India Meteorological Department

FDP STORM Bulletin No. 11 (17-03-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

♦ The trough in mid tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 80°E to the north of Lat. 32°N has moved away northeastwards.

♦ The western disturbance as a trough in mid tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long 48°E to the north of Lat 30°N.

♦ A cyclonic circulation extending upto 0.9 km above mean sea level lies over southeast Rajasthan & adjoining west Madhya Pradesh.

♦ A cyclonic circulation extending upto 1.5 km above mean sea level lies over east central Arabian sea off Karnataka coast.

♦ The trough of low at mean sea level over Equatorial India Ocean and adjoining south Andaman sea now lies over Equatorial India Ocean and adjoining southeast Bay of Bengal.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

WESTERN DISTURBANCE (WD):

Broken multi layered clouds observed over South Caspian Sea Persian Gulf Iran & neighbourhood North Nepal and Central China in association with WD over the area.

Clouds description within India:

Broken low medium clouds with embedded moderate to intense convection seen over Tamilnadu **(Minimum CTT Minus 62 DEG C).**

Scattered low/medium clouds seen over Jammu & Kashmir, North Himachal Pradesh, North Uttarakhand, East Madhya Pradesh, Maharashtra, and Konkan. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over South Odisha, Southeast Bihar, adjoing Sub Himalayan West Bengal, Sikkim, Arunachal Pradesh, Meghalaya, Nagaland, Manipur, Mizoram, Coastal Andhra Pradesh, South Interior Karnataka and rest Tamilnadu.

Arabian Sea:

Isolated low medium clouds with embedded weak to moderate convection seen over East-Central Arabian Sea and off South Konkan.

Bay of Bengal & Andaman Sea:

Broken low/medium clouds with embedded moderate to intense convection seen over West-Central Bay adjoining Southwest Bay and off South Andhra Pradesh-North Tamilnadu Coasts and isolated weak to moderate convection seen over North Bay adjoining Central Bay.

Past Weather:

Convection (during last 24 hrs):

Moderate to intense convection was observed over Rayalaseema, Andhra Pradesh, south Karnataka, Kerala, Tamilnadu and weak to moderate convection over Maharashtra, East MP, Telangana, Chhattisgarh, Jharkhand, West Bengal and NE states.

OLR:

Upto 230-250 wm^{-2} was observed over J&K, North Himachal Pradesh, North Uttarakhand, Sikkim, Arunachal Pradesh, NMMT, Kerala, Tamilnadu, SIK, E Telangana, Andhra Pradesh, and south Odisha.

Synoptic features:

Westerly Trough: Trough in westerly roughly along Long. 52°E to the north of Lat. 30°N

Dynamic Features:

Positive shear tendency is observed over the country except north Maharashtra.

Medium to high wind shear is observed over North & Central India.

Precipitation:

IMR:

Rainfall upto 50-70 mm observed over some parts of north Tamilnadu adjoining Rayalaseema.

Rainfall upto 30-50 mm observed over some parts of north Tamilnadu, Rayalaseema adjoining SIK.

Rainfall upto 10-30 mm observed over NE J&K, south CAP, some parts of TN & south Kerala.

Rainfall upto 1-10 mm observed over Rest J&K, North Himachal Pradesh, Sikkim, Odisha, Chhattisgarh, Jharkhand, West Bengal Nagaland, Manipur, Tripura, Mizoram, rest AP, north Kerala & rest Tamilnadu, some parts of Arunachal Pradesh, Meghalaya, Assam TLNGN, SIK & south coastal Karnataka.

HEM:

Rainfall upto 14 mm observed over north Chhattisgarh, Jharkhand, West Bengal, east Arunachal Pradesh, Assam, Meghalaya, NMMT Kerala & Tamilnadu, Karnataka, Rayalaseema, Andhra Pradesh and East Telangana.

RADAR and RAPID RGB Observation:

Moderate isolated convection was seen in domain of DWR Agartala and Thiruvananthapuram at around 1600IST.

Light to moderate convection is seen over East Arunachal Pradesh, East Assam, Nagaland, Manipur, Mizoram, Tripura, Kerala and Central parts of Tamilnadu in RAPID RGB Satellite imagery at 1500IST.

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

Higher Dust concentration was observed over Arab countries and north- western part of India. Dust concentration is expected to decrease 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	17.03.2018	18.03.2018
PM10 (micro-g/m^3)	179	161
PM2.5 (micro-g/m^3)	96	87

2. NWP MODEL GUIDANCE:

NCMRWF (NCUM Forecasts based on 00 UTC of the day):-

1. Weather Systems:

Low level CYCIRs, Troughs:

12 UTC of Day 0-1: CYCIR over Arabian Sea- remnant of depression off Maharashtra coast

12 UTC of Day 2-5: 850 hPa Trough over Bangladesh and adjoining parts of NE India

12 UTC of Day 0-2: Trough at 850 hPa over East and NE India & adjoining Bangladesh

00 UTC of Day 0-1: Trough at 850 hPa over Central India

Confluence & wind Discontinuity regions:

12 UTC of Day 0-4: NE–SW wind discontinuity over central India extending from Maharashtra-MP-Chhattisgarh-Odisha to parts of Karnataka and Tamil Nadu

Synoptic Systems:

12 UTC of Day 0-3: Anticyclone at 925 hPa over Bay of Bengal leading to moisture incursion over Indian land.

2. Location of jet and jet core (>60kt) at 500hPa: over western Pakistan (Day-3) Western India (Day-4) associated with WD

3. Convergence at 850 hPa:

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

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, West MP, East MP, Madhya Maharashtra,

Day1: Arunachal Pradesh, Odisha, East MP,

Day2: Jharkhand, Odisha, West MP, East MP, Chhattisgarh,

Day3: NE NMMT, Jharkhand, West RJ, Odisha, West MP, East MP, Madhya Maharashtra, Coastal Andhra Pradesh, SI Karnataka,

Day4: West UP, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Coastal Andhra Pradesh, , SI Karnataka,

4. Spatial distribution of Low level Vorticity:

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

Day0: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Uttarakhand, Himachal Pradesh,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Himachal Pradesh,

Day2: Assam Meghalaya, NE NMMT, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Coastal Andhra Pradesh, ,

Day3: Bihar, Uttarakhand, Himachal Pradesh, Odisha, Coastal Andhra Pradesh, ,

Day4: Assam Meghalaya, Bihar, West UP, Uttarakhand, Punjab, Jammu Kashmir, Guj Reg,

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

Day/Index: Subdivisions with Showalter Index < -4

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,
Day1: NE NMMT, Coastal Karnataka, SI Karnataka,
Day2: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,
Day3: Arunachal Pradesh, Sub Himalayan WB, SI Karnataka, Kerala,
Day4: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, SI Karnataka, Kerala,

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

Day/Index: Subdivisions with K Index > 40

Day0: TN Puducherry, SI Karnataka, Kerala,
Day1: NE NMMT, Marathwada, Telangana, NI Karnataka, SI Karnataka,
Day2: Arunachal Pradesh, Sub Himalayan WB, Madhya Maharashtra, Coastal Karnataka, NI Karnataka,
Day3: Arunachal Pradesh, Sub Himalayan WB, Madhya Maharashtra, Coastal Karnataka, NI Karnataka, SI Karnataka,
Day4: Arunachal Pradesh, Sub Himalayan WB, Madhya Maharashtra, Chhattisgarh, Coastal Karnataka, NI Karnataka, SI Karnataka,

7. 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, Uttarakhand, Himachal Pradesh, Jammu Kashmir,
Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir,
Day2: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir,
Day3: Arunachal Pradesh, Sub Himalayan WB, Himachal Pradesh, Jammu Kashmir, West RJ,
Day4: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East MP,

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Arunachal Pradesh, Assam Meghalaya, TN Puducherry, SI Karnataka, Kerala,
Day2: Arunachal Pradesh, Assam Meghalaya, TN Puducherry, Kerala,
Day3: Himachal Pradesh, Jammu Kashmir,
Day4, Day5: NIL

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

1. Synoptic Systems: The analysis based on 00 UTC shows a cyclonic circulation is seen over West Rajasthan and adjoining west Madhya Pradesh. In forecasts, the cyclonic circulation weakens further with shift over Madhya Maharashtra in next 2 days. The cyclonic circulation over southeast Arabian Sea associated with the low pressure system now lies off Coastal Karnataka region which is dissipating in next 2 days. A north-south oriented trough extending from SHWB and adjoining areas to GWB persists for next 3 days.

2. Location of Jet and Jet Core (>60kt) at 500hPa: Although the presence of strong westerlies is found 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 associated with the cyclonic circulation and along the trough over parts of central India and along foothills of Himalayas during next 3 days.

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 parts of Gangetic West Bengal, coastal Orissa, coastal Karnataka and Konkan & Goa on day 1. The area extends over many parts of peninsular India including Interior Karnataka, Kerala and Tamilnadu during nest 2 days.

Lifted Index (< -2): The spatial coverage of the index exceeding threshold value is nearly similar to T-storm Initiation index.

Total Total Index (> 50) : Above threshold value over NW and central India on day 1 and day 2 which gradually shifts eastward over east India region on day 2 and 3. Parts of coastal Tamilnadu also show a prominent area on day 3.

Sweat Index (> 300): Parts of NE states for next 3 days. Along the east coast of India during next 2 days. Parts of Saurashtra and Kutch on day 1 and 2. Over southern parts of peninsular India and west coast on day 1 and 2.

CAPE (> 1000): Mostly along southern parts peninsular India and along west coast and east coast during next 2 days and along southern parts of west coast on day 3. Over coastal areas of GWB and Orissa during all 3 days.

CIN (50-150): Mostly along east coast over Coastal Andhra Pradesh, Orissa, GWB and over parts of north eastern states, parts of Konkan & Goa and coastal Karnataka during next 3 days.. Over parts of Jharkhand and adjoining Chhattisgarh on day 1.

5. Rainfall Activity:

40-70 mm rainfall: On day 1 over parts of Arunachal Pradesh and Interior Karnataka and adjoining Kerala, Tamilnadu and Rayalaseema.

10- 40 mm rainfall: On day 1, over parts of Arunachal Pradesh and NMMT, parts of Karnataka, Coastal Andhra Pradesh, Rayalaseema, Interior Tamilnadu and Kerala on day 2. Over parts of Kerala and adjoining Tamil Nadu on day 3.

Up to10 mm rainfall: On day 1, over parts of J&K parts of north eastern states, Orissa, Coastal Andhra Pradesh, Rayalaseema, and Konkan and Goa. On day 2 Coastal Karnataka, Tamilnadu and Kerala, Madhya Maharashtra, Marathwada. During all 3 days, coastal Karnataka, Kerala and adjoining Konkan and Goa and Tamilnadu.

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

1. Model Reflectivity (Max. dBz): > 25 dBZ Model Reflectivity: On day 1, over parts of interior Tamilnadu and Interior Karnataka and adjoining Kerala and costal Karnataka; parts of coastal Andhra Pradesh; over parts of Arunachal Pradesh and adjoining NNMT and west Assam. On day 2, over some parts of Marathwada and Madhya Maharashtra which lies over northern Madhya Maharashtra and adjoining Madhya Pradesh on day 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 peninsula, along east and west coast and north-eastern states during all three days.

K-Index (> 35): Less than threshold value is observed over the country during the next 3 days except over parts of NE states, Karnataka and adjoin Tamilnadu, Rayalaseema, coastal Andhra Pradesh and Orissa. From day 2 onwards it extends over some areas over Marathwada, Madhya Maharashtra and Telangana.

CAPE (> 1000): Greater than threshold value over the southern part of west coast, east coast, and parts of Kerala and coastal Karnataka and adjoining interior Karnataka during the next 3 days. Over Tripura and adjoining NE states on day 1.

CIN (50-150): Mostly in East India over GWB, Jharkhand and adjoining Bihar, Chhattisgarh during next 3 days. Over Konkan & Goa, coastal Maharashtra and Karnataka on day 2 and 3.

3. Rainfall and thunderstorm activity:

Rainfall 70 -130 mm: over parts of interior Tamilnadu on day 1.

Rainfall 40-70 mm: over parts of Arunachal Pradesh and interior Tamilnadu on day 1 and Andhra Pradesh Rayalaseema and Kerala during all three days.

Rainfall 10-40 mm: Over parts of Arunachal Pradesh and NNMT, Interior Tamilnadu, south Interior Karnataka, Kerala and adjoining Rayalaseema on day 1. Over parts of Kerala on day 2 and 3.

Rainfall up to 10 mm: over north eastern states, GWB, Orissa, coastal Andhra Pradesh and rest of Karnataka and Tamilnadu, parts of Rayalaseema on day 1. Over parts of Orissa on day 2; North interior and coastal Karnataka on day 2 and 3. Over Madhya Maharashtra and adjoining Madhya Pradesh Vidarbha on day 3.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

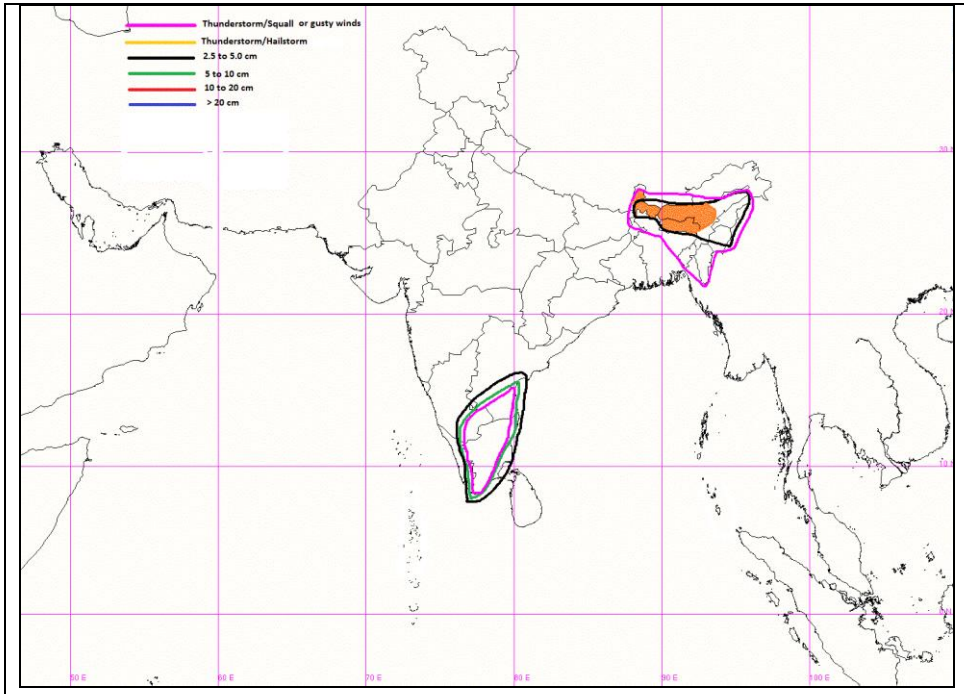
o A region of strong winds are developing over Bihar and adjoining Eastern Uttar Pradesh. These winds are decelerating over Sub Himalayan West Bengal and Assam, leading to wind convergence over the region. This is also supported by the left exit sector jet core in the upper levels over this region. The anti-cyclone over the Bay region is also in a southward location and this is pumping some moisture into Assam and Meghalaya region. This is likely to result in thunderstorms with isolated hailstorms over Sub Himalayan West Bengal and Assam and thunderstorms with less intensity over Arunachal Pradesh, Nagaland and Manipur. On day 2, the wind convergence is decreasing and severe weather is unlikely over the north-east India.

o A region of wind maximum in the lower levels is also developing over central Bay of Bengal on the southern periphery of the anticyclone over Bay of Bengal. These winds are decelerating as they approach the east coast of India. There is also a cyclonic circulation extending upto 1.5 km above mean sea level over east central Arabian sea off Karnataka coast. Associated weather in the form of heavy rains and thunderstorms are likely to affect the entire southern peninsula on day 1. On day 2, the cyclonic circulation is likely to move slightly northwestwards, However, the region of wind convergence is moving westwards, and coming closer and then into the east coast of India. Hence rainfall and thunderstorm weather is not likely to cease completely. It will continue, with less intensity over south-western peninsular India.

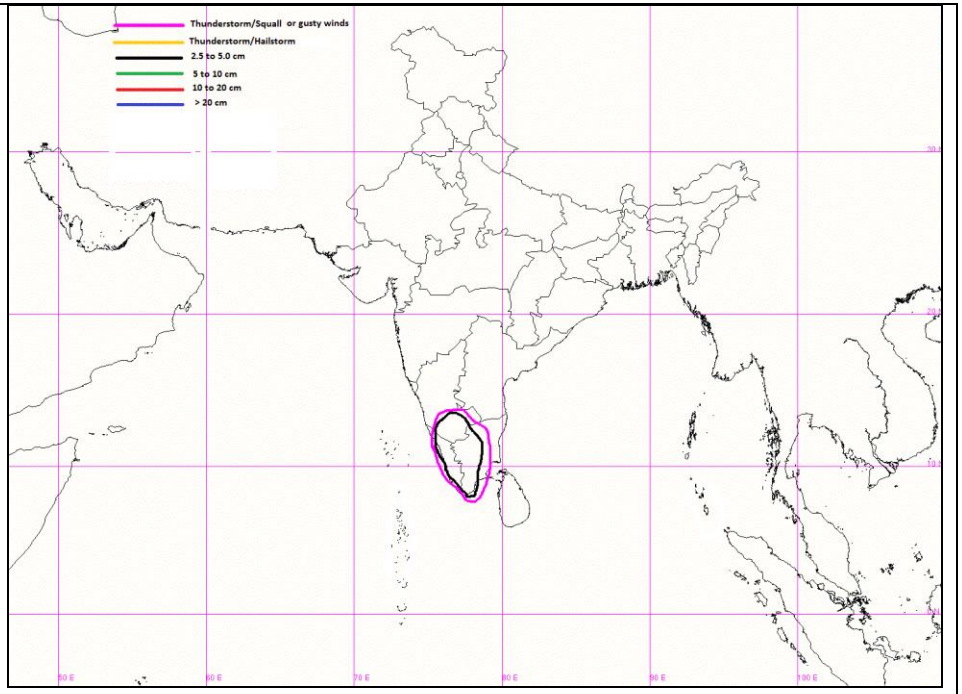
Day-1 & Day-2:

24 hour Advisory for IOP:	**48 hour Advisory for IOP:**
Rainfall: South Interior Karnataka, South Coastal Andhra Pradesh, Interior Tamil Nadu, Rayalaseema, Kerala, Sub Himalayan West Bengal and Sikkim, Assam and Meghalaya, Nagaland, Manipur **Thunderstorm with associated phenomenon:** South Interior Karnataka, South Coastal Andhra Pradesh, Tamil Nadu, Rayalaseema, Kerala, Sub Himalayan West Bengal and Sikkim, Odisha, Assam and Meghalaya, Nagaland, Manipur, Mizoram, Tripura	**Rainfall:** South Interior Karnataka, Kerala **Thunderstorm with associated phenomenon:** South Interior Karnataka, Kerala, Interior Tami Nadu

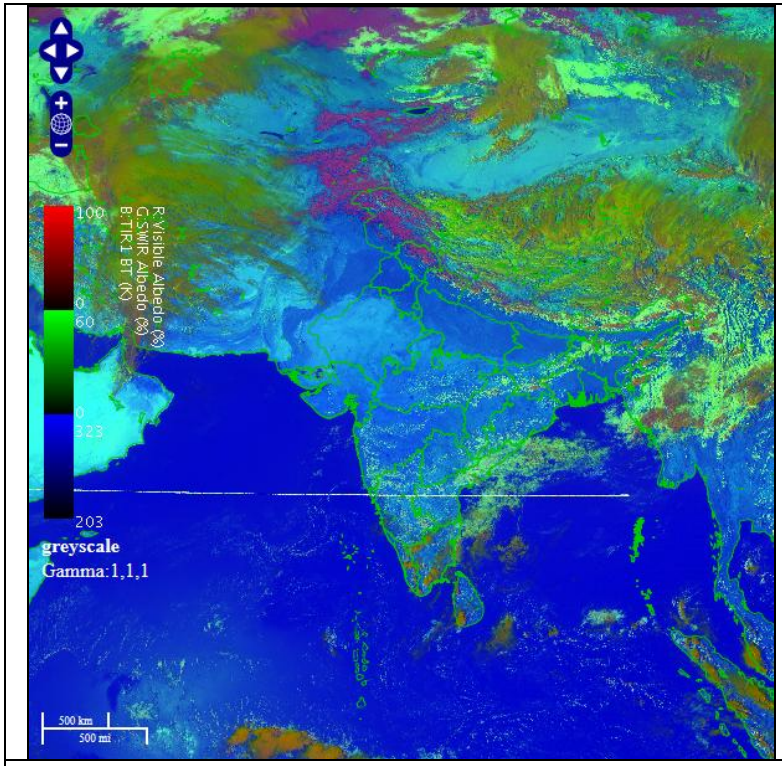
Graphical Presentation of Potential Areas for Severe Weather:



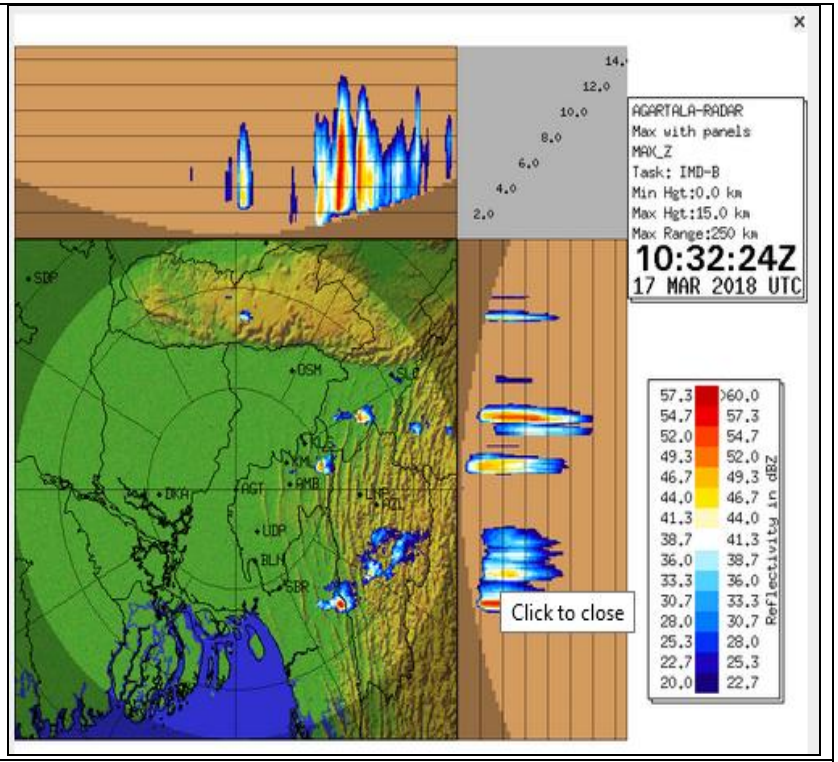
IOP Advisory for 24 hours



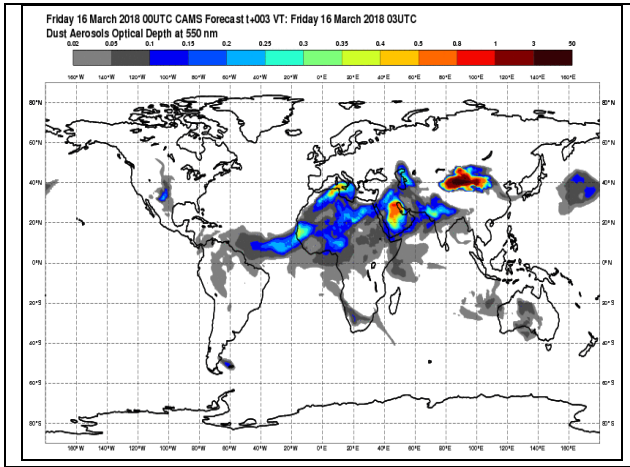
IOP Advisory for 48 hours



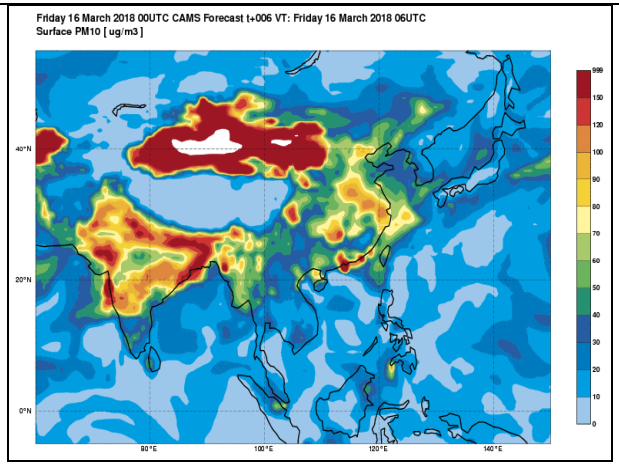
RAPID RGB Imagery at 1500IST of the Day



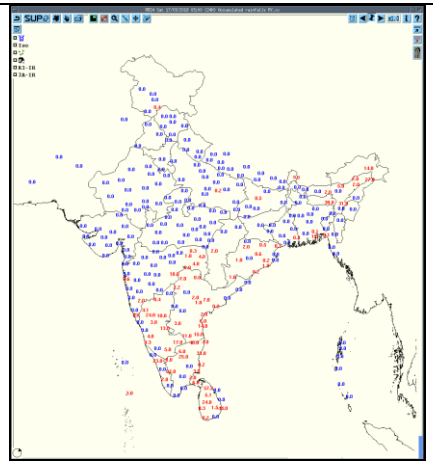
DWR Agartala at 1602IST of the Day



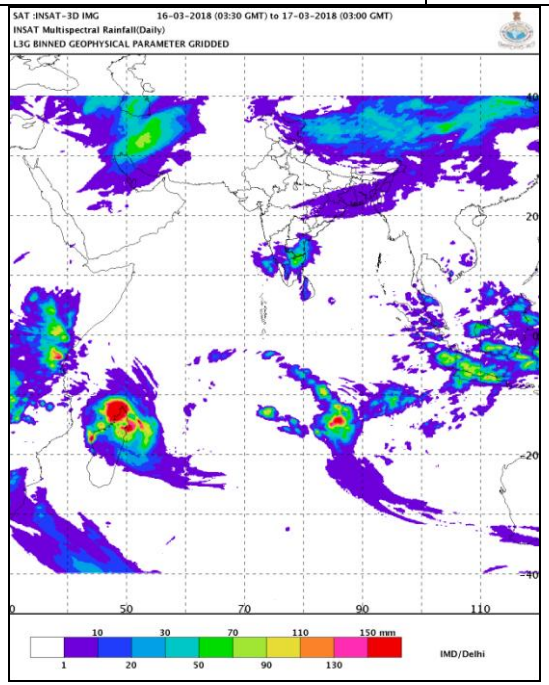
Forecast Dust Concentration



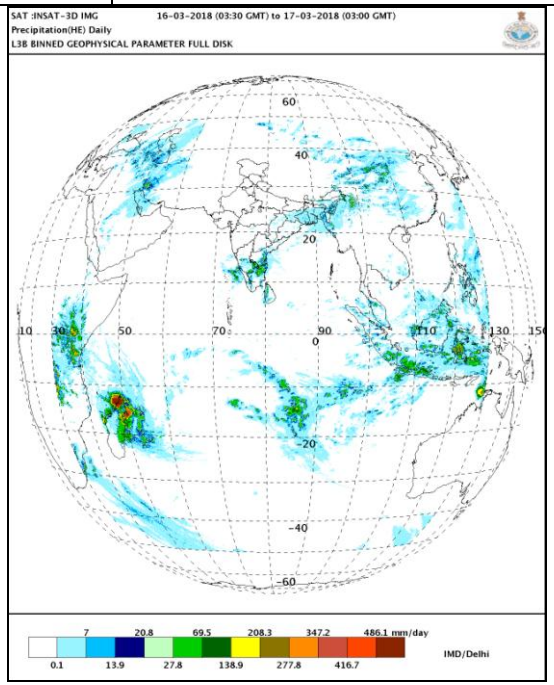
PM10 Forecast



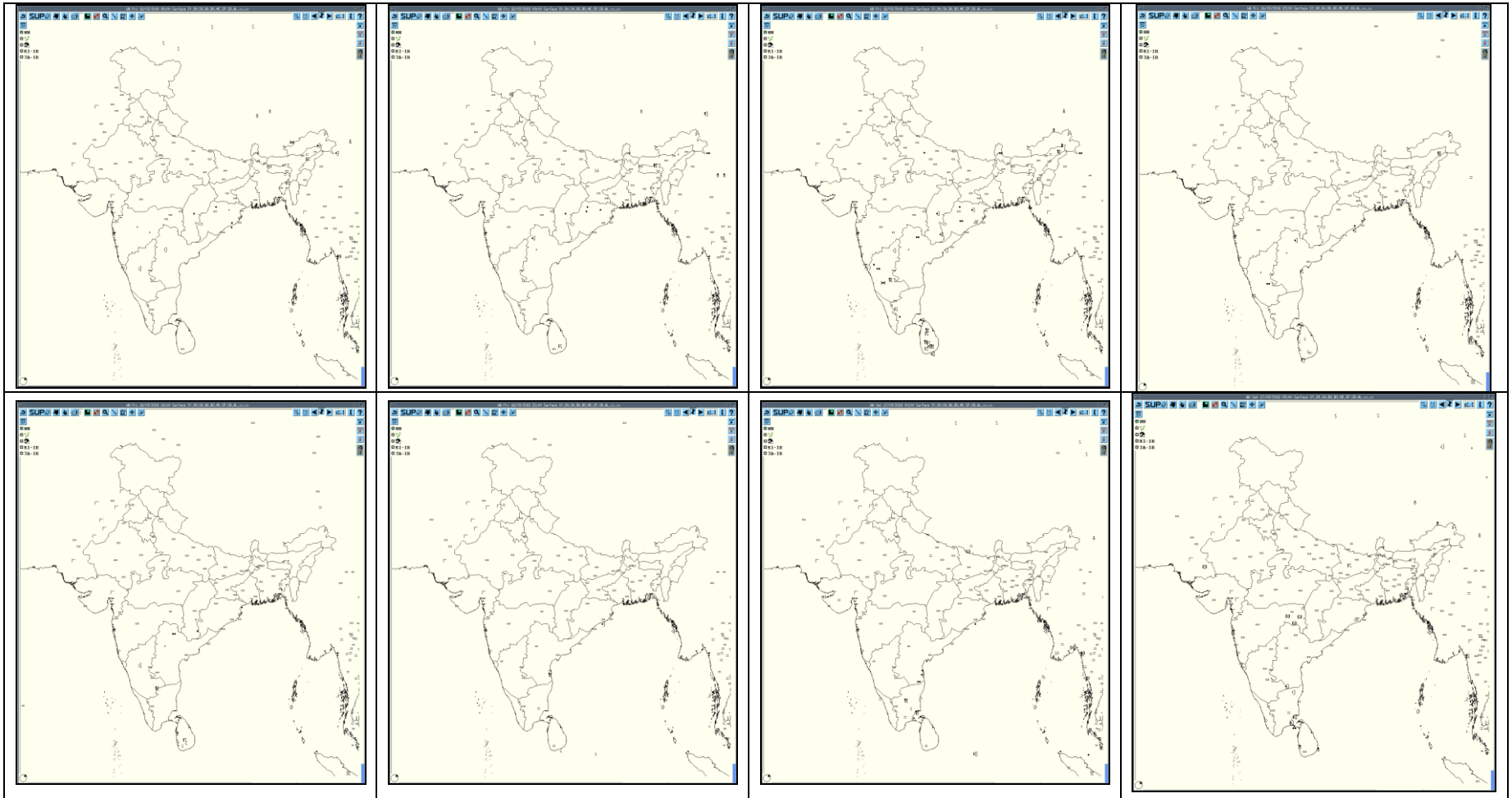
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



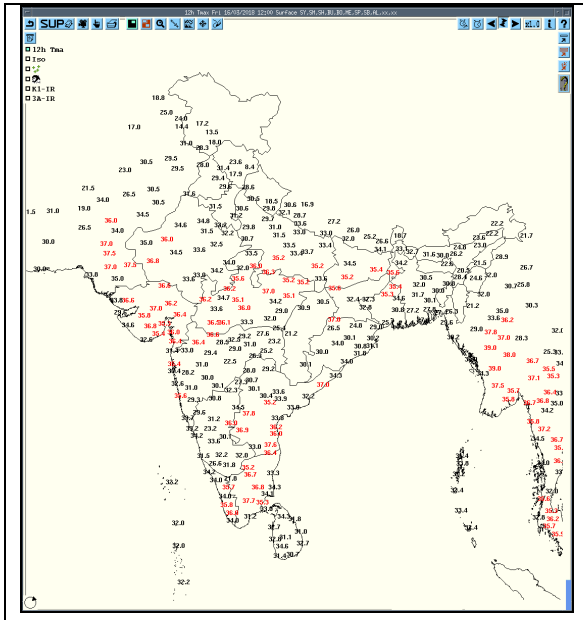
IMR



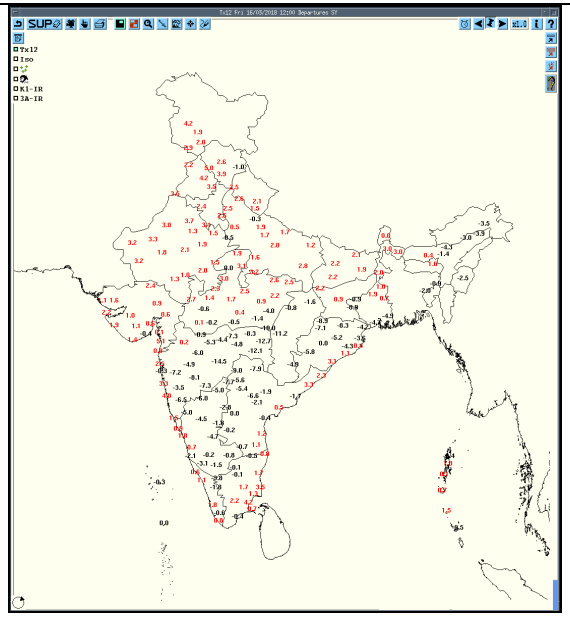
HEM



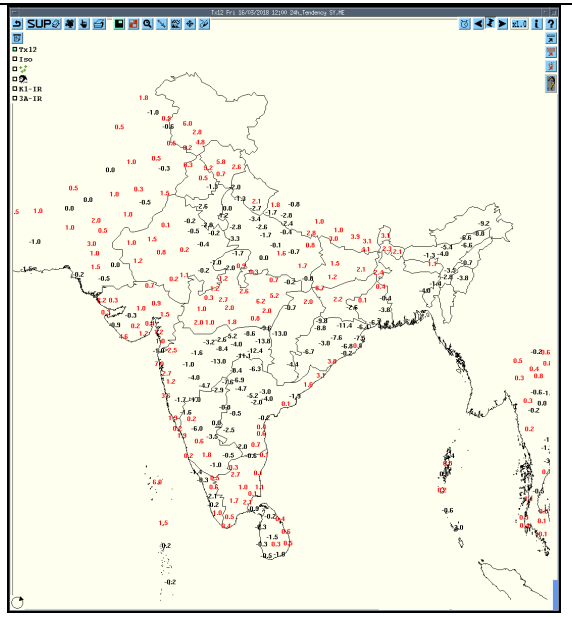
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



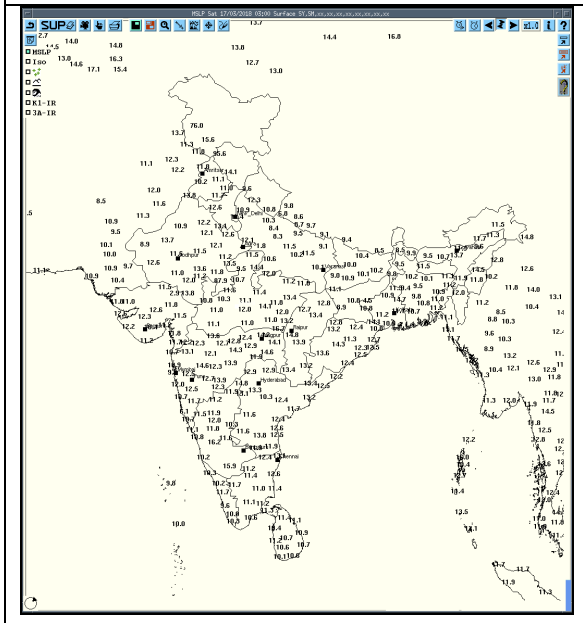
Tmax



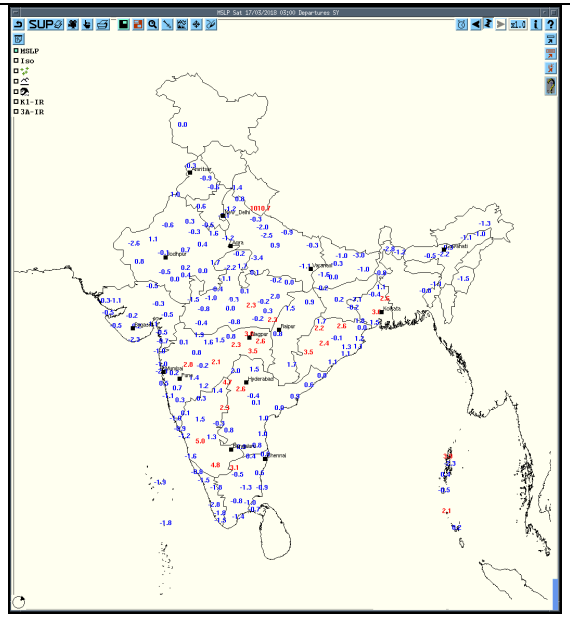
Departure Tmax



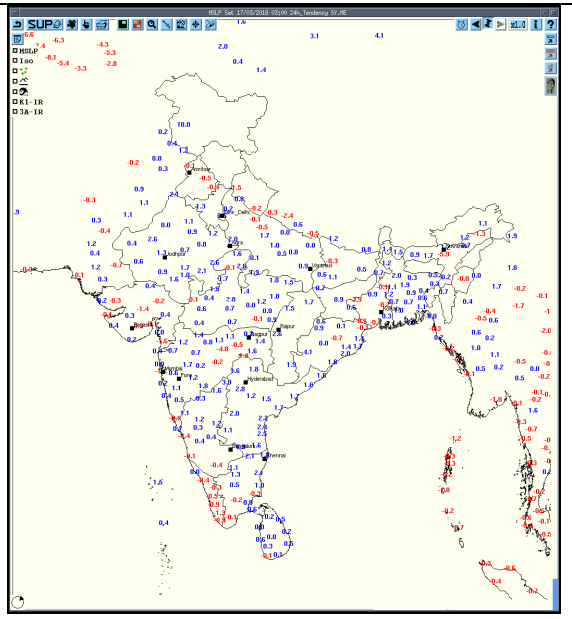
Tendency Tmax



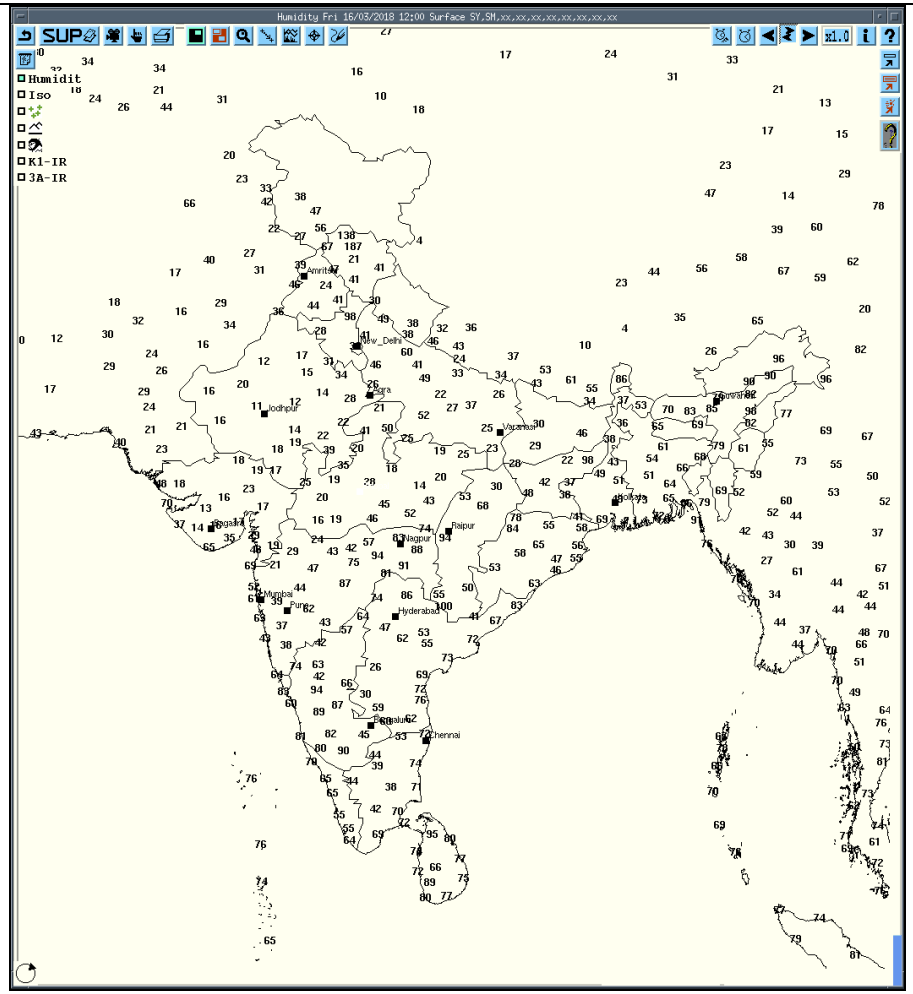
MSLP



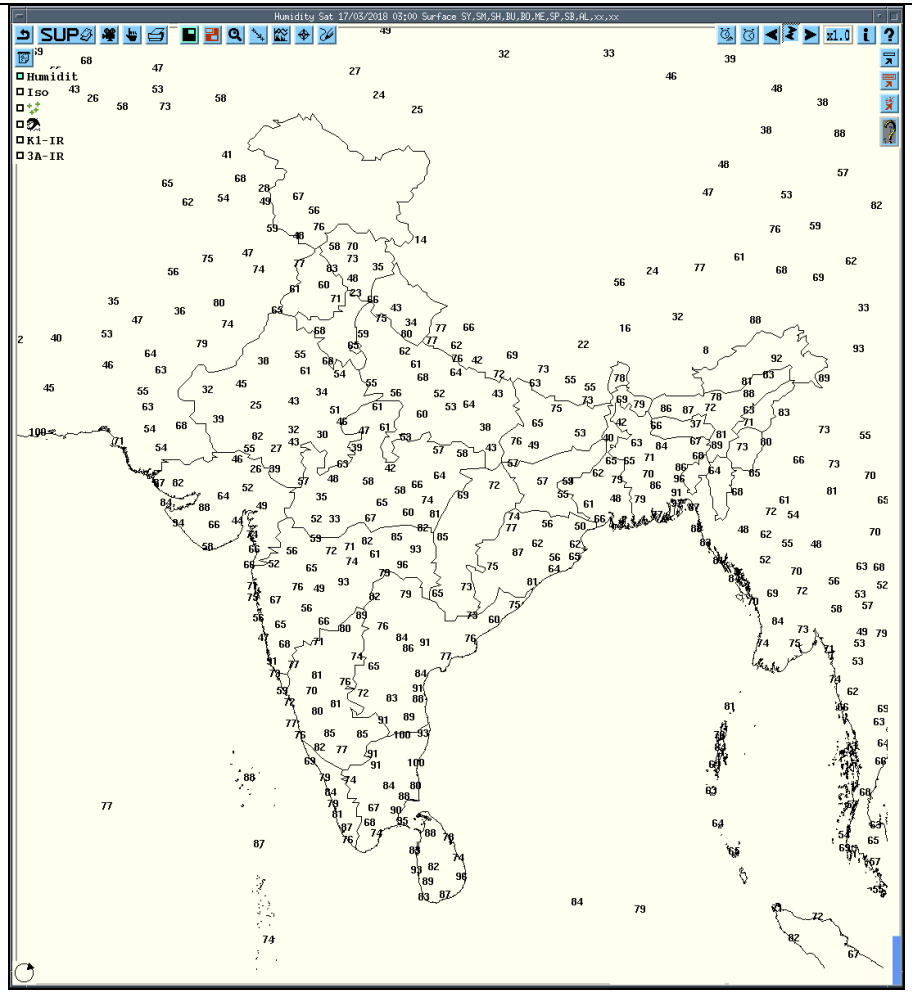
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

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
Agartala	17-03-18	160300-170300	DSPTNG ISLTD SINGLE,50Dbz,10 kms	220 Kms NE near SLC/30 Kmph E'ly	Dissipated at 160330 UTC	Not known.	Not Known.
			ISLTD SINGLE CELL,47 dBZ,10 Kms(seen @160512 UTC)	100 Kms NE(near KLS)/30 Kmph, E'ly	South ASSAM/North MIZORAM at 160800UTC	Not known.	Not Known.
			SQL LINE formation,57 dBZ,12 Kms(seen @ 160830 UTC)	110 Kms NNE/NE near DHARMANAGAR/35-40 Kmph, NE'ly	South ASSAM near HAILAKANDI @161200 UTC.	Not known.	Not Known.
			ISLTD SINGLE CELL,60 dBZ,12 Kms seen @ 161300 UTC	160 Kms NE(near HAILAKANDI,ASSAM)/30 Kmph, NE'ly	South Assam (near SLC) @161330 UTC	Not known.	Not Known.
			ISLTD SINGLE CELL,40 dBZ,10 Kms seen @ 170042 UTC	225 Kms NE/over MEGHALAYA-ASSAM Hills/30 Kmph, NE'ly	South ASSAM near HAFLONG @170112 UTC	Not known.	Not Known.
Patna	17-03-18	160300-170100	NIL	NIL	N/A	N/A	N/A
		170100-170300	Multiple Cell. Maximum Reflectivity : 35.0 dBZ Echo Top : 7.2 KM	Range : 20.7 KM from DWR Patna in North-West Movement West to East	NIL	Thunderstorm with Rain	Patna, Chhapra, Bhojpur, Vaishali, Samastipur
Lucknow	17-03-18	161352 UTC TO 161422 UTC	Single cell with average height of 6.0KM with Maximum Reflectivity of 40 dBZ.	WSW(110KM) moving in E'ly Direction at speed of 36 km/hr.	Single cell started forming at 13:42 UTC at WSW(120KM) moved in E'ly direction ,did not intensified much and dissipated at 14:22 UTC.	NIL	NIL
		161432UTC TO 161602UTC	Single cell with average height of 5.8KM with Maximum Reflectivity of 44 dBZ.	SW(50KM) moving in E'ly Direction at speed of 36 km/hr.	Single cell started forming at 14:32 UTC at SW(60KM) moved in E'ly direction and dissipated at 15:12 UTC.A second cell formed with this dissipated cell and intensified at 15:32 UTC with average height of 5.0KM and dissipated at 16:02 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
Visakhapatnam	16-03-18	0300-0600	Isolated single cells of maximum reflectivity of 35dBz with height of 6kms	SE(160 KMS) moving NE	Likely to be dissipated	NIL	NIL
		0900-1200	Isolated single cells of maximum reflectivity of 51dBz with height of 8kms	NNE(114 KMS) moving Ely	Likely to be dissipated	NIL	NIL
		1200 -1500	Conviction region NE ly with max reflectivity 44dbz and height 7kms at a distance of 166kms.	Moving NE ly	dissipating	NIL	NIL
		1500-1800	Conviction region and CB NE ly with max reflectivity 52dbz and height 7kms at a distance of 175kms.	Moving ENE ly	dissipating	NIL	NIL
		1800-0000	Conviction region NNE ly with max reflectivity 41dbz and height 6 kms at a distance of 194kms.	Moving NE ly	dissipating	NIL	NIL
	17-03-18	0000-0300	Conviction region NE and SSW with max reflectivity 44dbz and height 7 kms at a distance of 205kms.	Moving E ly	dissipating	NIL	NIL
Kolkata	16-03-18	0301 – 0311	NIL	NIL	NOSIG ECHO	NIL	NIL
		0321 - 0641	Multi celled system with maximum height of 7.5 km at 0341 UTC and maximum reflectivity 49.0 dBz at 0412 UTC	WSW/148 km to SSW/73 km moving ENE-ly direction at a speed of 30.0 kmph.	Multi celled system developed in between WSW/148 km to SSW/73 km. Not matured dissipated at 0641 UTC in E at a distance of 148 km from RADAR	Thunderstorm/rain	N/A
		0641 - 2351	NIL	NIL	NOSIG ECHO	NIL	NIL
	17-03-18	0001 - 0301	NIL	NIL	NOSIG ECHO	NIL	NIL
Jaipur	17-03-18	16/0302-16/0702	Multiple cell with average height 4.5 km and maximum reflectivity 36.0 dBZ	Multiple cell develop from 0302 UTC of 16/03/2018 in W, NW,N, SE AND SW, Jaipur and moved E, NE wards at speed 10-15 km/hr	Cell starts forming from 16.03.2018 in W, NW,N,SE AND SW of Jaipur and reaches maximum reflectivity during 0332-0352 UTC of 16/03/2018 and died down around at 0702 UTC.	Thunderstorm/rain at Isolated places	Alwar, Sikar, Jaipur, Tonk, and Dausa district
Jaipur	17-03-18	16/03/2018 0900- 1200	ISOLATED	In North Direction Moving Towards Ne Direction			

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)**
Itanagar	Northeast India	Arunachal Pradesh	Thunderstorm	16-03-18	2115	2130
Jorhat	Northeast India	Assam	Thunderstorm	16-03-18	1120	1240
Tezpur	Northeast India	Assam	Thunderstorm	16-03-18	1930 2230	2100 2315
Dibrugarh	Northeast India	Assam	Thunderstorm	16-03-18	1010 1335 1440	1120 1345 1550
Silchar	Northeast India	Assam	Thunderstorm	16-03-18	1615	1930
N/Lakhimpur	Northeast India	Assam	Thunderstorm	16-03-18	1955 2030	2030 2215
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	16-03-18	1930	Continue
Kailasahar	Northeast India	Tripura	Thunderstorm	16-03-18	1050	1140
Diamond Harbour	East India	GWB	Lightening	16-03-18	1020	1030
Patna	East India	Bihar	Thunderstorm	17-03-18	0650	0830
Chitradurga	South India	Karnataka (SIK)	Thunderstorm	16-03-17	1645	1910
Bengaluru City	South India	Karnataka (SIK)	Thunderstorm	16-03-17	1845 2250	1945 0040
Bengaluru HAL AP	South India	Karnataka (SIK)	Thunderstorm	16-03-17	1300	1550
Bengaluru KIAL AP	South India	Karnataka (SIK)	Thunderstorm	16-03-17	1324	1540
Yelahanka IAF	South India	Karnataka (SIK)	Thunderstorm	16-03-17	1810	2200
Chamarajanagar	South India	Karnataka (SIK)	Thunderstorm	16-03-17	1507	1700
Pamban	South India	Tamilnadu	Thunderstorm	17-03-17	0720	0745
Salem	South India	Tamilnadu	Thunderstorm	17-03-17	0510	0535
Vellore	South India	Tamilnadu	Thunderstorm	16/17-03-17	2330	0500
Coimbatore	South India	Tamilnadu	Thunderstorm	16-03-17	1700	1830
Puducherry	South India	Tamilnadu	Thunderstorm	17-03-17	0445	0700

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
ForRadarimagesofthepast24hoursincludingmosaicofimages:
http://ddgmui.imd.gov.in/dwr_img/
Satellite sounder based T- Phigram
http://satellite.imd.gov.in/mAndhra_Pradesh_skm2.html

WEATHER SYMBOLS: