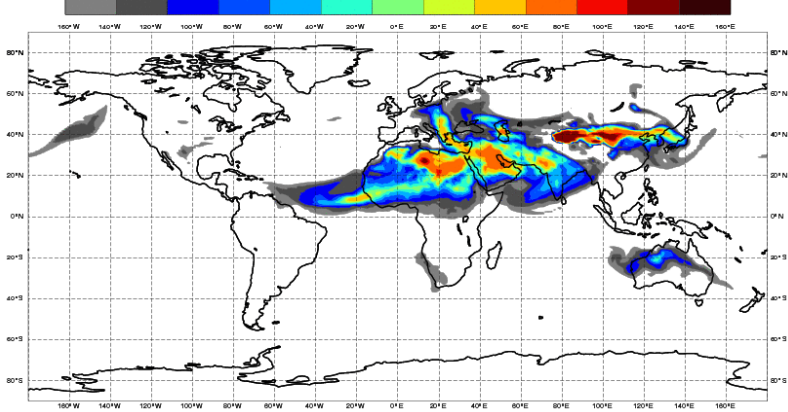


**DWR Chennai at 1700IST of the Day**

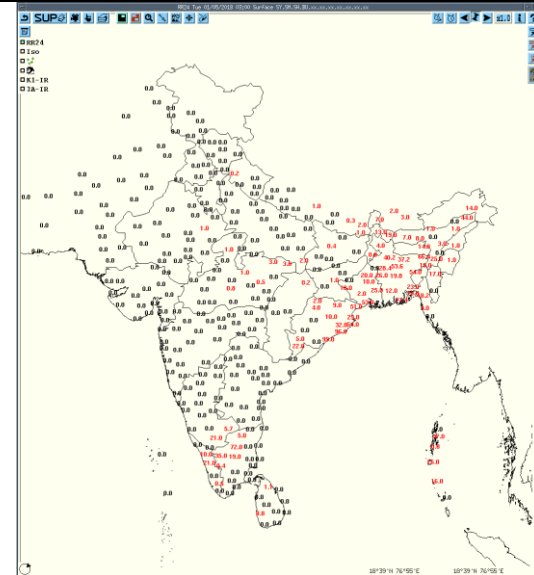


Monday 30 April 2018 00UTC CAMS Forecast t+120 VT: Saturday 05 May 2018 00UTC

Dust Aerosols Optical Depth at 550 nm

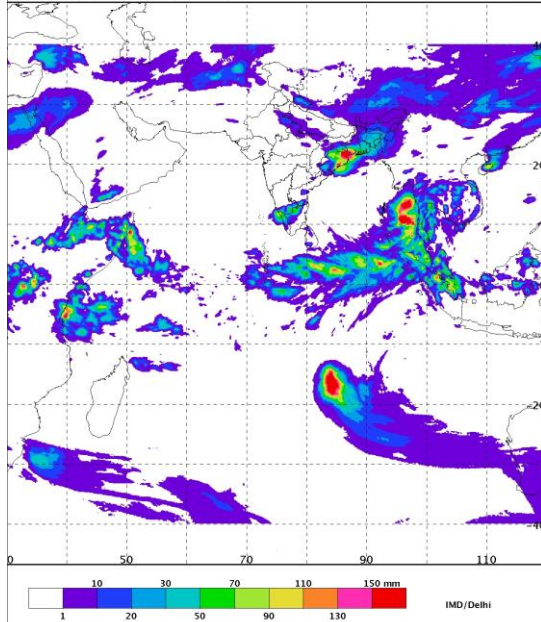


Dust Forecast

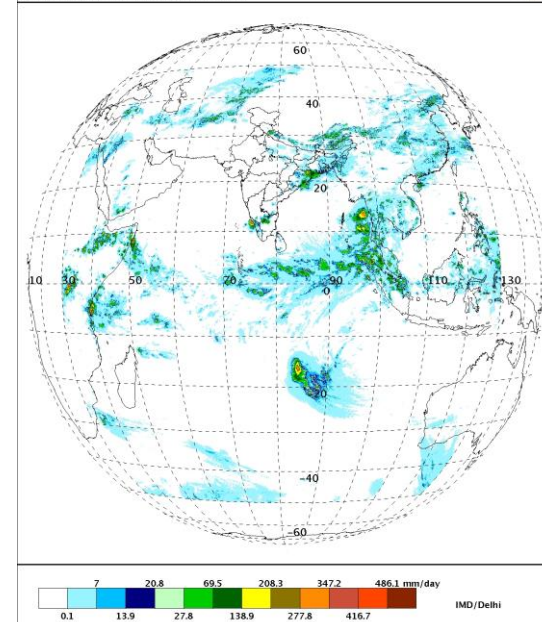


Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today

SAT INSAT-3D IMG 30-04-2018 (03:30 GMT) to 01-05-2018 (03:00 GMT)  
INSAT Multispectral Rainfall(Daily)  
L3G BINNED GEOPHYSICAL PARAMETER GRIDDED

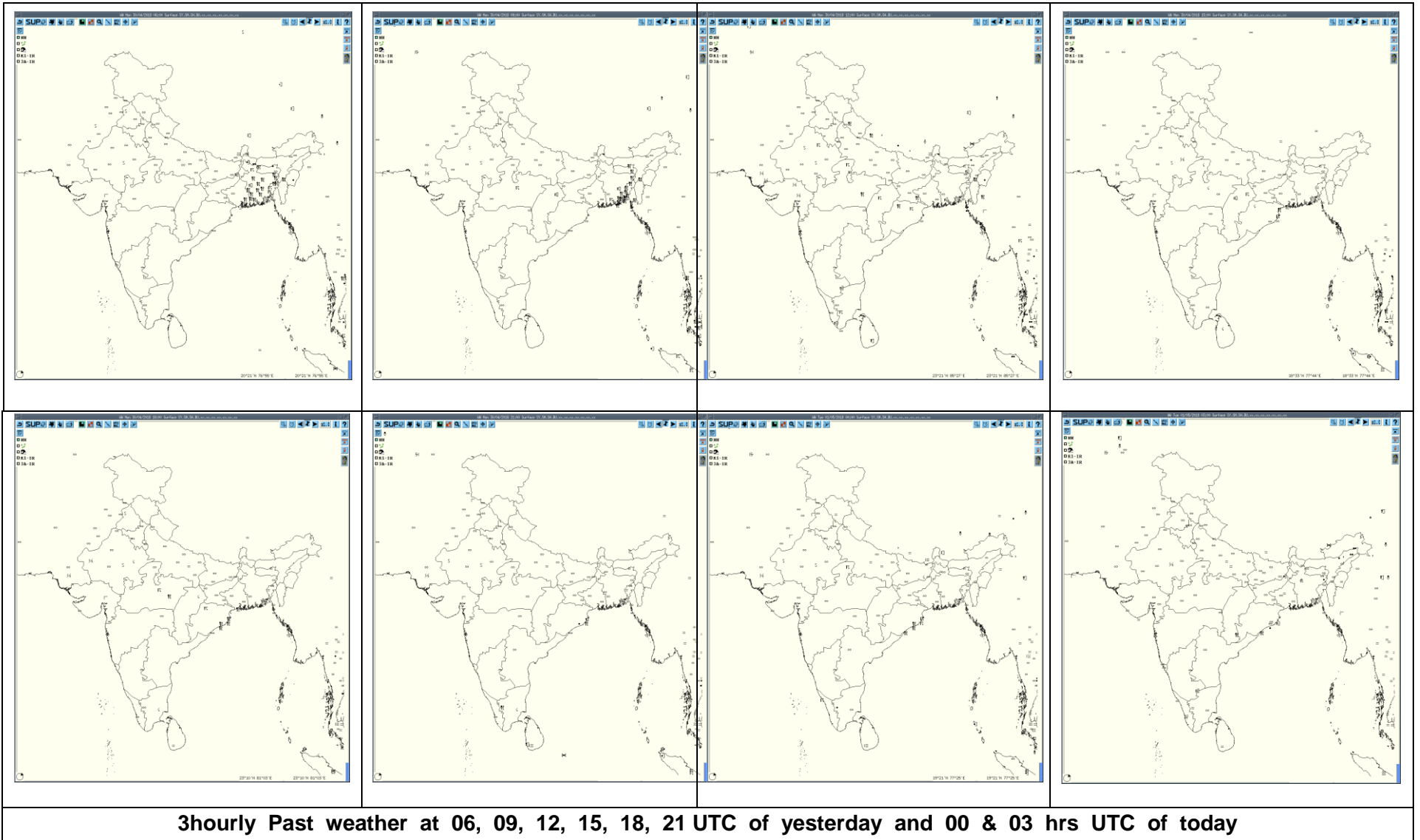


SAT INSAT-3D IMG 30-04-2018 (03:30 GMT) to 01-05-2018 (03:00 GMT)  
Precipitation(HE) Daily  
L3B BINNED GEOPHYSICAL PARAMETER FULL DISK

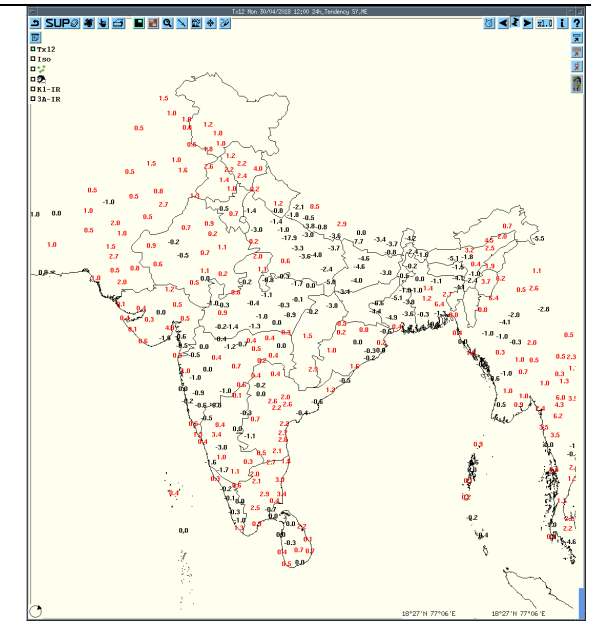
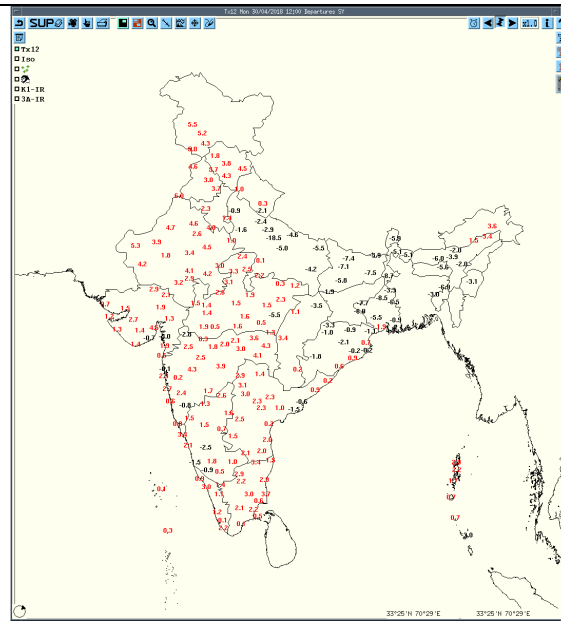
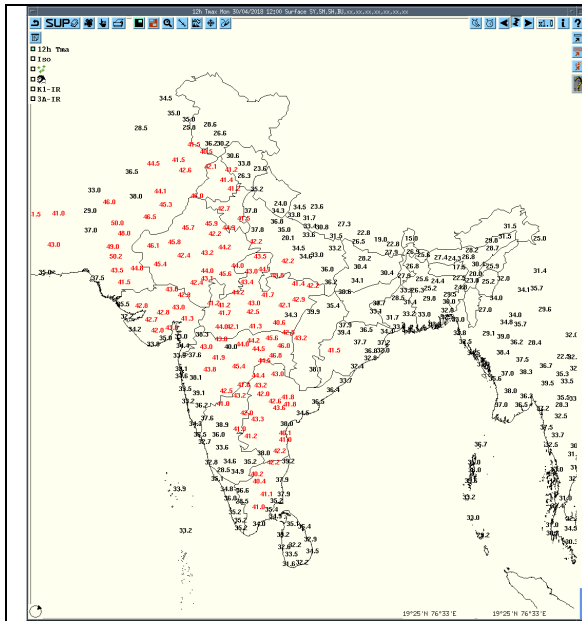


IMR

HEM



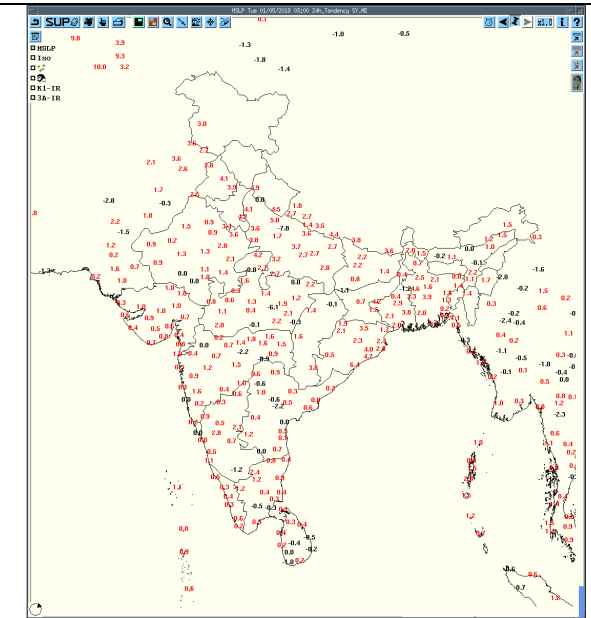
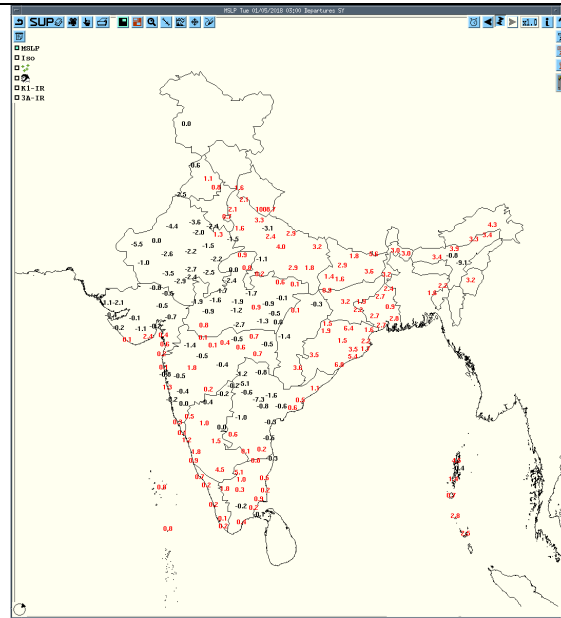
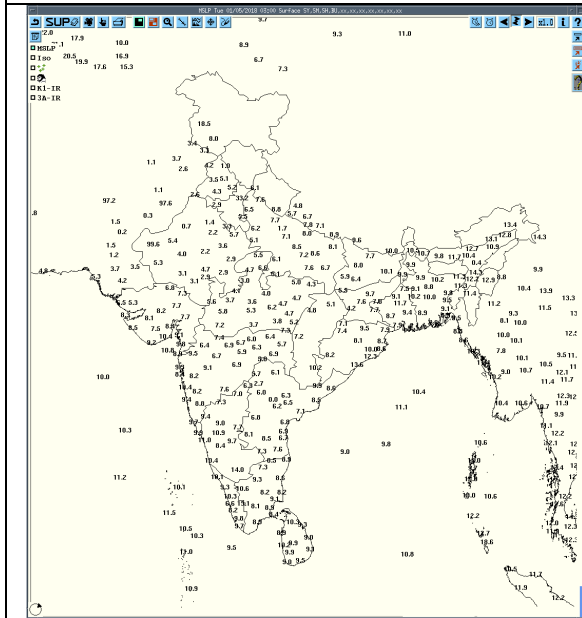




**Tmax**

**Departure Tmax**

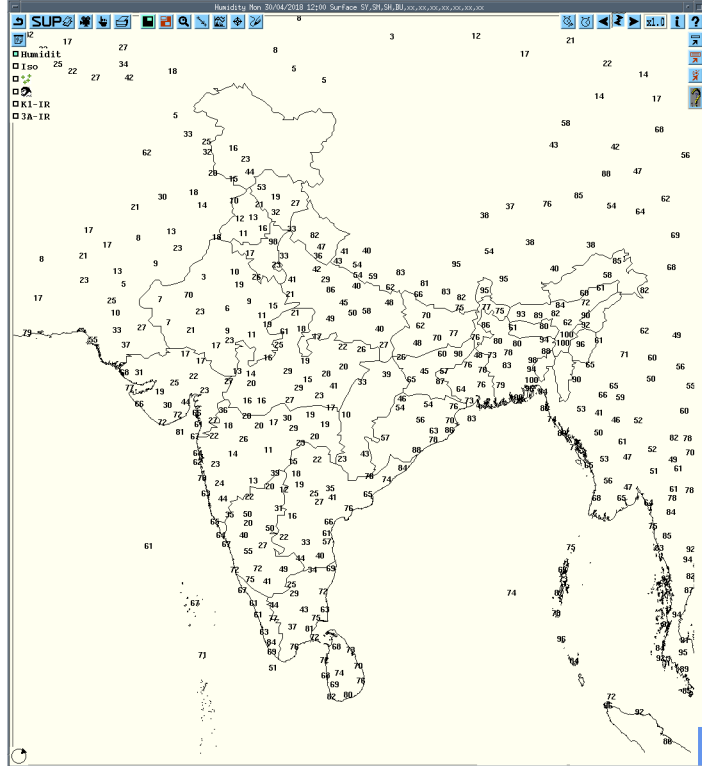
**Tendency Tmax**



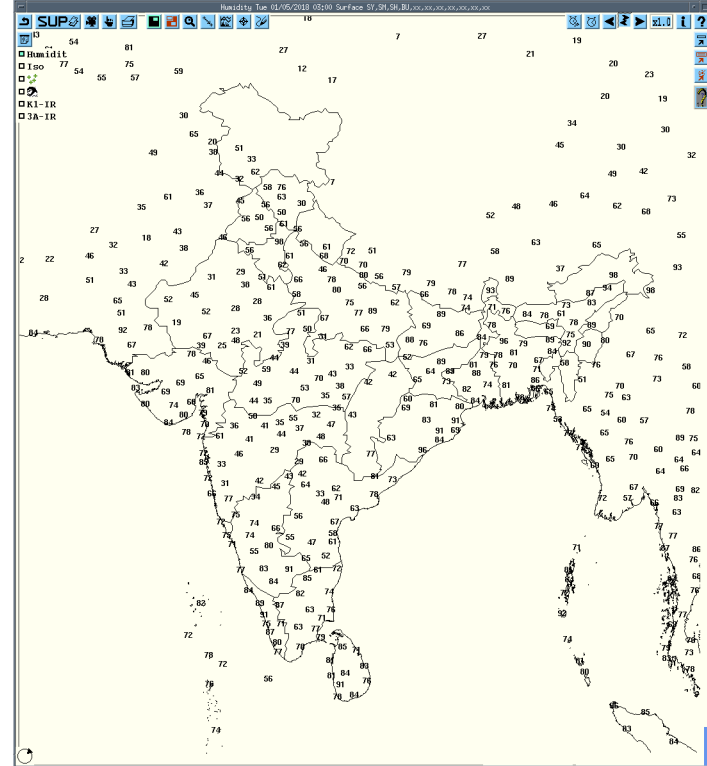
**MSLP**

**Departure MSLP**

**Tendency MSLP**



**RH at 12UTC yesterday**



**RH at 03UTC today**

### Past 24 hours DWR Report:

Radar Station Name	Date	Time Interval Of Observation (UTC)	Organization Of The Cells (Isolated Single Cells/Multiple Cells/ Convective Regions/ Squall Lines) With Height Of 20 Dbz Echo Top And Maximum Reflectivity	Formation W.R.T Radar Station And Direction Of Movement	Remarks	Associate d Severe Weather If Any	Districts Affected
Agartala	01-05-18	300300-010300	Multiple cells formation over adj Bangladesh at 300300Z subsequently forming squall line at 300400Z, 18Kms, 60 dBZ	About 200 kms South west & west south west, 40 KMPH , E-LY.	Squall persisted with mod intensity overhead at 300630Z but DWR stopped due to power failure.	Squall/ TSRA occurred over all districts of Tripura.	
Patiala	01-05-18	300300-010252	NO Echo	--	--	--	--
Jaipur	01-05-18	300852-301958	Multiple cell with average height of 7.5 km & maximum reflectivity 60.50 dBZ	Multiple cell develop from 0852 UTC of 30/04/2018 towards W,NW,S,SEN, NE of Jaipur and moved to E, SE Wards at speed 40-45 km/hr	Multiple cell develop from 0852 UTC on 30/04/2018 towards W,NW,S,SEN, NE of Jaipur and reaches maximum refelectivity during 1112 TO 1242 UTC OF 30/04/2018 and died 1958 UTC.	Duststorm/ Thunderstorm with Light rain at Isolated places	Churu, Jhunjhunu, Sikar,Dausa, Jaipur,Kota, Bundi,Baran, Sawaimadhopur,Alwar, Karauli, Dholpur, Bharatpur Districts,

<b>Radar Station Name</b>	<b>Date</b>	<b>Time Interval of Observation (UTC)</b>	<b>Organisation of cells (Isolated single cells /multiple cells/convective regions/squall lines) with height of 20 dBZ echo top and maximum reflectivity</b>	<b>Formation w.r.t. radar station and Direction of movement</b>	<b>Remarks</b>	<b>Associated Severe Weather if any</b>	<b>Districts affected</b>
Visakhapatnam	01-05-18	301200	Isolated cb cell with maximum reflectivity of 59 dbz with height of 13 kms	WNW (84 kms) moving S ly	Cb cell matured at 0951UTC and dissipating at 1151 UTC	NIL	East Godavari
		301500	Isolated CB cell with maximum reflectivity of 56 dBz with height of 14 kms	N (100,189 kms) NE(236 KMS) moving SE ly	Since last observation Cb cell developing and matured at 1211 UTC and dissipating from 1241 UTC.	Thunderstorm with heavy rain may take place.	Rayagada (Orissa)
		010000	Multiple cb cells with Maximum reflectivity of 59dBz and height of 18kms	NW(228 KMS) & NE(240KMS) moving SEly	CB cells are formed at 2251UTC, developed and matured well (59dBz, 18kms) at 2321UTC.	Thunderstorm with heavy rain may take place.	Srikakulam dist. (AP) Nabarangapur , Kalahand & Ganjam Dist. (Orissa)
		010300	Multiple cb cells with Maximum reflectivity of 62 dBz and height of 18kms	NNW(179 KMS) & ENE(244KMS) moving SEly	Since last observation CB cells are developing, developed and matured well at 0021UTC.	Gusty winds Thunderstorm with heavy rain	Visakhapatnam vizianagaram eastgodavari Srikakulam dist. (AP) bay of Bengal Ganjam gajapati Dist. (Orissa)

Radar Station Name	Date	Time Interval of Observation (UTC)	Organisation of cells (Isolated single cells /multiple cells/ convective regions /squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated Severe Weather if any	Districts affected
Kolkata	01-05-18	300300-300632 (Cont. from 300151)	Multicelled system with maximum reflectivity of 60.0 dBz at 0401 UTC and maximum height 17.37 km at 0431 UTC	WNW to NNW(191.6 to 227.6km) Moving initially E to SE ward then almost S-ward	Cells formed at 0151 UTC in NW at a distance of 227.9 km from Radar, merged with another multi cell system at 0401 utc at a distance from 34.7 to 49.7 km to the S of Radar Matured Dissipated and crossed Indo-B'Desh Border at 0632 utc	Thunderstorm/Rain/Squall	N/A
		300812-301021	Isolated cell with maximum reflectivity of 54.0 dBz at 0902 UTC and maximum height of 7.98 Km at 0902 UTC	NW(74.5 km) Moving in ENE-ward direction	Isolated multiple Cells formed in NW at 0812 UTC, Matured, moving completely into Bangladesh in ENE at 1021 UTC at a distance 55.5 km from radar.	Thunderstorm /Rain	N/A
		301101-301211	A)Isolated large cell with maximum reflectivity of 63.5 dBz at 1151 UTC and maximum height of 13.80 Km at 1151 UTC	Coming from W (246.0 km) Moving in ESE-ward direction	Isolated large Cell coming from W from 1101 UTC. Matured, merged with cell no. B at 1211 UTC in WSW at a distance 221.9 km from radar.	Thunderstorm / Rain /Hail	N/A
		301201-302001	B)Isolated large cell with maximum reflectivity of 59.0 dBz at 1201 UTC and maximum height of 12.18 Km at 1201 UTC  C)Multicelled system with maximum reflectivity of 63.5 dBz at 1241 UTC and maximum height more than 18 km at 1321 UTC	Coming from WSW (246.9 km) Moving in ENE-ward direction  Formed by merging cell A and B at WSW (221.9 km). Moving in ESE-wards then E-ward direction.	Isolated large Cell coming from W from 1201 UTC. Matured, merged with cell no. A at 1211 UTC in WSW at a distance 221.9 km from radar.  Multicelled system formed by merging cell A and B at 1211 UTC in WSW at a distance 221.9 km from radar. Matured dissipated at 2001 in SE at a distance of 142.9 km from radar.	Thunderstorm /Rain /Hail  Thunderstorm /Rain /Hail	N/A  N/A
		302011 – 010303	NIL	NIL	NIL	NOSIG ECHO	NIL

<b>Radar Station Name</b>	<b>Date</b>	<b>Time Interval Of Observation (UTC)</b>	<b>Organisation Of The Cells(Isolated Single Cells/ Multiple Cells/ Convective Regions/ Squall Lines) With Height Of 20 dbZ echo top and maximum reflectivity</b>	<b>Formation w.r.t. radar station and Direction of movement</b>	<b>Remarks</b>	<b>Associated severe weather if any</b>	<b>Districts affected</b>
Patna	01-05-18	300300 - 301542	NIL	N/A	N/A	N/A	N/A
		301542 - 301822	<b>Multiple Cells</b>  Maximum Reflectivity: 40.5 dBZ Echo Top: 9.0 KM	Range: 100 KM from DWR Patna in NW direction Movement: towards South-East	Warning issued	N/A	SARAN, MUZAFFARPUR, BHOJPUR, VAISHALI, PATNA
		301822 - 302112	NIL	N/A	N/A	N/A	N/A
		302112 - 302352	<b>Isolated Multiple Cells</b>  Maximum Reflectivity: 42 dBZ Echo Top: 7.5 KM  Maximum Reflectivity: 42 dBZ Echo Top: 7.5 KM	Range: 43 KM from DWR Patna in South-East direction Movement: towards South-East  Range: 24 KM from DWR Patna in North-West direction Movement: towards South-East	Warning issued	N/A  Thunderstorm, Rain	JAHANABAD, NALANDA NAWADA, SAMASTIPUR,  PATNA, SARAN, BHOJPUR
		302352 - 010300	NIL	N/A	N/A	N/A	N/A

## Realised past 24hrs TS/SQ/HS Data:

Realised TS/HS/SQ during past 24hours ending at 0300UTC of today (received from RMCs/MCs)						
Name of Station Reporting	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement(IST)	Time of end (IST)
Churk	Northwest India	East Uttar Pradesh	Thunderstorm	30-04-18	0930	1000
Jhansi	Northwest India	West Uttar Pradesh	Thunderstorm	30-04-18	1740	1940
Orai	Northwest India	West Uttar Pradesh	Thunderstorm	30-04-18	1800	1815
Agra(IAF)	Northwest India	West Uttar Pradesh	Thunderstorm	01-05-18	0700	0800
Agra(Taj)	Northwest India	West Uttar Pradesh	Thunderstorm	01-05-18	0635	0700
Bharatpur	Northwest India	East Rajasthan	Thunderstorm	30-04-18	1900	1930
Pilani	Northwest India	East Rajasthan	Thunderstorm	30-04-18	1815	1930
Sikar	Northwest India	East Rajasthan	Thunderstorm	30-04-18	1830	1930
Jaipur	Northwest India	East Rajasthan	Thunderstorm	30-04-18	2225	2340
Kota	Northwest India	East Rajasthan	Thunderstorm	30-04-18	1615	1625
Churu	Northwest India	West Rajasthan	Thunderstorm	30-04-18	1500	1800
Dehradun	Northwest India	Uttarakhand	Thunderstorm	30-04-18	1820	2000
Tehri	Northwest India	Uttarakhand	Thunderstorm	30-04-18	1520	1940
			<b>Hailstorm, (Hail diameter: xx)</b>	<b>30-04-18</b>	<b>1642</b>	<b>1648</b>
Gondia	Central India	Vidarbha	Thunderstorm	01-05-18	1900	2100
Gwalior	Central India	West Madhya Pradesh	Thunderstorm	01-05-18	1645	1750
Jabalpur	Central India	East Madhya Pradesh	Thunderstorm	01-05-18	1620 2320	1740 2400
Sagar	Central India	East Madhya Pradesh	Thunderstorm	01-05-18	1330 2205	1825 2315
Ambikapur	Central India	Chhattisgarh	Thunderstorm	01-05-18	1400 1900 2015	1410 1920 2240
Jagdapur	Central India	Chhattisgarh	Thunderstorm	01-05-18	0740	0830
Pendra Rd	Central India	Chhattisgarh	Thunderstorm	01-05-18	1720 1800	1738 1940
Guwahati	Northeast India	Assam	Thunderstorm	30-04-18	30/1320	30/1515
Silchar	Northeast India	Assam	Thunderstorm	30-04-18	30/0830	30/1800
Dhubri	Northeast India	Assam	Thunderstorm	30-04-18	30/1000	30/1158
Barapani	Northeast India	Meghalaya	Thunderstorm	30-04-18	30/1207	30/1600
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	30-04-18	30/0510, 30/0905	30/0510, 30/1540

Shillong	Northeast India	Meghalaya	Thunderstorm	30-04-18	30/1210	30/1330
Imphal	Northeast India	Manipur	Thunderstorm	30-04-18	30/1610	30/1715
Lengpui	Northeast India	Mizoram	Thunderstorm	30-04-18	30/1315	30/1620
Kailasahar	Northeast India	Tripura	Thunderstorm	30-04-18	30/1010	30/1440
Agartala	Northeast India	Tripura	Thunderstorm	30-04-18	30/1125	30/1500
			<b>Squall from WNW with max wind 72Kt</b>	<b>30-04-18</b>	<b>1215</b>	<b>1500</b>
Tirupathi AP	South India	Rayalaseema	Thunderstorm	30-04-18	1435	1620
Kalingapatnam	South India	Coastal Andhra Pradesh	Thunderstorm	01-05-18	0735	0830



## IMPORTANT LINKS:

For NCMRWF NWP products:(<http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php>)

For IMD NWP products:([http://nwp.imd.gov.in/diagpro\\_new.php](http://nwp.imd.gov.in/diagpro_new.php))

For Synoptic plotted data and charts

<http://amssdelhi.gov.in/>

<http://www.amsskolkata.gov.in/>

For RANDHRA PRADESHID tool:

[http://rAndhra\\_Pradeshid.imd.gov.in/](http://rAndhra_Pradeshid.imd.gov.in/)

Low Level Winds

[http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR\\_2017/?C=M;O=D](http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR_2017/?C=M;O=D)

Upper level winds

[http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/HLW/MAR\\_2017/?C=M;O=D](http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/HLW/MAR_2017/?C=M;O=D)

Past24hourHEMandIMRrainfall(upto03UTCoftoday)

IMR: [http://satellite.imd.gov.in/img/3Ddaily\\_imr.jpg](http://satellite.imd.gov.in/img/3Ddaily_imr.jpg)

HEM: [http://satellite.imd.gov.in/img/3Ddaily\\_he.jpg](http://satellite.imd.gov.in/img/3Ddaily_he.jpg)

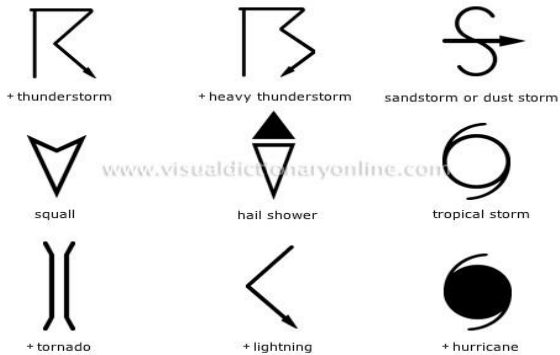
For Radar images of the past 24 hours including mosaic of images:

[http://ddgmui.imd.gov.in/dwr\\_img/](http://ddgmui.imd.gov.in/dwr_img/)

Satellite sounder based T- Phigram

[http://satellite.imd.gov.in/mAndhra\\_Pradesh\\_skm2.html](http://satellite.imd.gov.in/mAndhra_Pradesh_skm2.html)

## WEATHER SYMBOLS:



∞	haze
☃	smoke
☄	dust or sand storm
☁	fog
⊙	drizzle
•	rain
*	snow
▽	showers
△	hail
☁	thunderstorm

**Weather Symbols**