



India Meteorological Department

FDP STORM Bulletin No. 22 (28-03-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

- The Western Disturbance as a trough in mid & upper tropospheric westerlies with its axis at 7.6 km above mean sea level now runs roughly along 74°E to the north of Lat.35°N and moving away east northeast-wards.
- The core of sub-tropical westerly Jet stream continues mainly over Northeast India between Lat. 23°N and 25°N at 9.5 km above mean sea level over the Indian region.
- The east - west trough from east Bihar to Manipur now runs from northern parts of Bihar to Manipur across south Assam and extends upto 0.9 km above mean sea level.
- A cyclonic circulation extending upto 0.9 km above mean sea level lies over Gangetic West Bengal and adjoining Jharkhand.
- The cyclonic circulation extending upto 0.9 km above mean sea level over North Interior Karnataka and adjoining south Madhya Maharashtra now lies over North Interior Karnataka and adjoining areas of Telangana and Marathwada.
- A cyclonic circulation at 1.5 km above mean sea level lies over South Interior Karnataka and neighbourhood.
- A cyclonic circulation upto 1.5 km above mean sea level lies over Equatorial India Ocean and adjoining Sri Lanka and Comorin area.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

Western Disturbance (WD):

Scattered low/medium clouds with embedded moderate to intense convection seen over North Pakistan, Jammu & Kashmir, Northwest China and over the area between lat 37.0°N to 49.0°N, long 70.0°E to 100.0°E in association with WD over the area.

Scattered low/medium clouds seen over Caspian Sea & in association with WD over the area.

Westerly Trough & Jet Stream:

Trough in westerlies: roughly along Long 78.0E & North of Lat 28.0N.

Clouds description within India:

Scattered low/medium clouds with embedded weak to moderate convection seen over Kerala. Scattered low/medium clouds seen over North Himachal Pradesh, North Uttarakhand, South Tamilnadu, South Interior Karnataka and Nicobar Islands..Isolated low/medium clouds seen over Sikkim, Arunachal Pradesh, Madhya Maharashtra, South Gujarat.

Arabian Sea:

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

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded isolated weak convection seen over Southeast Bay south of Lat 11.0°N and South Andaman Sea.

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

Moderate to intense convection was observed over J&K Himachal Pradesh North Uttarakhand Punjab Kerala Assam Arunachal Pradesh, Tripura Nagaland Manipur Mizoram South Tamilnadu and weak to moderate convection observed over Maharashtra Sikkim rest North-East States Andhra Pradesh.

OLR:-

Upto 370 wm^{-2} Gujarat

Upto 230 wm^{-2} was observed over J&K North Himachal Pradesh North Uttarakhand and South Tamilnadu Kerala.

Synoptic features:

Trough in Westerlies runs roughly along Longitude 75.0°E & North of Latitude 28.0°N.

Westerly Jet Stream over Indian region between Latitude 22.0°N to 25.0°N.

Dynamic Features: Negative shear tendency is observed over North-East states 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 south J&K North Himachal Pradesh north Uttarakhand Uttar Pradesh North Andhra Pradesh.

Negative low level convergence over Gujarat Sub Himalayan West Bengal Tamilnadu and south Kerala and Positive Low Level Convergence over rest India region

Precipitation:

IMR: Rainfall upto 20-50 mm observed over north J & K

Rainfall upto 10-20 mm observed over rest north J & K

Rainfall upto 01-10 mm observed over rest J&K north Himachal Pradesh south Kerala south Tamilnadu North Arunachal Pradesh East Assam.

RADAR and RAPID RGB Observation:

Isolated/multiple light echoes were seen on DWR Agartala & Thiruvananthapuram (dBZ around 45 & height 10km).

RAPID RGB Satellite imagery at 1600IST indicates significant convection over Kerala and near Tripura.

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: 850 hPa feeble trough over WB and Bangladesh from Day-0 to Day-3

Confluence & Wind Discontinuity Regions:

12 UTC of Day 1-3: at 925 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 westerly trough over Punjab in Day-0, moving eastwards to cover UP in Day-1 to Day-3 and to over east UP and Bihar in Day-4.

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

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

12UTC Day-1 and 2 and 00UTC Day-3: over Punjab-J & K; 12UTC of Day-2 over UP

3. Convergence at 850 hPa:

Day/Index: Subdivisions with Lower Level Convergence > 15×10^{-5} /s

Day0: Jharkhand, Odisha, East MP, Madhya Maharashtra, Coastal AP, NI Karnataka, SI Karnataka,

Day1: Jharkhand, Uttarakhand, Himachal Pradesh, Odisha, East MP, Madhya Maharashtra, Chhattisgarh, Coastal AP, NI Karnataka, SI Karnataka,

Day2: Sub Himalayan WB, Gangetic WB, Jharkhand, Odisha, Madhya Maharashtra, Chhattisgarh, Coastal AP, NI Karnataka, SI Karnataka,

Day3: Assam Meghalaya, NE NMMT, Gangetic WB, Jharkhand, Odisha, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, NI Karnataka, SI Karnataka,

Day4: Jharkhand, Odisha, East MP, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, TN Puducherry, NI Karnataka, SI Karnataka

4. Low level Vorticity:-Positive Vorticity:

Day/Index: Subdivisions with Lower Level Vortex > 15×10^{-5} /s

Day0: Sub Himalayan WB, Gangetic WB, Jharkhand, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha,

Day1: Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, Coastal AP,

Day2: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, East UP, Odisha, East MP, TN Puducherry,

Day3: Assam Meghalaya, NE NMMT, Gangetic WB, Jharkhand, Odisha, Coastal AP,

Day4: Assam Meghalaya, NE NMMT, Odisha.

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

Day/Index: Subdivisions with Showalter Index < -4

Day0: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Uttarakhand, Konkan Goa, Madhya Maharashtra, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Coastal AP, Coastal Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Odisha, Coastal AP, TN Puducherry, SI Karnataka, Kerala,

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

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala.

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

Day/Index: Subdivisions with K Index > 40

Day0: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Odisha, Coastal AP,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Odisha, East MP, Chhattisgarh, Coastal AP, Telangana, Coastal Karnataka, SI Karnataka,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Chhattisgarh, Coastal AP, Telangana, SI Karnataka

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

Day/Index: Subdivision with Total Totals Index > 52

Day0: Arunachal Pradesh, Sub Himalayan WB, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Coastal AP, Rayalaseema, TN Puducherry, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar, Odisha, Chhattisgarh, Telangana, Rayalaseema, TN Puducherry, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, NE NMMT, Gangetic WB, Telangana, Rayalaseema, TN Puducherry, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Odisha, Coastal AP, Telangana, TN 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: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar,

Day3: Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Gangetic WB, Day5: ----

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

1. Synoptic Systems:

The analysis shows a North-South trough in lower troposphere extending from North Madhya Pradesh southward and further south-westward up to coastal Karnataka. The analysis based on 00 UTC shows a Western Disturbance as a trough in mid & upper tropospheric westerlies with its axis along 74°E to the North of 35°N. The analysis indicates east-west trough from northern parts of Bihar to Manipur across south Assam at lower Tropospheric level. The analysis further indicates a cyclonic circulation extending upto 0.9 km above mean sea level lies over Gangetic West Bengal and adjoining Jharkhand region.

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 x 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 north-south trough over north Madhya Pradesh extending southward up to coastal Karnataka.

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, Bihar, Jharkhand, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Karnataka, Tamil Nadu, parts of Gujarat, coastal Maharashtra, Konkan & Goa, Madhya Maharashtra, Marathwada, East Vidarbha adjoining Chhattisgarh, coastal areas along the east coast and west coast, extreme south peninsular India, NE states and GWB and Kolkata on all 3 days. Some parts of Chhattisgarh and South Maharashtra on day 1; over parts of East Uttar Pradesh and west Madhya Pradesh on day 3; Maximum value of the index is seen over parts of Gujarat, part of west coast, Konkan and Goa, Karnataka, GWB, coastal Orissa, coastal Andhra Pradesh, Telangana, Tamil Nadu during all 3 days; over parts of Bihar, Jharkhand and East Vidarbha region on day 3; Over parts of Assam, Tripura and adjoining area on day 2 and 3.

Lifted Index (< -2): The threshold value of the index is below -2 over parts of Gujarat, coastal Andhra Pradesh, coastal Karnataka, Konkan and Goa, Kerala, Tamil Nadu, southern part of west coast, coastal areas along the east coast, coastal Orissa, Chhattisgarh, GWB, Konkan and Goa, Bihar, Jharkhand, NE states on all 3 days; over parts of East Uttar Pradesh on day 3; maximum negative value of the index less than -10 can be seen over parts of Bihar, Jharkhand, GWB and Kolkata 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, GWB, coastal areas along the east coast and west coast, Gujarat, Himachal Pradesh, Uttarakhand, Foothills of Himalaya, Orissa, Andhra Pradesh, Kerala, Tamil Nadu, Konkan and Goa, Coastal Maharashtra, Karnataka, Bihar and Jharkhand, Chhattisgarh, Vidarbha, East Madhya Pradesh, South west Rajasthan during all three days; Maximum value of the index greater than 800 is seen over GWB and Orissa on day 2 and 3; over parts of Bihar, Jharkhand, Assam Meghalaya, Assam, Tripura and adjoining area on day 3.

CAPE (> 1000): Mostly in 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, Gujarat and coastal Maharashtra, Bihar, Jharkhand during all 3 days; over parts of Telangana and adjoining area, East Uttar Pradesh from day 2 onwards Maximum value of the index can be seen mostly over coastal areas along the east coast and GWB during all 3 days; over parts of Bihar, Jharkhand, Orissa, Andhra Pradesh, Telangana and adjoining areas, coastal Tamil Nadu and Chennai on day 2 and 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 J&K on day 1; over parts of South west Rajasthan on day 2 and 3; over parts of East Uttar Pradesh on day 3.

5. Rainfall Activity:

10- 40 mm rainfall: over parts of Arunachal Pradesh, Sikkim and adjoining area during all 3 days; over parts of Kerala and south Karnataka on day 2 and 3; over NE states and GWB on day 3.

Up to 10 mm rainfall: Over Parts of J&K, NE states, Uttarakhand, Foothills of Himalaya, Andhra Pradesh, south peninsular India and Orissa during all 3 days; over parts of Himachal Pradesh on day 1 and 2; over parts of Bihar, Jharkhand, Telangana, Rayalaseema and Chhattisgarh on day 2 and 3: Over parts of GWB and Kolkata on day 3.

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

1. Model Reflectivity (Max. dBz):

> 25 dBZ Model Reflectivity: Over parts of J&K on all three days; over parts of Assam, Meghalaya, Tripura, Mizoram, Sikkim, Arunachal Pradesh and adjoining area, Bihar and Jharkhand on day 2 and 3; over parts of East Uttar Pradesh and adjoining area on day 3; maximum value of the Model reflectivity greater than 50 dBZ can be seen on day 3 over parts of Bihar, Jharkhand, Assam, Tripura and adjoining area and some parts of Arunachal Pradesh.

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 southern part of east coast and west coast, north-eastern states, coastal Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, GWB, some parts of Telangana during all 3 days; maximum value of the index is seen over parts of Northwest Rajasthan, Punjab, Haryana, J&K, Himachal Pradesh and adjoining Madhya Pradesh region on all 3 days; over some parts of Chhattisgarh, Vidarbha region, Jharkhand, Orissa, West Uttar Pradesh, Andhra Pradesh, Karnataka, Telangana, Madhya Maharashtra and Marathwada region on day 2 and 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, Bihar, Jharkhand, Telangana, Rayalaseema and Extreme south peninsular India during all 3 days; over parts of Uttar Pradesh and Chattisgarh on day 2 and 3; Maximum value greater than 3000 is seen over the parts of Orissa and its coastal areas, coastal Maharashtra including Mumbai, Konkan and Goa, Karnataka, over coastal areas of southern part of west coast, coastal Orissa, coastal Andhra Pradesh and GWB and Kolkata on all 3 days.

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, Bihar and Jharkhand on all 3 days; over parts of Vidarbha, Chhattisgarh, Uttar Pradesh, Madhya Pradesh, south Maharashtra on day 2 and 3; over some parts of J&K and Punjab on day 2.

3. Rainfall and Thunderstorm Activity:

70- 130 mm Rainfall: over some parts of Assam and adjoining area on day 3.

40-70 mm Rainfall: over parts of Bihar, Jharkhand, Arunachal Pradesh, Assam and adjoining area on day 3.

10- 40 mm Rainfall: Over parts of Kerala, Tamil Nadu, adjoining Karnataka region, Sikkim, Andhra Pradesh during all 3 days; over parts Bihar, Jharkhand, GWB and Kolkata and NE states on day 2 and 3; over Parts of East Uttar Pradesh and Foothills of Himalaya on day 3.

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

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 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 to poor category for next 2 days in Delhi.

Delhi – SAFAR analysis & Forecast	28.03.2018	29.03.2018
PM10 (micro-g/m ³)	214	231
PM2.5 (micro-g/m ³)	84	91

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

o Synoptic analysis indicates that an east west trough runs in the lower levels from east Bihar to Manipur, which persists since yesterday, A low level cyclonic circulation also lies over Gangetic West Bengal and adjoining Jharkhand. Model analysis wind fields indicate only a north-south trough over Gangetic West Bengal in the lower levels. Associated moisture flow in the lower levels into north Bengal and north-east India is likely to result in thunderstorm activity over this region. ECMWF and IMD GFS deterministic models indicate that on day 2, the cyclonic circulation over Gangetic West Bengal and adjoining Jharkhand is likely to intensify and a northeast – southwest oriented trough is likely to form, which will bring more moisture over this region and thunderstorm activity is likely to persist over the same region.

o Synoptic analysis also indicates that there are three cyclonic circulations in the lower levels – (1) over North Interior Karnataka (2) over South Interior Karnataka and (3) over Comorin area. ECMWF and IMD GFS deterministic models indicate that there is a north-south trough over peninsular India. There is likelihood of thunderstorm activity over Kerala in association with this trough. On day 2, the northern end of the trough is likely to move eastwards. However, the thunderstorm activity over Kerala, at the southern edge of the trough is likely to continue.

24 hour Advisory for IOP:

Rainfall:

Nil

Thunderstorm with associated phenomenon:

Sub Himalayan West Bengal & Sikkim
Assam and Meghalaya, Mizoram and Tripura
Kerala

48 hour Advisory for IOP:

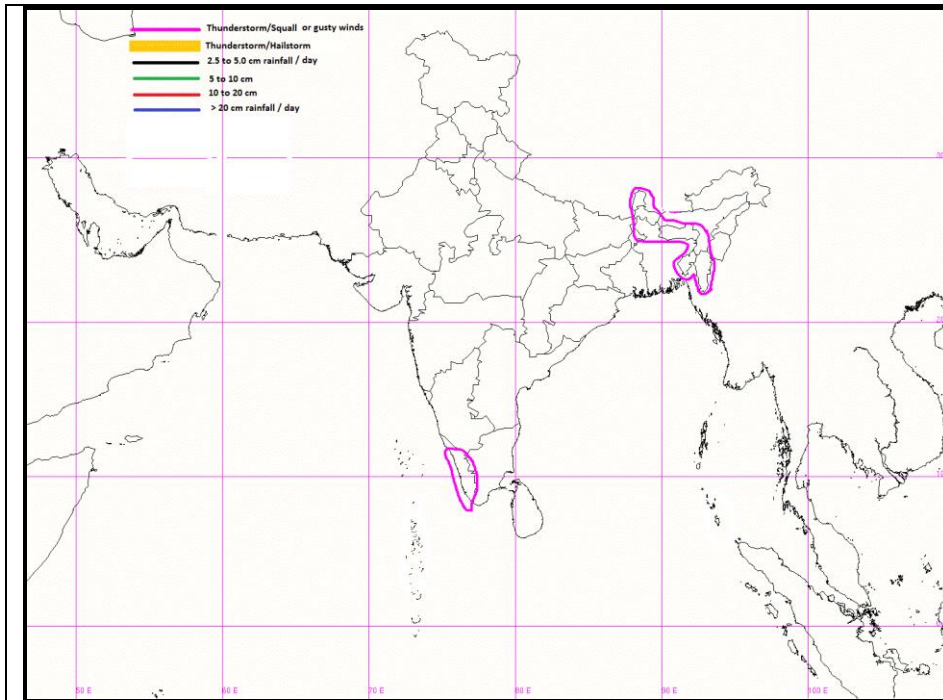
Rainfall:

Nil

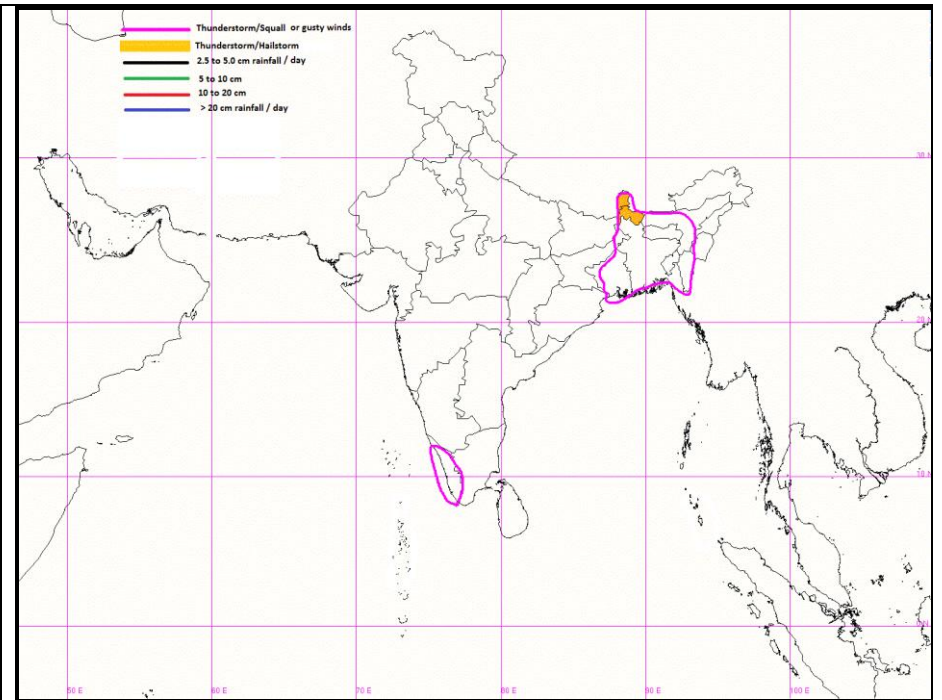
Thunderstorm with associated phenomenon:

Sub Himalayan West Bengal & Sikkim, Gangetic West Bengal
Assam and Meghalaya, Mizoram and Tripura
Kerala

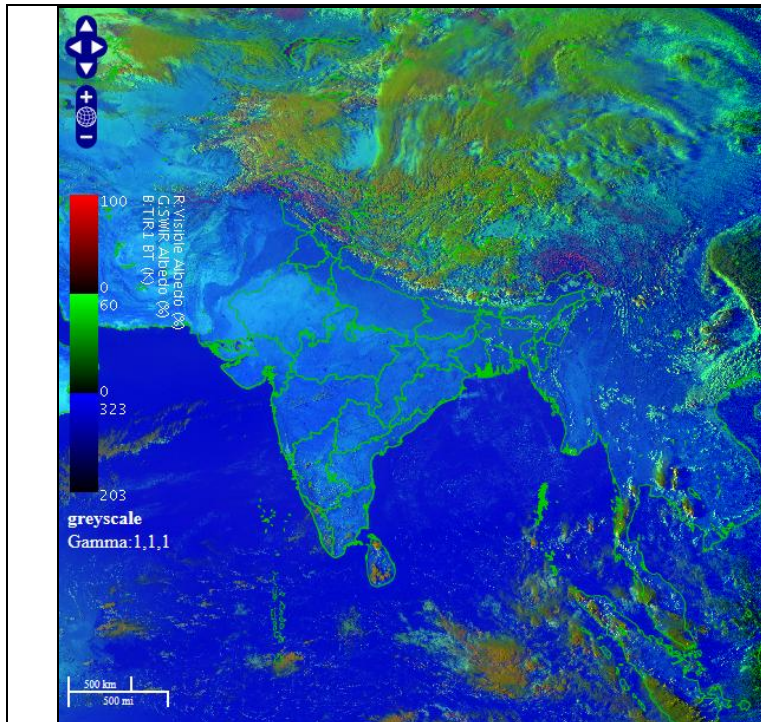
Graphical Presentation of Potential Areas for Severe Weather:



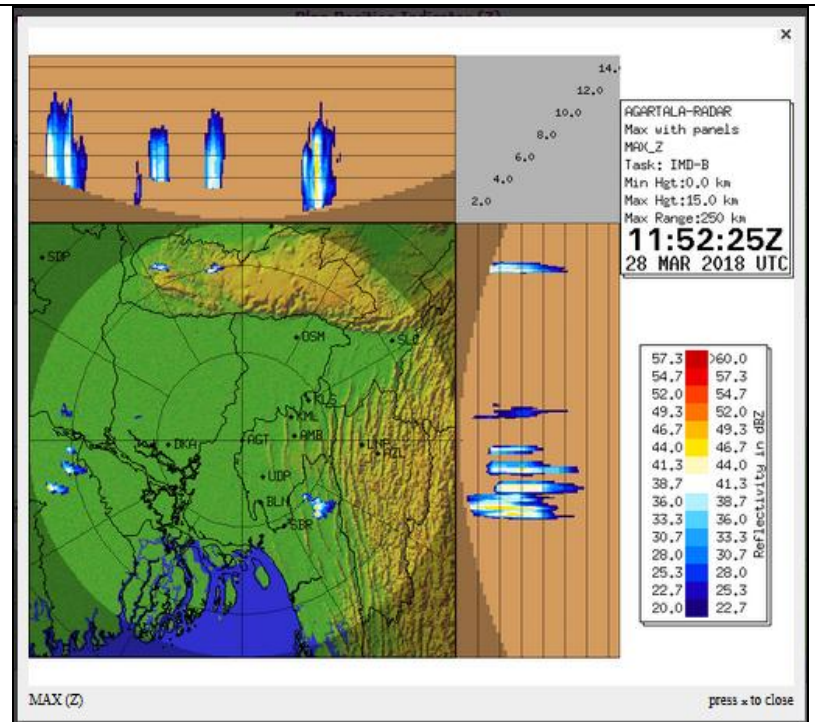
IOP Advisory for 24 hours



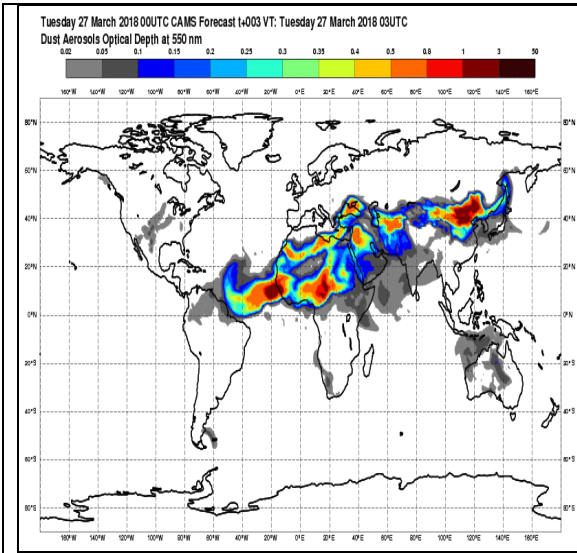
IOP Advisory for 48 hours



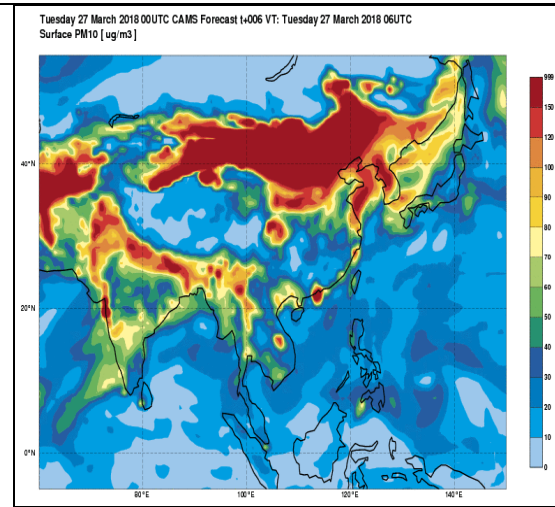
RAPID RGB Imagery at 1600 IST of the Day



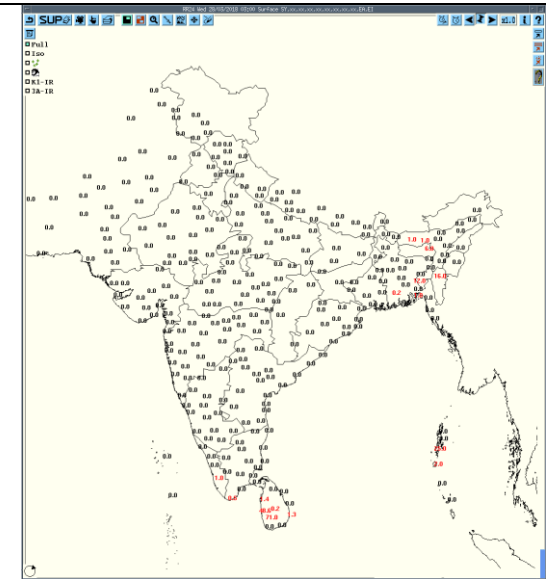
DWR Agartala at 1722 IST of the Day



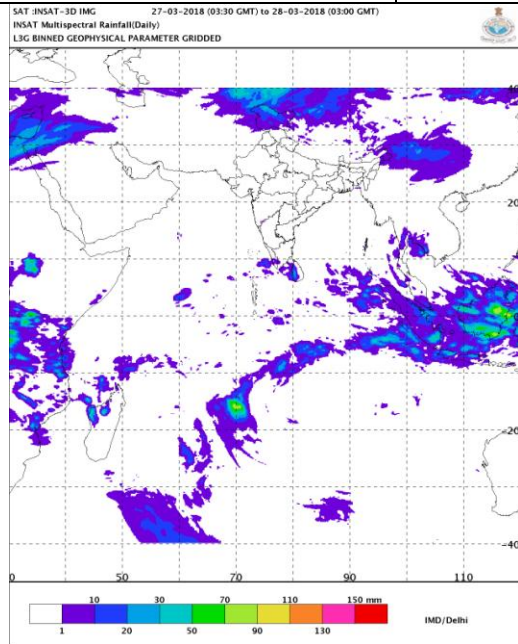
Forecast Dust Concentration



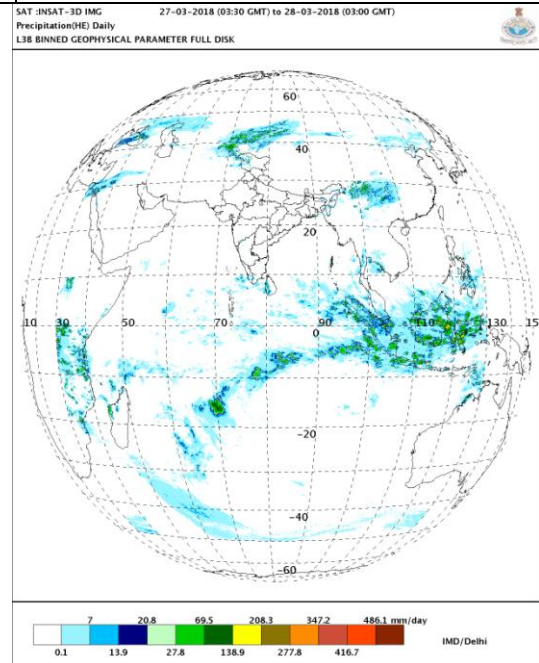
PM10 Forecast

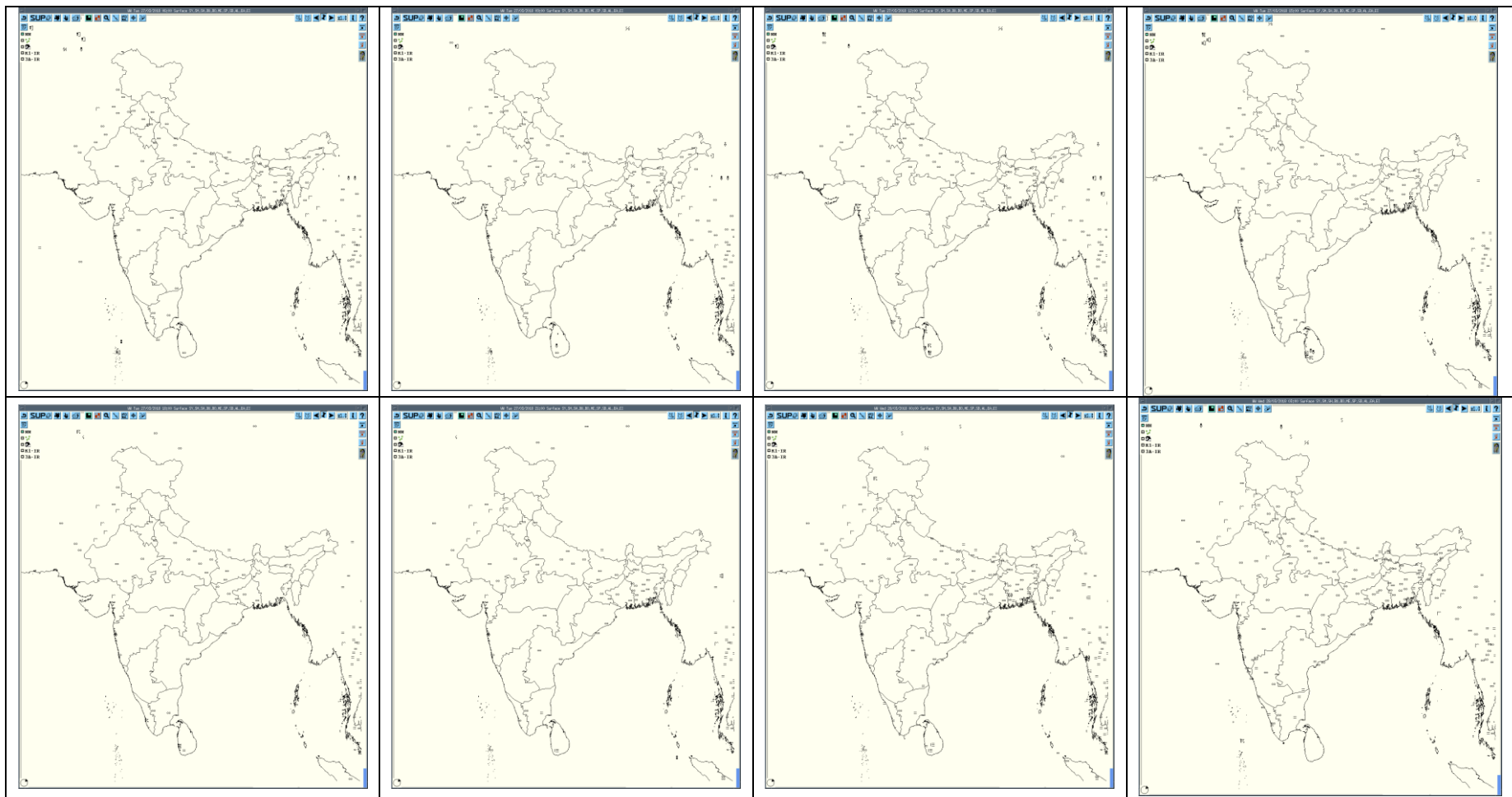


Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today

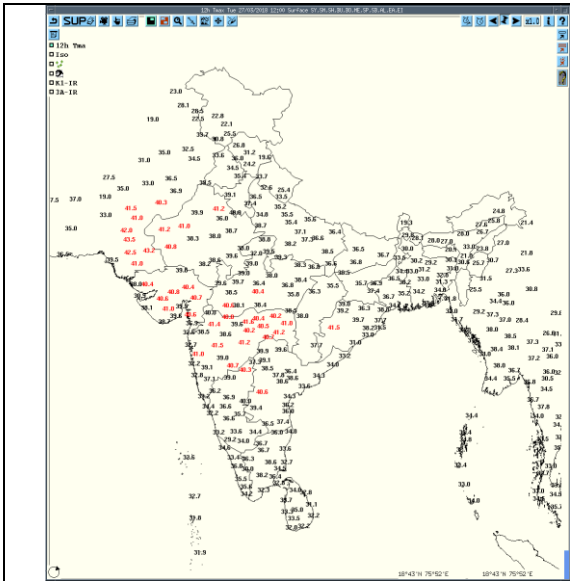


IMR

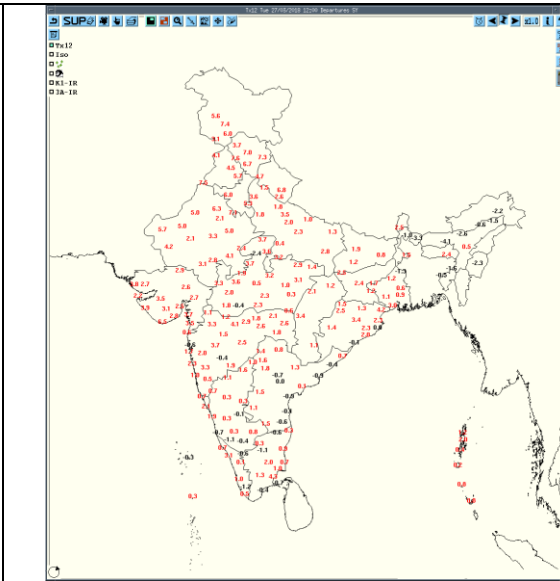




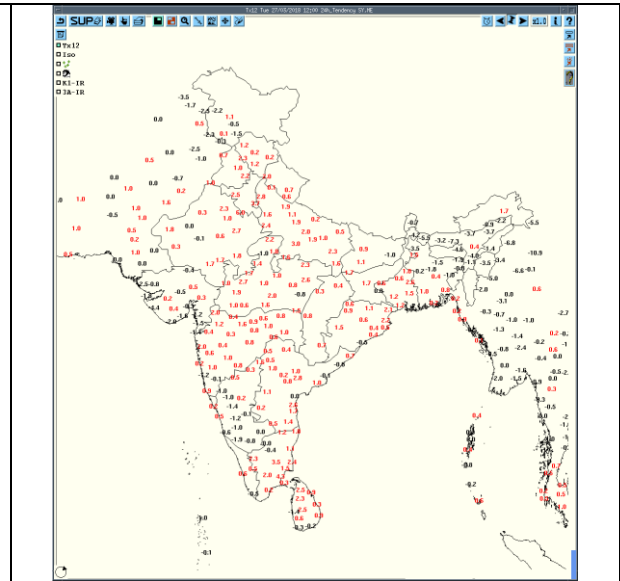
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



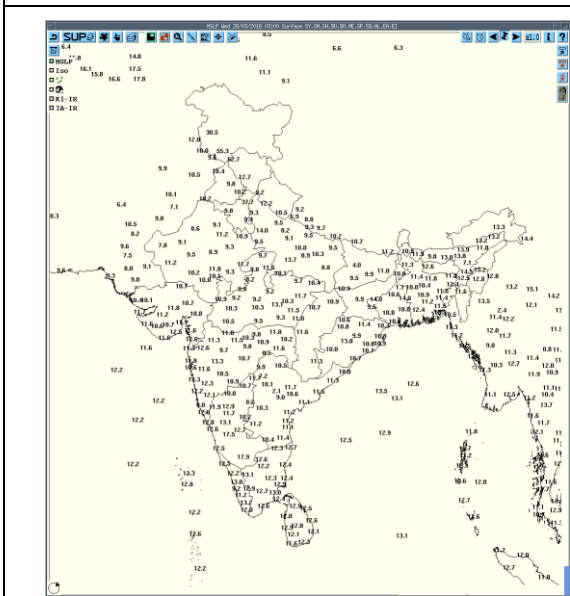
Tmax



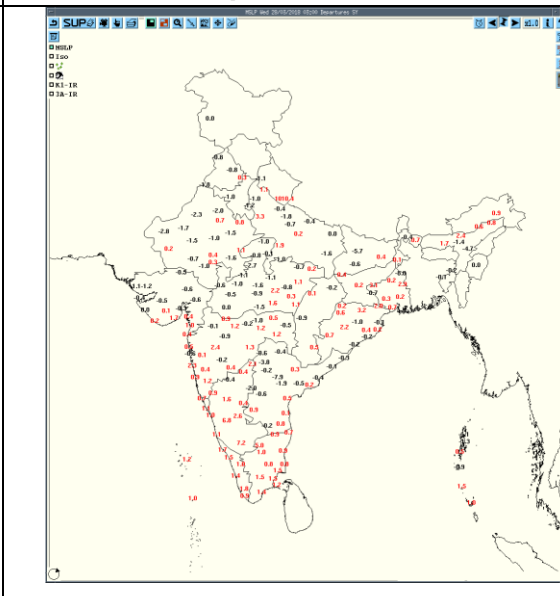
Departure Tmax



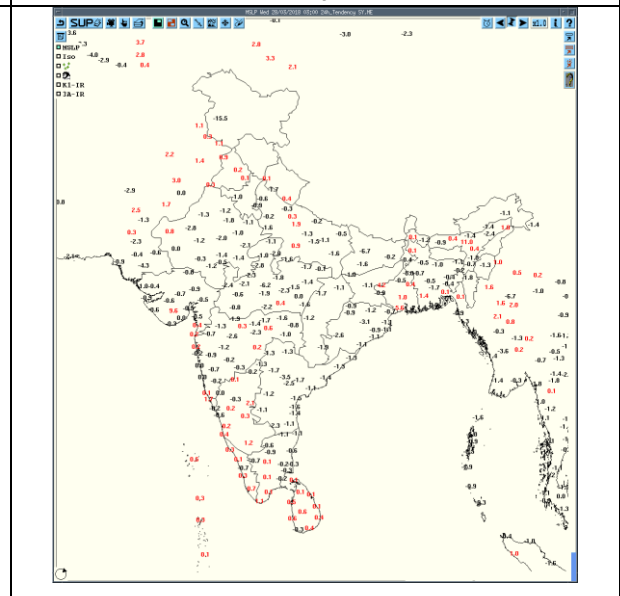
Tendency Tmax



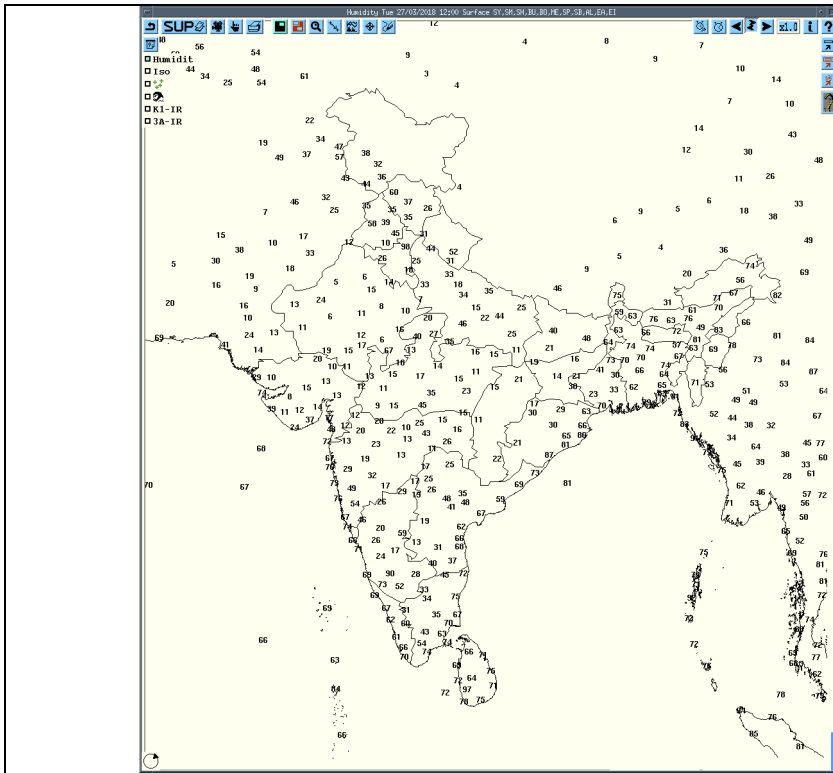
MSLP



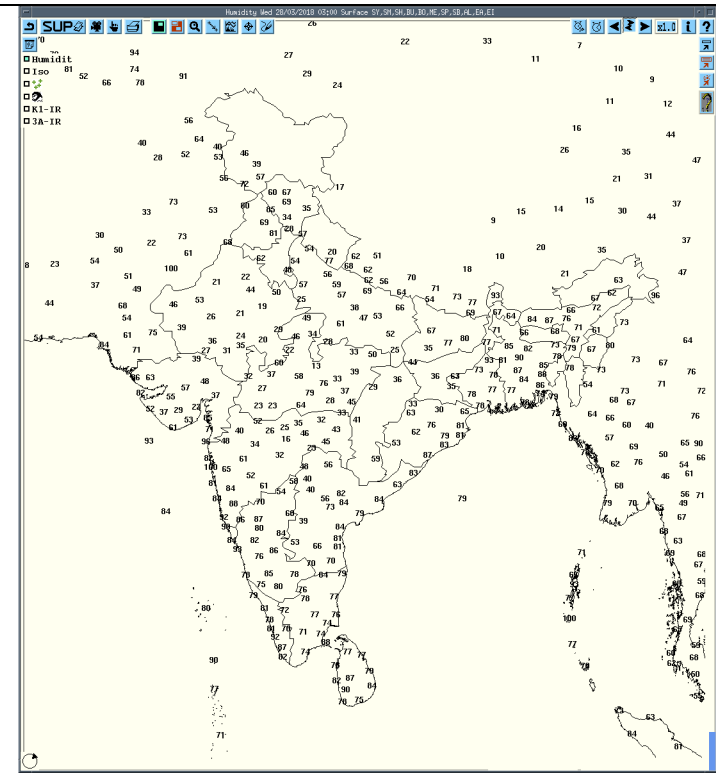
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

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 Commence ment (IST)	Time of end (IST)
Kupwara	Northwest India	Jammu & Kashmir	thunderstorm	28-03-18	0350	0510
Port Blair	East India	Andaman and Nicobar Islands			1305	1315
Shillong	Northeast India	Meghalaya	Thunderstorm	27-03-18	0900	1000
			Hailstorm (diameter:0.25cm)	27-03-18	0920	0922
Lengpui	Northeast India	Mizoram	Thunderstorm	27-03-18	1155	1250
Minicoy	South India	Lakshadweep Islands	Thunderstorm	28-03-18	0730	0800

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	Associated Severe Weather if any	Districts affected
Patiala	28-03-18	270300-280252	No Echo	--	--	--	--
Lucknow	28-03-18	270300-280300	Nil	Nil	Nil	Nil	Nil
Jaipur	28-03-18	270300-280300	Nil	Nil	Nil	Nil	Nil
Visakhapatnam	28-03-18	271200	Convective region of max. reflectivity 43dBz with height of 4 kms	S (118 km) moving Ely	Convective region formed in Bay of Bengal at 1051UTC and maximum reflectivity observed at 1141 UTC and start dissipating.	NIL	NIL
		271500	Convective cell of max. reflectivity 53dBz with height of 3 kms	S (73 km) moving Ely	Convective cell formed at 1431UTC and maximum reflectivity observed at 1451 UTC.	NIL	NIL
		271800	Convective region of max. reflectivity 42dBz with height of 3 kms	ESE (112 km) moving Sly	Convective region formed at 1721UTC and maximum reflectivity observed at 1751 UTC.	NIL	NIL
		280000	Convective region of maximum reflectivity of 42dbz and height 2kms	SE (111 kms) moving E ly	Convective region formed at 1901 UTC and max. at 1921 UTC and dissipated from 2011 UTC.	NIL	NIL

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	Associated Severe Weather if any	Districts affected
Kolkata	28-03-18	270300-270731	NIL	NIL	NOSIG ECHO	NIL	NIL
		270831-271002	1. Isolated single cell developed 0831 UTC AT 22.917 N / 88700 E / 41.9 Degree / 52.5 k.m. and maximum reflectivity of 55.5 dBz at 0841 UTC and maximum height 05.31 at 0841 UTC	NE (41.9 km) to moving in SE direction.	Single cell formed in NE direction at a distance 41.9 k.m. and dissipated at 1002 UTC at a distance 55.5 K.M. from Radar.	Thunders torm / Rain	N / A
		271011-272400	Nil	Nil	Nosig Echo	Nil	Nil
		280001-280300	Nil	Nil	Nosig Echo	Nil	Nil
Agartala	28-03-18	270300-280300* (*DWR is operational from 0100UTC to 1400UTC only)	ISLTD SINGLE CELL FORMING MUTIPLE CELLS 40 dBZ,8 Kms formed @260530Z	200 KMS. TO NW OVER B'DESH NE'LY 30 Kmph.	Dissipated over ASSAM-MEGHALAYA hills @261200z.	Not known	
			ISLTD SINGLE CELL formg MLTPL CELLS at260752z & finally SQUALL LINE,57Dbz,11 Kms formed @261022Z	200 kms ENE over B'DESH E'ly/30 Kmph.	Cell persisted till 261400z(RADAR switched off due to Power failure)	Severe TSRA & SQUALL	WEST TRIPURA, KHOWAI,D HALAI,NO RTH DISTRICT, MIZORAM.

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)

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/

Low Level Winds

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

Past24hourHEMandIMRrainfall(upto03UTCoftoday)

IMR: http://satellite.imd.gov.in/img/3Ddaily_imr.jpg

HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg

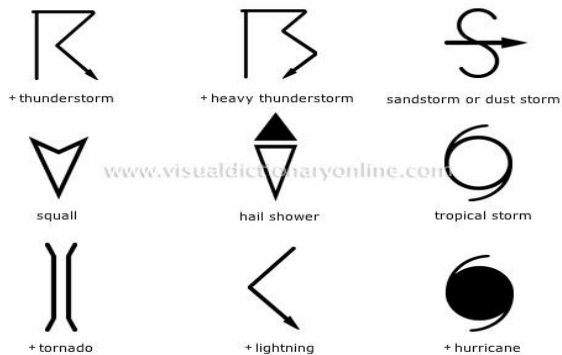
For Radar images of the past 24 hours including mosaic of images:

http://ddgmui.imd.gov.in/dwr_img/

Satellite sounder based T- Phigram

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	