



# India Meteorological Department

## FDP STORM Bulletin No. 21 (27-03-2018)

### 1. CURRENT SYNOPTIC SITUATION:

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

- The Western Disturbance as a trough in mid tropospheric westerlies roughly along 73°E to the north of Lat.32°N now seen as a cyclonic circulation at 3.1 km above mean sea level over eastern parts of Jammu & Kashmir and neighbourhood.
- A fresh Western Disturbance as a trough in mid & upper tropospheric westerlies runs with its axis at 7.6 km above mean sea level roughly along 62°E to the north of Lat.30°N.
- The core of sub-tropical westerly Jet stream is now seen mainly over eastern India between Lat. 23°N and 26°N at 9.5 km above mean sea level over the Indian region.
- A east - west trough runs from east Bihar to Manipur across south Assam and extends upto 1.5 km above mean sea level.
- The cyclonic circulation extending upto 0.9 km above mean sea level over Coastal Karnataka and neighbourhood now lies over North Interior Karnataka and adjoining south Madhya Maharashtra.
- The cyclonic circulation over Comorin area and neighbourhood extending upto 0.9 km above mean sea level now lies over Comorin - Maldives area and extends upto 1.5 km above mean sea level.

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

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

##### Western Disturbance (WD):

Scattered low/medium clouds seen over Northeast Afghanistan, North Pakistan, West Jammu & Kashmir and over the area between lat 37.0°N to 47.0°N, long 67.0°E to 94.0°E in association with WD over the area.

##### Westerly Trough and Jet Stream:

Trough in westerly is seen roughly along long 62.0°E and north of lat 30.0°N.

##### Clouds description within India:

Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Arunachal Pradesh, Nagaland, Manipur and Mizoram, Rayalaseema, Andhra Pradesh, Kerala, Tamilnadu and Nicobar Islands. Scattered low/medium clouds seen over rest Jammu & Kashmir, North Himachal Pradesh, North Uttarakhand, Sikkim, rest Northeast states, Karnataka and Andaman Islands.

**Arabian Sea:**

Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Southeast Arabian Sea adjoining Comorin.

**Bay of Bengal & Andaman Sea:**

Scattered low/medium clouds with embedded isolated weak convection seen over Southeast Bay south of Lat 10.0°N and South Andaman Sea.

**Past Weather:****Convection (during last 24 hrs):**

Moderate to intense convection was observed over North-West J&K South Assam Tripura Manipur Mizoram South Tamilnadu and weak to moderate convection observed over Sikkim rest North-East States Andhra Pradesh South Interior Karnataka Kerala rest Tamilnadu.

**OLR:-**

Upto 230  $\text{wm}^{-2}$  was observed over J&K North Himachal Pradesh North Uttarakhand Sikkim Arunachal Pradesh South Assam Manipur Kerala and Tamilnadu.

**Synoptic features:**

Trough in Westerlies: roughly along Longitude 73.0°E & North of Latitude 32.0°N.

Westerly Jet Stream over Indian region between Latitude 21.0°N to 27.0°N.

**Dynamic Features:**

Negative shear tendency is observed over Gujarat adjoining Rajasthan Uttar Pradesh Bihar Sikkim Arunachal Pradesh and positive shear tendency observed over rest India.

Medium to high wind shear is observed over North & Central India and low wind shear over South Peninsula region.

A positive Vorticity field is observed over Uttarakhand North Uttar Pradesh Gangetic West Bengal.

Positive Low Level Convergence over India region.

**Precipitation:****IMR:**

Rainfall upto 01-10 mm observed over north J&K Sikkim North-East States Tamilnadu.

**HEM:**

Rainfall upto 7-14 mm observed over Arunachal Pradesh Manipur and

Rainfall upto 7 mm observed over rest North-East States South Kerala Tamilnadu.

**RADAR and RAPID RGB Observation:**

Isolated/Multiple light to moderate echoes were seen on DWR Kolkata and Thiruvananthapuram domain at around 1630 IST.

RAPID RGB Satellite imagery at 1600IST indicates moderate convection over North Jammu & Kashmir, South Manipur and Mizoram.

## Environmental condition (dust etc) and its forecast based on 00UTC of date:

Higher Dust concentration was observed over Arab countries and northern part of Africa. Dust concentration is expected to increase slightly over north-western part of India for next five days. PM10 concentration is expected to increase over IGP in next five days. Particulate matter concentration is expected to remain in moderate category for next 2 days in Delhi.

Delhi – SAFAR analysis & Forecast	27.03.2018	28.03.2018
PM10 (micro-g/m <sup>3</sup> )	192	201
PM2.5 (micro-g/m <sup>3</sup> )	85	89

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

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

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

**Low level CYCIRS, Troughs:**

**12 UTC of Day 0-4:** 925 hPa feeble trough over central Maharashtra, at 850 hPa over WB and Bangladesh from Day-0 to Day-3

**Confluence & Wind Discontinuity Regions:**

**12 UTC of Day 1-3:** at 850 hPa S-N wind discontinuity over interior peninsula extending SW-NE along the east coast

**Synoptic Systems:**

**12 UTC of Day 1-3:** At 500 hPa WD and associated cyclonic circulation over Punjab and adjoin areas of J & K, HP.

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

**12 UTC of Day 0-4** Weaker core in all the days.

**12UTC Day-2 and 00UTC Day-3:** over Punjab-J&K; **12UTC of Day-3** over UP.

#### **3. Convergence at 850 hPa:**

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

Day0: NE NMMT, Odisha, Madhya Maharashtra, Coastal AP, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala,

Day1: Jharkhand, Odisha, East MP, Madhya Maharashtra, Coastal AP, Telangana, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala,

Day2: Assam Meghalaya, Gangetic WB, Jharkhand, Uttarakhand, Jammu Kashmir, Odisha, Coastal AP, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, NE NMMT, Gangetic WB, Jharkhand, East UP, Odisha, Madhya Maharashtra, Vidarbha, Chhattisgarh, Telangana, Rayalaseema, NI Karnataka, SI Karnataka,

Day4: NE NMMT, Gangetic WB, Jharkhand, Bihar, Odisha, East MP, Madhya Maharashtra, Vidarbha, Telangana, Rayalaseema, NI Karnataka, SI Karnataka.

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

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

Day0: Uttarakhand, Himachal Pradesh, Saurashtra Kutch, Madhya Maharashtra, Coastal AP,

Day1: NE NMMT, Jharkhand, West UP, Uttarakhand, Himachal Pradesh, Odisha, Coastal AP,

Day2: Assam Meghalaya, Sub Himalayan WB, Jharkhand, Bihar, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, Coastal AP, Tamilnadu, Puducherry,

Day3: Arunachal Pradesh, Assam Meghalaya, Jharkhand, Bihar, East UP, West UP, Himachal Pradesh, Jammu Kashmir, Odisha,

Day4: Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Chhattisgarh.

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

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

Day0: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Madhya Maharashtra, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Himachal Pradesh, Odisha, Tamilnadu, Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Odisha, Coastal AP, Tamilnadu, Puducherry, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Odisha, Coastal AP, Tamilnadu, Puducherry, Kerala.

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

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

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, Coastal Karnataka, NI Karnataka,

Day1: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Jammu Kashmir, Odisha, Coastal AP,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Odisha, East MP, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana

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

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

Day0: Arunachal Pradesh, Sub Himalayan WB, Konkan Goa, Madhya Maharashtra, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Sub Himalayan WB, Rayalaseema, Tamilnadu, Puducherry, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Coastal AP, Rayalaseema, Tamilnadu, Puducherry, SI Karnataka, Kerala,

Day3: Coastal AP, Telangana, Rayalaseema, Tamilnadu, Puducherry, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Odisha, Rayalaseema, Tamilnadu, Puducherry, SI Karnataka, Kerala.

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

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

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT,

Day2: Sub Himalayan WB,

Day3: Arunachal Pradesh, Assam Meghalaya,

Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Bihar, East UP, Uttarakhand,

Day5: Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP.

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

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

The analysis based on 00 UTC shows a North – South trough in lower troposphere extending up to 850 hpa over East India starting from SHWB to coastal Orissa and subsequently the trough is extending southwards up to Vidarbha for next two days. Another cyclonic circulation observed over Konkan and Goa and coastal Karnataka region in the analysis became a trough and will merge with the North-South trough in the 24 hours forecast. Another cyclonic circulation is seen over East Pakistan and adjoining Punjab region will persist for next 24 hours. One more cyclonic circulation at 850 hpa over Assam, Meghalaya and adjoining areas will persist for next 2 days.

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

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

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

Mostly along the foothills of Himalayas from J & K, Himachal up to north eastern states on all 3 days, also found in the vicinity of cyclonic circulation over Konkan and Goa and coastal Karnataka and along the trough from SHWB to coastal Orissa.

#### 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):** Higher than a value 3 over coastal areas of Gangetic West Bengal, Orissa, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Karnataka, Tamil Nadu, parts of Gujarat, coastal Maharashtra, Konkan & Goa, coastal areas along the east coast and west coast extreme south peninsular India, Tripura and adjoining area on all 3 days. Some parts of Chhattisgarh and South Maharashtra on day 1; Over parts of Bihar and Jharkhand, East Vidarbha and adjoining Chhattisgarh on day 2; over some parts of East Uttar Pradesh and west Madhya Pradesh on day 3; Maximum value of the index is seen over southern part of west coast, Konkan and Goa, coastal Karnataka, GWB, coastal Orissa, coastal Andhra Pradesh during all 3 days; over some parts of south Maharashtra on day 1; over parts of Gujarat, Telangana, Karnataka and adjoining area, east coast, southern part of west coast, coastal Andhra Pradesh, Orissa, GWB on day 2 and 3; over some parts of Bihar, Jharkhand, Tripura and adjoining area on day 3.

**Lifted Index (< -2):** The threshold value of the is below -2 over parts coastal Andhra Pradesh, coastal Karnataka, Kerala and Tamil Nadu, southern part of west coast, coastal areas along the east coast, coastal Orissa, GWB, Konkan and Goa, NE states on all 3 days; over some parts south Maharashtra on day 1; over some parts of Gujarat on day 2 and 3; over parts of Bihar, Jharkhand and Chhattisgarh on day 3; maximum negative value of the index can be seen over parts of Orissa, GWB and adjoining Jharkhand region on day 3.

**Total Total Index (> 50):** Above threshold value is seen over most of the parts of India except NE states and extreme southern peninsular India during all three days.

**Sweat Index (> 300):** Over Parts of J&K, NE states, coastal areas along the east coast and west coast, Gujarat, Himachal Pradesh, Uttarakhand, Orissa, Andhra Pradesh, Kerala, Tamil Nadu, Konkan and Goa, Coastal Maharashtra, Karnataka, Bihar and Jharkhand during all three days; Maximum value of the index greater than 800 is seen over GWB, Orissa, Bihar, Jharkhand and adjoining area on day 3.

**CAPE (> 1000):** Mostly along coastal areas of southern peninsular India along west coast and over east coast and coastal areas of GWB, Orissa, Andhra Pradesh, Telangana, Kerala, Tamilnadu, Karnataka, Konkan and Goa and coastal Maharashtra during all 3 days; over parts of Gujarat on day 2 and 3; over some parts of Bihar, Jharkhand and Chhattisgarh region on day 3; Maximum value can be seen over coastal areas along the east coast and GWB during all 3 days; over southern part of west coast including Mumbai on day 1; over parts of Bihar, Jharkhand and adjoining areas on day 3.

**CIN (50-150):** Mostly over parts of Gujarat, along east coast along west coast from Saurashtra & Kutch to coastal Karnataka, Konkan and Goa, coastal Orissa, Telangana, Rayalaseema, Andhra Pradesh and GWB and NE states, Bihar, Jharkhand and adjoining area during all 3 days. Over parts of South west Rajasthan, Telangana, Chhattisgarh and adjoining area on day 3; Maximum value of the index is seen over parts of Gujarat on all 3 days over parts of Orissa and northern parts of coastal Maharashtra including Mumbai and Karnataka on day 2 and 3; over parts Bihar adjoining East Uttar Pradesh and Arunachal Pradesh on day 3.

#### 5. Rainfall Activity:

10- 40 mm rainfall: over parts of Arunachal Pradesh, Assam, Nagaland and adjoining area, coastal Kerala and Tamil Nadu on day 1; over parts of Arunachal Pradesh, Sikkim, Assam, Meghalaya, Tripura and adjoining area and some parts of south interior Karnataka on day 3

Up to 10 mm rainfall: Over Parts of J&K, NE states, Kerala, Tamil Nadu, Karnataka, Konkan and Goa and southern parts of coastal Maharashtra during all three days; over parts of Himachal Pradesh, Uttarakhand on day 2 and 3; over parts of Andhra Pradesh, Orissa and adjoining Telangana on day 3.

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

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

**> 25 dBZ Model Reflectivity:** Over parts of Assam, Meghalaya, Tripura, Mizoram, Arunachal Pradesh and adjoining area during all 3 days; over parts of J&K on day 1 and 3.

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

**Total Total Index (> 50):** Above threshold value is observed over most parts of the country except south peninsular India, along east coast and southern part of west coast, north-eastern states, coastal Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, GWB, some parts of Telangana and Chhattisgarh during all 3 days; maximum value of the index is seen over parts of Northwest Rajasthan and adjoining Madhya Pradesh region on all 3 days; over some parts of J&K, Himachal Pradesh and Punjab region on day 1 and 2; over Madhya Pradesh, Chhattisgarh, Vidarbha region on day 2 and 3; over Jharkhand, Orissa, West Uttar Pradesh, Andhra Pradesh, Telangana, Madhya Maharashtra and Marathwada region 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 (> 1000):** Greater than threshold value over parts of Gujarat, coastal areas of southern part of west coast, coastal areas along the east coast, coastal Orissa, GWB, Assam, Tripura, Arunachal Pradesh, Meghalaya and adjoining areas, parts of Tamil Nadu, Kerala, Andhra Pradesh, Telangana, Rayalaseema and Extreme south peninsular India during all 3 days; over parts of Bihar, Jharkhand, Chhattisgarh and adjoining Vidarbha region on day 2 and 3; over some parts of east Uttar Pradesh on day 3; Maximum value greater than 3000 is seen over the parts of Orissa and its coastal areas, coastal Maharashtra, Konkan and Goa, Karnataka on day 1; on day 2 and 3 over coastal areas of southern part of west coast, coastal Orissa, coastal Andhra Pradesh and GWB and Kolkata .

**CIN (50-150):** Over coastal areas of east coast and west coast, GWB, parts of Orissa, Jharkhand and adjoining Bihar region, Andhra Pradesh, Tamil Nadu, Kerala, Coastal Maharashtra, Konkan and Goa, Telangana, Rayalaseema, and NE states on all 3 days; Maximum value of the index is seen over coastal Gujarat, Northern parts of coastal Maharashtra, Konkan and Goa, coastal Andhra Pradesh, Telangana region, some parts of Orissa on day 1; over parts of Gujarat, Karnataka, Andhra Pradesh, Orissa, Vidarbha, Chhattisgarh, coastal Maharashtra on day 2 and 3; over some parts of Punjab, Himachal Pradesh, Haryana, parts of Bihar, Jharkhand, East Uttar Pradesh on day 3.

### **3. Rainfall and thunderstorm activity:**

40-70 mm Rainfall: over parts of Assam and Arunachal Pradesh on day 3.

10- 40 mm Rainfall: Over parts of Kerala, Tamil Nadu, adjoining Karnataka region and NE states during all 3 days; over parts of J&K on day 1;

Up to 10 mm Rainfall: Over parts of J&K, Kerala, Tamil Nadu, Karnataka, GWB and NE states on all 3 days; over some parts of Himachal Pradesh, Uttarakhand and Andhra Pradesh region on day 2 and 3; over some parts of Orissa and Telangana on day 3.

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

#### Summary and Conclusions:

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

o Synoptic analysis indicates that an east west trough runs from east Bihar to Manipur across south Assam and extends upto 1.5 km above mean sea level. This trough is not seen in the analysis fields of ECMWF and IMD GFS deterministic models. Associated with this trough, there will be moisture flow into Mizoram, Tripura and south Assam. However, there is not much support from the jet in the upper atmosphere. Consequently, thunderstorms with gusty winds are expected over North-east India on day 1. The trough is not likely to decay on day 2 and the same weather pattern is likely to continue on day 2.

o Over South India, synoptic analysis indicates that there are two cyclonic circulations in the low levels (1) over North Interior Karnataka and adjoining south Madhya Maharashtra in the lower levels and (2) over Comorin Maldives area. IMD GFS deterministic model indicate a north-south oriented trough over south-west peninsula while ECMWF indicates only a wind discontinuity in the lower levels. This is overlaid by anticyclonic wind flow over the region. Hence there is likelihood of isolated rainfall over south-west peninsular India on day 1 and less so on day 2

#### **24 hour Advisory for IOP:**

##### **Rainfall:**

Nil

##### **Thunderstorm with associated phenomenon:**

Assam and Meghalaya, Mizoram and Tripura.

#### **48 hour Advisory for IOP:**

##### **Rainfall:**

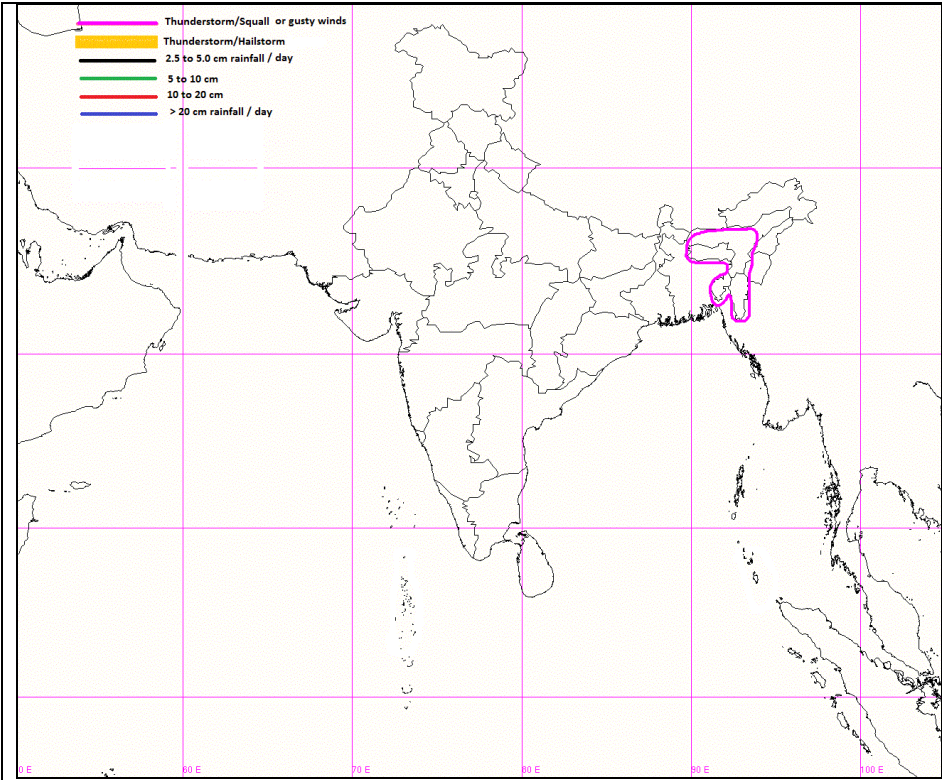
Nil

##### **Thunderstorm with associated phenomenon:**

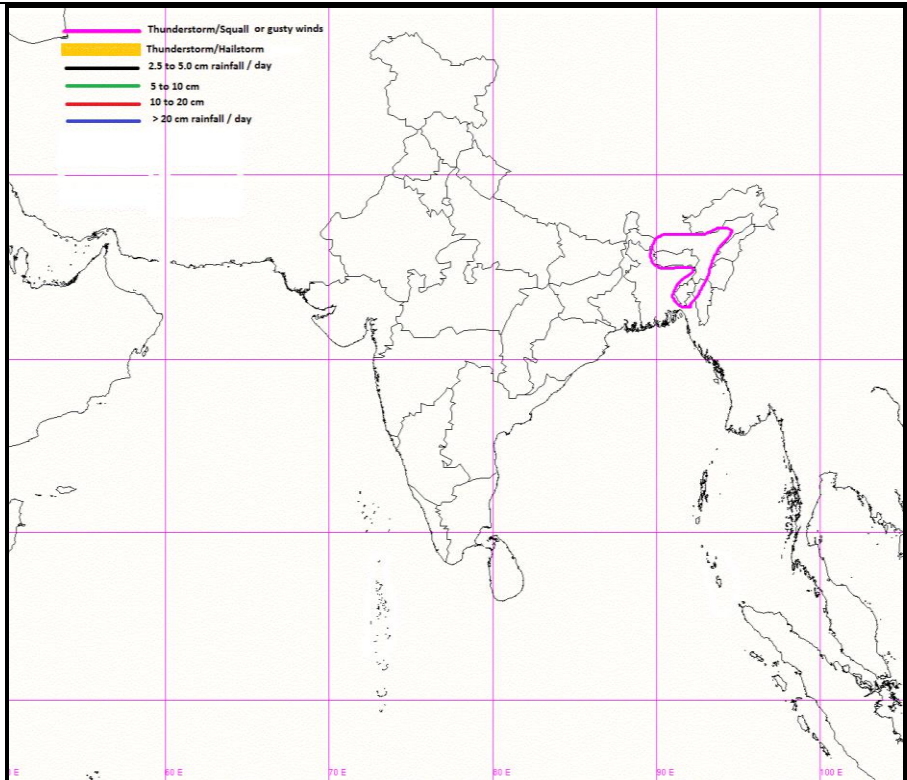
Assam and Meghalaya, Tripura.



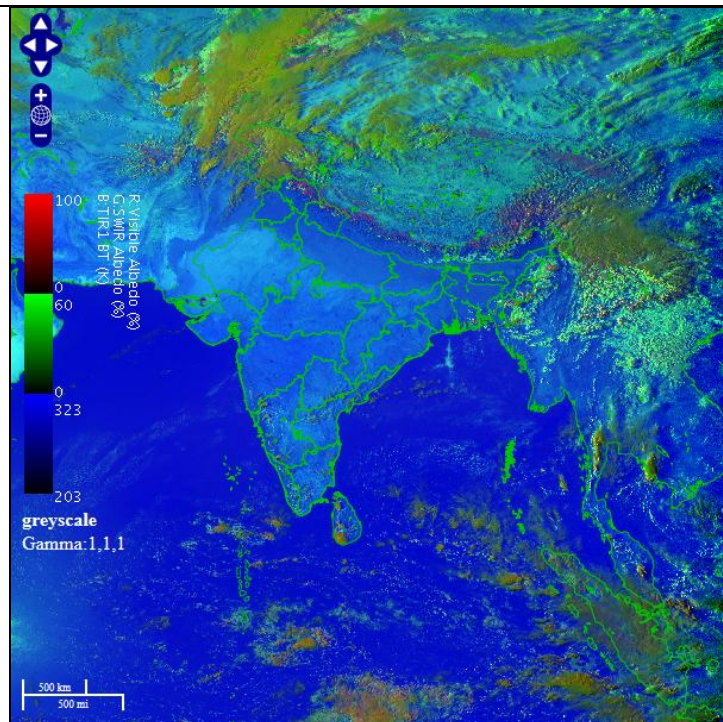
Graphical Presentation of Potential Areas for Severe Weather:



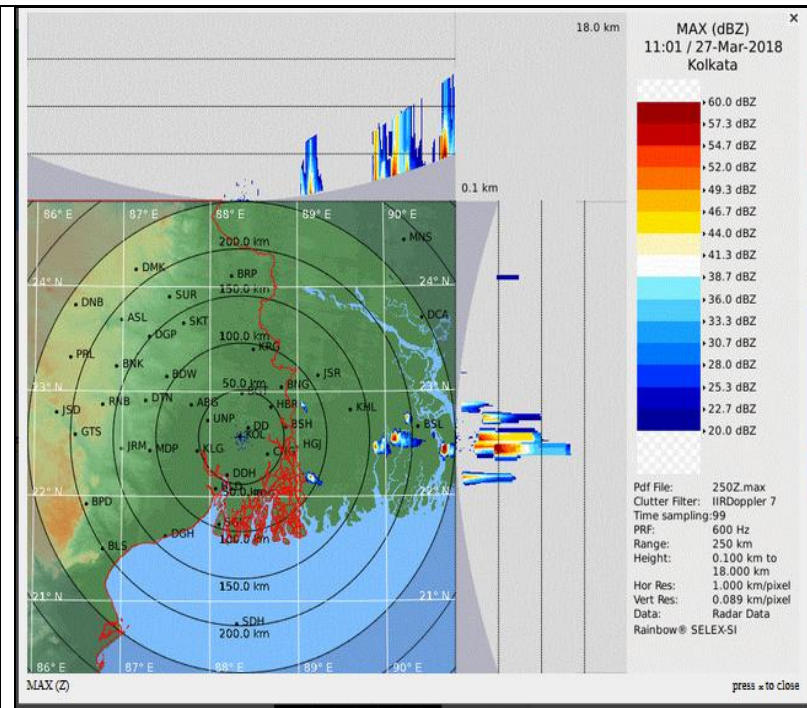
IOP Advisory for 24 hours



IOP Advisory for 48 hours

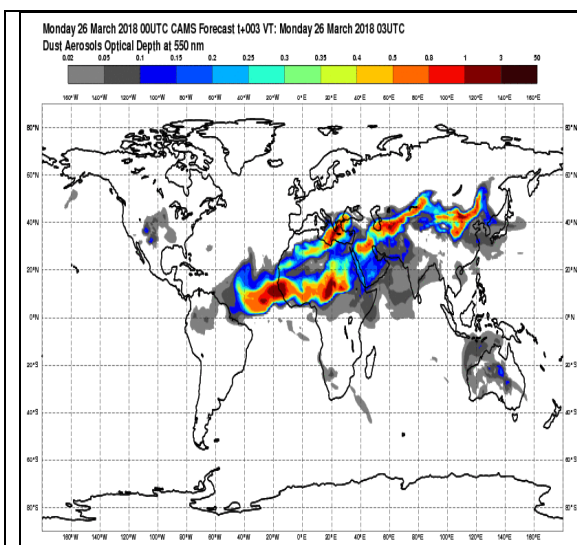


RAPID RGB Imagery at 1600 IST of the Day

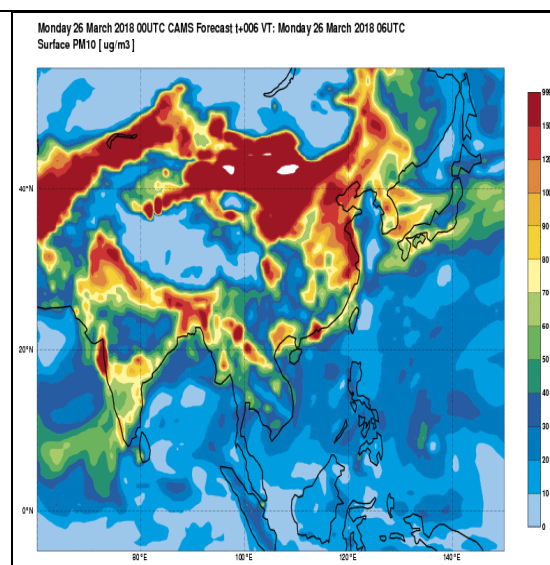


DWR Cherrapunjee at 1631 IST of the Day

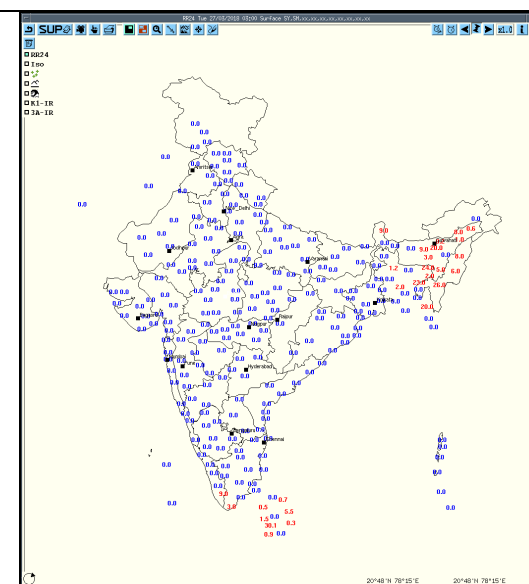




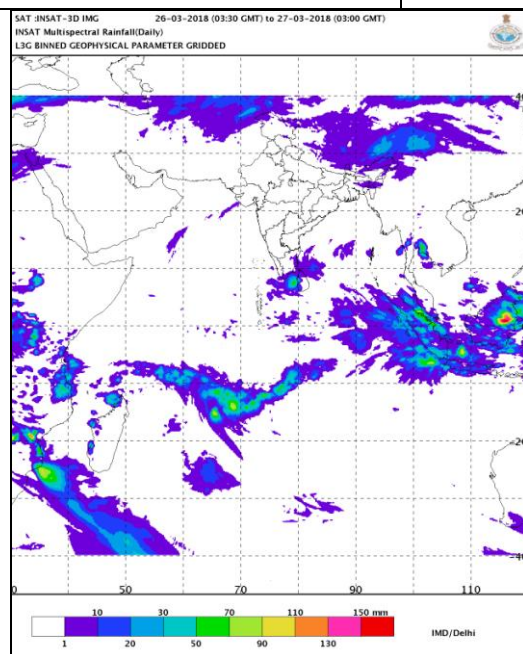
**Forecast Dust Concentration**



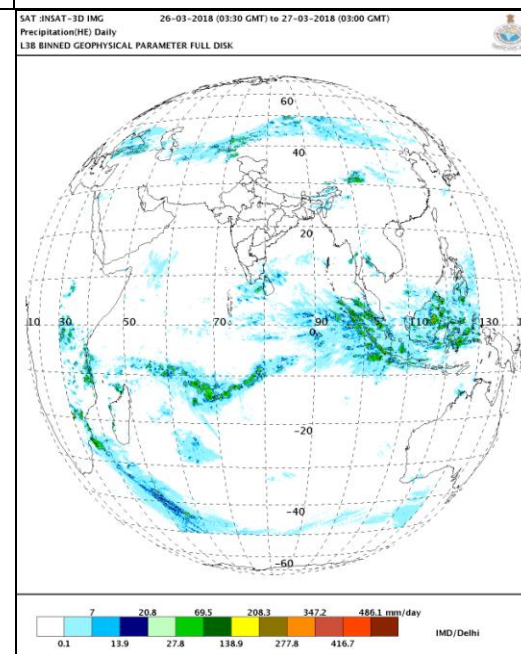
**PM10 Forecast**



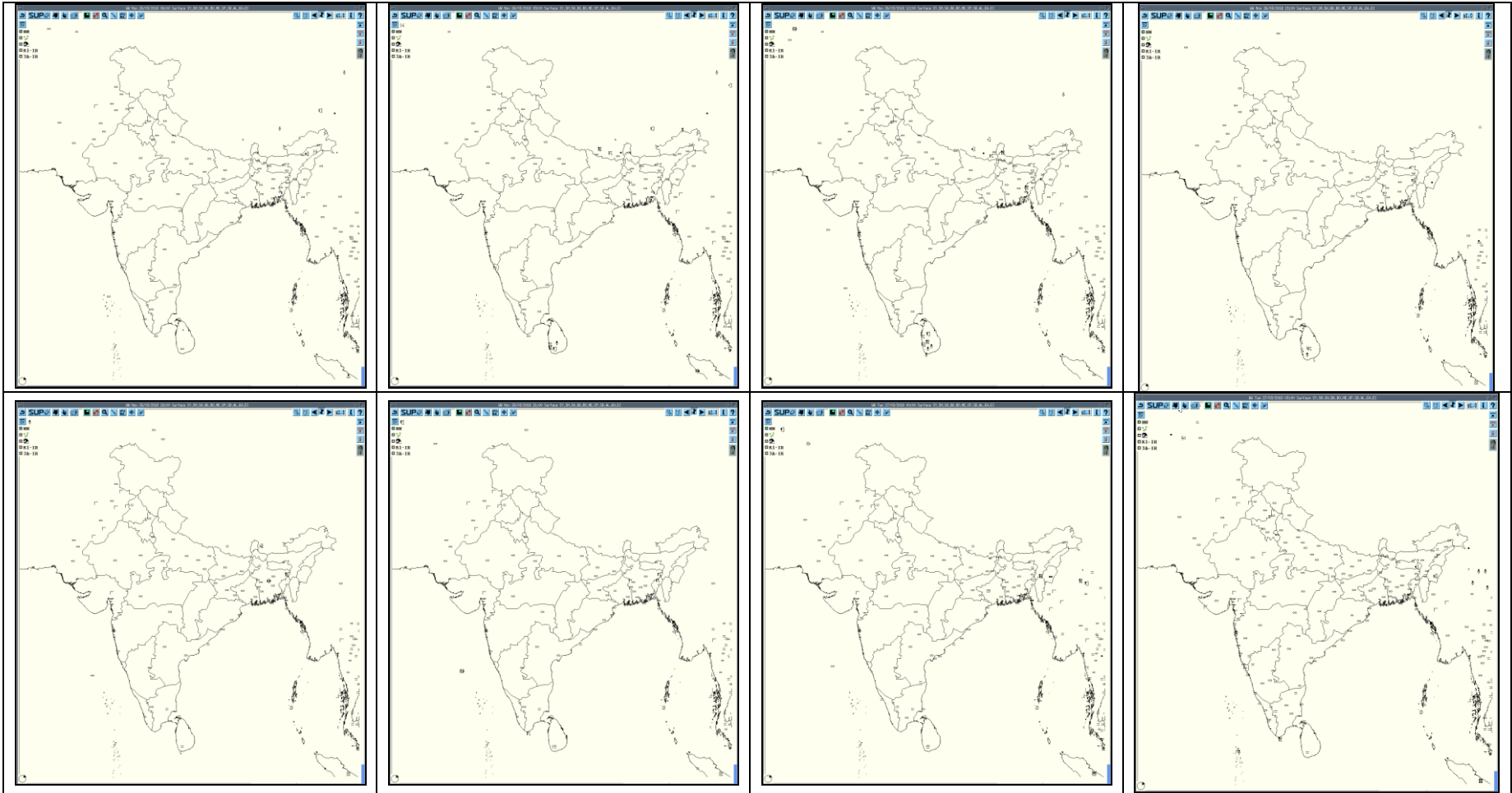
**Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today**

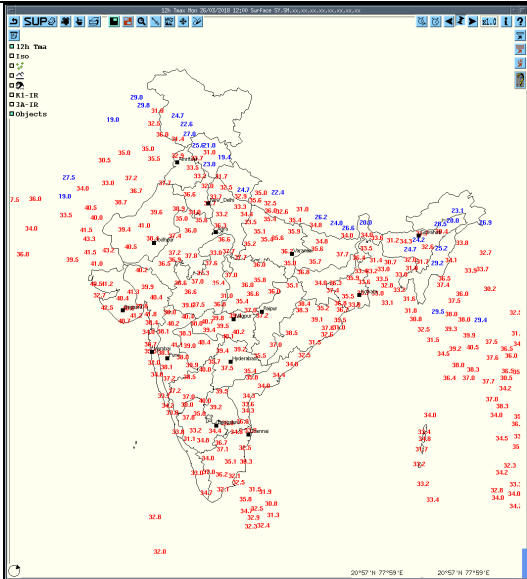


**IMR**

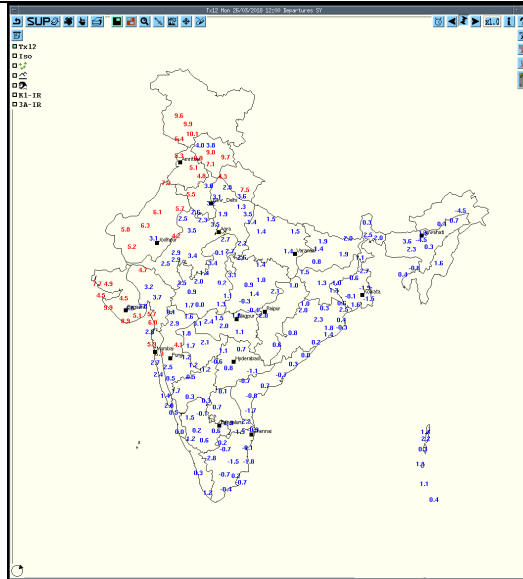


**HEM**

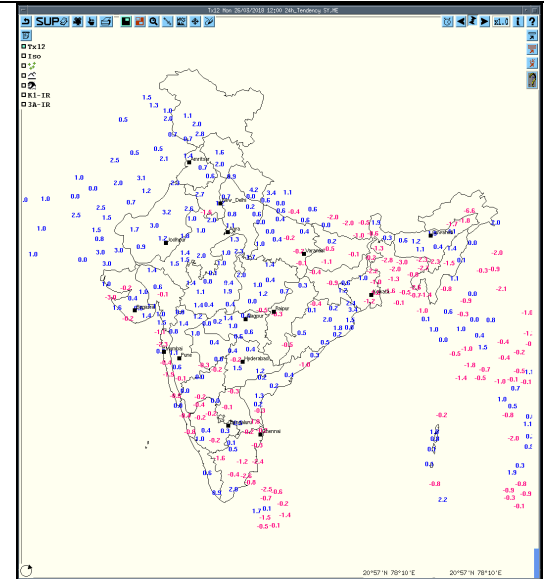




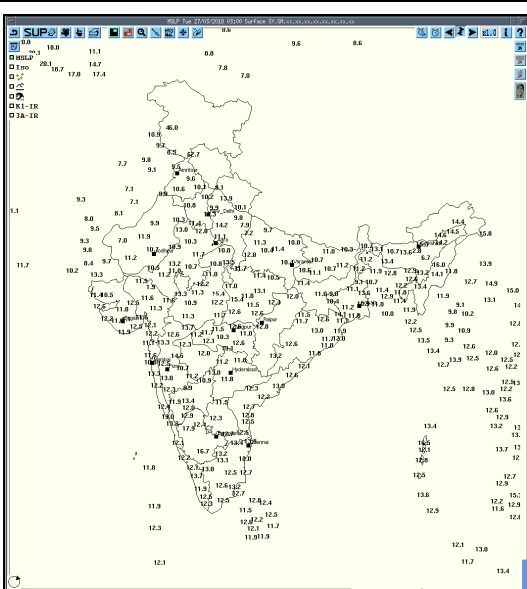
Tmax



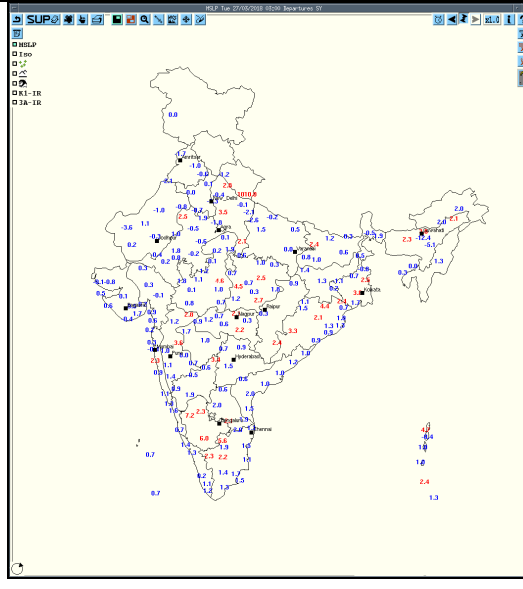
Departure Tmax



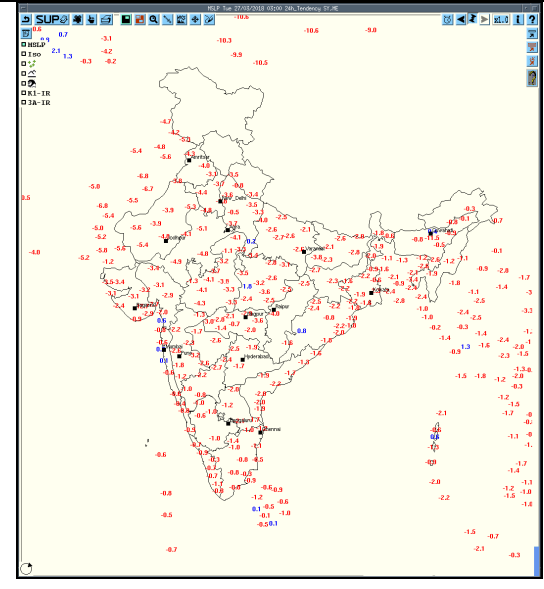
Tendency Tmax



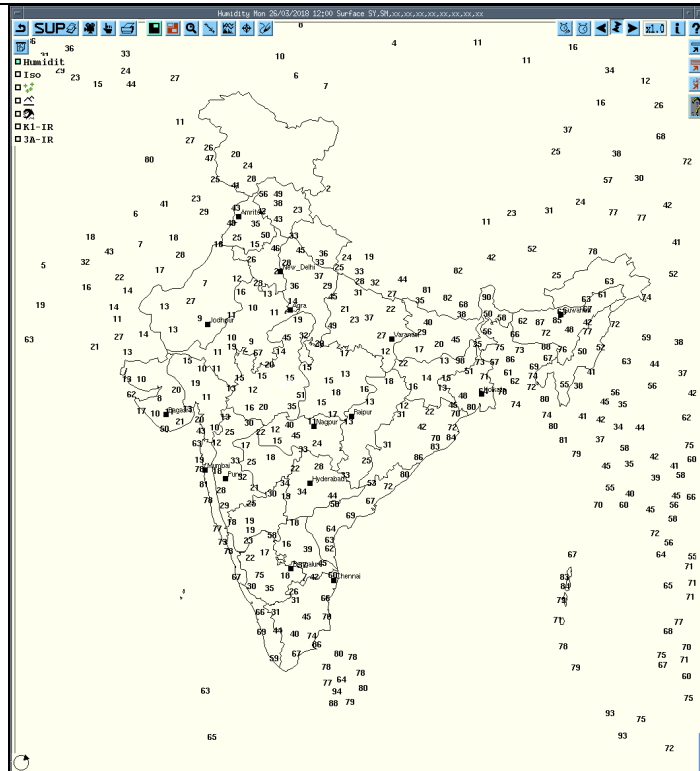
MSLP



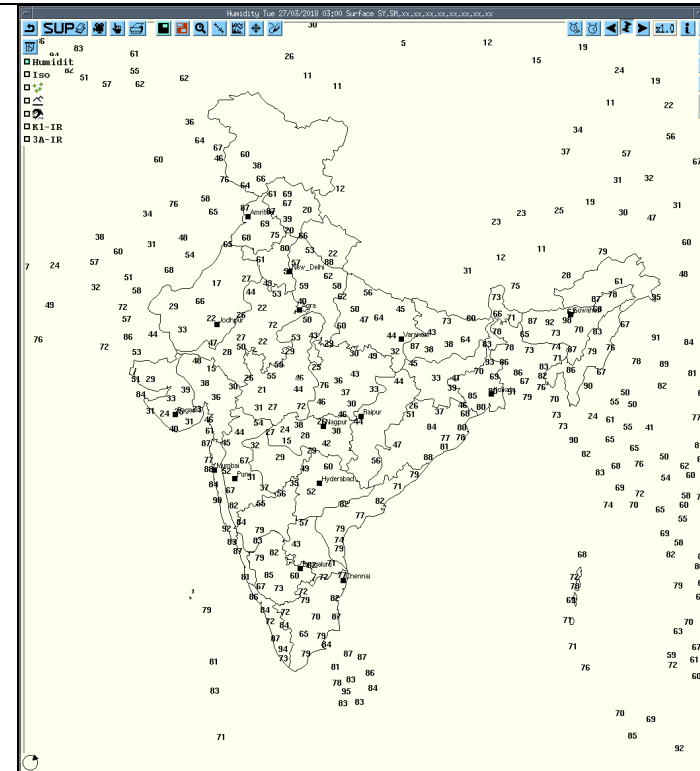
Departure MSLP



Tendency MSLP



**RH at 12UTC yesterday**



**RH at 03UTC today**

## Past 24 hours DWR Report:

DWR Station Name	Date of Report	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	Associate d Severe Weather if any	Districts affected
Kolkata	27-03-18	260301-270300	Nil	Nil	Nil	Nil	Nil
Patiala	27-03-18	260300-270252	No Echo	Nil	Nil	Nil	Nil
Lucknow	27-03-18	260300-270300	Nil	Nil	Nil	Nil	Nil
Jaipur	27-03-18	260300-270300	Nil	Nil	Nil	Nil	Nil
Patna	27-03-18	260300-270300	Nil	Nil	Nil	Nil	Nil
Visakhapatnam	27-03-18	260900	Line of Cb cells of max reflectivity 44 dBZ NE ly over the coast at a distance of 73kms with height 3kms.	NIL	Being dissipated	NIL	NIL
		261200	Cb cell westerly with reflectivity 50 dBZ and height 10kms at a distance of 128kms	Formed since 10:21 UTC and moving westerly.	Being dissipated	NIL	NIL
		261500	Conviction region NEly over the coast with max reflectivity 41 dBZ and height 3kms at a distance of 109kms.	Formed since last observation (1200 UTC)	Being dissipated	NIL	NIL
		270000	Region of Cb cells SSE ly at a distance of 113kms with max reflectivity 49dbz and height 3kms	Formed at 2001UTC and developed , moving SE ly	Likely to be intensified	NIL	NIL

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

Realised TS/HS/SQ during past 24 hours 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)
Jorhat	Northeast India	Assam	Thunderstorm	26-03-18	1940	2030
Silchar	Northeast India	Assam	Thunderstorm	26-03-18	262100	270600
Dibrugarh	Northeast India	Assam	Thunderstorm	26-03-18	262100	270400
N/Lakhimpur	Northeast India	Assam	Thunderstorm	26-03-18	1010 2120	1115 2240
				27-03-18	0045	0400
Tezpur	Northeast India	Assam	Thunderstorm	26/27-03-18	262230	270200
Guwahati	Northeast India	Assam	Thunderstorm	26-03-18	0940	1020
				27-03-18	0120	0250
			<b>Squall From West With Max. Wind Speed 29kt</b>	<b>26-03-18</b>	<b>1524</b>	<b>1525</b>
Shillong	Northeast India	Meghalaya	Thunderstorm	26-03-18	1450	1500
			<b>Hailstorm (diameter:0.25cm)</b>	<b>27-03-18</b>	<b>0400</b>	<b>0500</b>
Lengpui	Northeast India	Mizoram	Thunderstorm	26/27-03-18	1855 0400	2100 0500
Kailasahar	Northeast India	Tripura	Thunderstorm	26-03-18	1810	1900
				27-03-18	0015	0240
Agartala	Northeast India	Tripura	Thunderstorm	26-03-18	1650 1830	1750 1920
			<b>Squall From North With Max. Wind Speed 46Kt</b>	<b>26-03-18</b>	<b>1746</b>	<b>1748</b>
Gangtok	East India	Sikkim	Thunderstorm	26-03-18	1440	1745
			Lightening	26-03-18	1520	1720
Tadong	East India	Sikkim	Thunderstorm	26-03-18	1430	1900
Kanyakumari	South India	Sikkim	Thunderstorm	27-03-18	0100	0345



## 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(upto03UTCof today)

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)

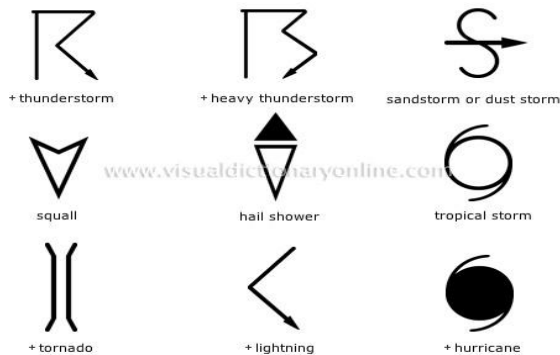
For Radar images of the past 24 hours including mosaic of images:

[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
<b>Weather Symbols</b>	