



India Meteorological Department

FDP STORM Bulletin No. 20 (26-03-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

- ♦ A fresh Western Disturbance as a trough in midtropospheric westerlies runs roughly along 71°E to the north of Lat.35°N.
- ♦ The core of subtropical westerly Jet stream passes between Lat. 25°N and 28°N at 9.5 km above mean sea level over the Indian region.
- ♦ A trough in westerlies upto 1.5 Km above mean sea level runs from SubHimalayan West Bengal to interior Odisha across Gangetic West Bengal.
- ♦ The cyclonic circulation over southeast Arabian Sea off Kerala Karnataka coasts extending upto 0.9 km above mean sea level now lies over Coastal Karnataka and neighbourhood.
- ♦ The cyclonic circulation over Comorin area and neighbourhood upto 0.9 km above mean sea level persists.

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 South Caspian Sea & East Iran, North Afghanistan adjoining North Pakistan over the area between lat 37.0°N to 47.0°N, long 60.0°E to 100.0°E in association with WD over the area.

Westerly Trough:

Trough in westerly is seen roughly along long 72.0°E and north of lat 33.0°N.

Westerly Jet Stream runs over Indian Region between Lat 22.0N to 28.0N.

Clouds description within India:

Scattered low/medium clouds were seen over Jammu & Kashmir, north Himachal Pradesh, North Uttarakhand, Chhattisgarh, Odisha, Northeast states, Telangana, Coastal Andhra Pradesh, South Interior Karnataka and Nicobar Islands. Scattered low/medium clouds with embedded weak to moderate convection seen over Kerala, Tamilnadu and Andaman Islands. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Sikkim, Arunachal Pradesh, Meghalaya and South Gujarat. Scattered High/medium were seen over North Madhya Maharashtra adjoining West Vidarbha and Southwest Madhya Pradesh.

Arabian Sea:

Scattered low/medium clouds with embedded isolated weak to moderate convection seen over west central Arabian Sea and over Northeast Arabian Sea off South Gujarat coast and Gulf of Cambay.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Bay Lat 8.0°N to 14.0°N Palk Strait and Srilanka.

Past Weather:

Convection (during last 24 hrs):

Moderate to intense convection was observed over J & K North Himachal Pradesh North Uttarakhand Odisha GWB adjoining NE states, south Gujarat, Tamilnadu, Kerala and North Andhra Pradesh.

OLR:-

Upto 370 Wm^{-2} Gujarat

Upto 230 Wm^{-2} was observed over North J & K, North Himachal Pradesh, North Uttarakhand, Sikkim, Arunachal Pradesh, Nagaland, Manipur, Meghalaya, Assam, Maharashtra, Kerala, North Andhra Pradesh and East Tamilnadu. .

Synoptic features:

Trough in westerly runs roughly along long 72.0°E to north of lat 35.0°N and westerly jet stream roughly along lat 22.0°N to 28.0°N .

Dynamic Features:

Negative shear tendency is observed over J&K Himachal Pradesh Uttarakhand Punjab Kerala Tamilnadu and Gujarat positive over rest India.

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

Negative low level convergence is observed over Maharashtra Madhya Pradesh and Positive Low Level Convergence over rest parts of India.

Precipitation:

IMR:

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

Rainfall upto 01-10 mm observed over rest parts of J&K rest GWB North Uttarakhand some parts of south Odisha north Arunachal Pradesh.

HEM:

Rainfall upto 7mm observed over some parts of GWB South Odisha Arunachal Pradesh.

RADAR and RAPID RGB Observation:

Isolated/Multiple moderate echoes (dBZ 45-50 and height 8-10km) were seen on DWR Kolkata, Agartala and Cherrapunjee domains at around 1600 IST.

RAPID RGB Satellite imagery at 1530IST indicates convective clouds over Tripura and adjoining Bangladesh.

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

Higher Dust concentration was observed over Arab countries .Dust concentration is expected to increase over north-western part of India. PM10 concentration is expected to increase in next two days.

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

Delhi – SAFAR analysis & Forecast	26.03.2018	27.03.2018
PM10 (micro-g/m ³)	161	177
PM2.5 (micro-g/m ³)	66	72

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 trough over Maharashtra coast, at 850 hPa over WB and Bangladesh from Day-0 to Day-3

00 UTC of Day 3-4: 850 hPa NE-SW feeble trough over peninsula

Confluence & Wind Discontinuity Regions:

12 UTC of Day 1-3: at 850 hPa S-N wind discontinuity over interior peninsula

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 except in Day 0 Bangladesh when jet core is strong (>60kt).

3. Convergence at 850 hPa:

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

Day0: Arunachal Pradesh, Odisha, Madhya Maharashtra, Coastal AP, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Odisha, Madhya Maharashtra, Coastal AP, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala,

Day2: Jharkhand, Odisha, East MP, Madhya Maharashtra, Chhattisgarh, Coastal AP, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala,

Day3: Jharkhand, Odisha, East MP, Chhattisgarh, Tamilnadu, Puducherry, Kerala,

Day4: Arunachal Pradesh, NE NMMT, Gangetic WB, Jharkhand, Odisha, Coastal AP, Telangana, Rayalaseema, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala,.

4. Low level Vorticity:-Positive Vorticity:

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

Day0:runachal Pradesh, Assam Meghalaya, Gangetic WB, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, Odisha, SI Karnataka,

Day1: Assam Meghalaya, Uttarakhand, Himachal Pradesh, Coastal AP,

Day2: E NMMT, Bihar, Uttarakhand, Punjab, Himachal Pradesh, Odisha, Coastal AP,

Day3:Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Himachal Pradesh, Odisha, Saurashtra Kutch, Coastal AP, Tamilnadu, Puducherry,

Day4: Assam Meghalaya, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Odisha, Coastal AP, Tamilnadu, Puducherry.

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

Day/Index: Subdivisions with Showalter Index < -4

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Konkan Goa, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Himachal Pradesh, Konkan Goa, Madhya Maharashtra, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Jammu Kashmir, Madhya Maharashtra, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Odisha, Tamilnadu, Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

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

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

Day/Index: Subdivisions with K Index > 40

Day0: Arunachal Pradesh, Coastal AP, Kerala,

Day1: Arunachal Pradesh, Sub Himalayan WB, SI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Uttarakhand, Tamilnadu, Puducherry, SI Karnataka,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Tamilnadu, Puducherry, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar, Telangana, Rayalseema, Tamilnadu, Puducherry, SI Karnataka, Kerala

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, Himachal Pradesh, Konkan Goa,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Madhya Maharashtra, NI Karnataka,

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

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha,

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

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Arunachal Pradesh, Assam Meghalaya,

Day2: Assam Meghalaya,

Day3: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Uttarakhand,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar,

Day5: --

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 it will persist for next two days. Another cyclonic circulation over Konkan and Goa and coastal Karnataka region persist for next 24 hrs and subsequently moves eastward in 48 hrs forecast. One more cyclonic circulation at 850 hPa over Assam, Meghalaya and adjoining areas will persist for next 3 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 Himachal up to north eastern states on all 3 days, also found in the vicinity of cyclonic circulation and along the trough which is more pronounced over south peninsular India on all 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 coastal areas of Gangetic West Bengal, Orissa, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Karnataka, Tamil Nadu, 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 Jharkhand, Chhattisgarh and East Vidarbha on day 1; Over parts of Gujarat, Saurashtra, and Bihar on day 2 and 3; over some parts of Jharkhand and Chhattisgarh on day 3; Maximum value of the index is seen over southern part of west coast, coastal areas of east coast, GWB, coastal Orissa, coastal Andhra Pradesh during all 3 days; over some parts of Telangana, Karnataka and adjoining area on day 2 and 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, Assam, Tripura and adjoining area on all 3 days; over some parts of Bihar and south central Maharashtra and adjoining area on day 2; over some parts of Gujarat, Jharkhand, Telangana on day 3; maximum negative value of the index can be seen over coastal area along east coast and southern part of west coast, GWB, Orissa, Kerala, Andhra Pradesh, Kerala and Tamil Nadu on day 1; on day 2 and 3 over coastal Kerala, Karnataka, Konkan and Goa; on day 3 over some parts of GWB, Tripura and adjoining area.

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, Costal Maharashtra, Karnataka, Bihar and Jharkhand during all three days; Maximum value of the index is seen over GWB and Kolkata and adjoining areas on day three.

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 and some parts of Gujarat during all 3 days. Maximum value can be seen on day 1 and 2; over coastal areas along the east coast from day 2 onwards; over coastal Orissa, coastal Andhra Pradesh, GWB, 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 Telangana and adjoining Andhra Pradesh region from day 2 onwards; over parts of Orissa and northern parts of coastal Maharashtra including Mumbai and Karnataka on day 3.

5. Rainfall Activity:

10- 40 mm rainfall: over parts of Arunachal Pradesh, Assam, Tripura and adjoining area, coastal Tamil Nadu on day 1.

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 GWB on day 1; over parts of Himachal Pradesh, Uttarakhand, coastal Andhra Pradesh and Orissa 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.

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 North Madhya Pradesh region on day 2 and 3; over some parts of J&K, Himachal Pradesh, Punjab, Haryana, Rajasthan, Madhya Pradesh, Chhattisgarh, Vidarbha and Karnataka 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 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 and Extreme south peninsular India during all 3 days; over Parts of Gujarat on day 2 and 3; Maximum value greater than 3000 is seen over the parts of Orissa and its coastal areas, coastal Andhra Pradesh on day 2 and 3; over coastal areas of southern part of west coast, Konkan and Goa and Karnataka region during 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 during all 3 days; over Andhra Pradesh and adjoining Telangana, south Karnataka and adjoining Maharashtra region from day 2 onwards; over Parts of Punjab, Madhya Maharashtra, south interior Karnataka Orissa and Andhra Pradesh and Bihar region on day 3.

3. Rainfall and thunderstorm activity:

40-70 mm Rainfall: over some parts of Arunachal Pradesh and Tamil Nadu on day 1.

10- 40 mm Rainfall: Over parts of Kerala, Tamil Nadu during all 3 days; over NE states on day 1 and 2; over parts of J&K on day 2 and 3; over some parts of south interior Karnataka on day 3

Up to 10 mm Rainfall: Over parts of Kerala, Tamil Nadu, Karnataka, GWB and NE states on all 3 days; Over parts of J&K, Karnataka and Konkan and Goa on day 2 and 3; over some parts of Orissa and Andhra Pradesh on day 1 and 3; over some parts of Uttarakhand on day 3.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

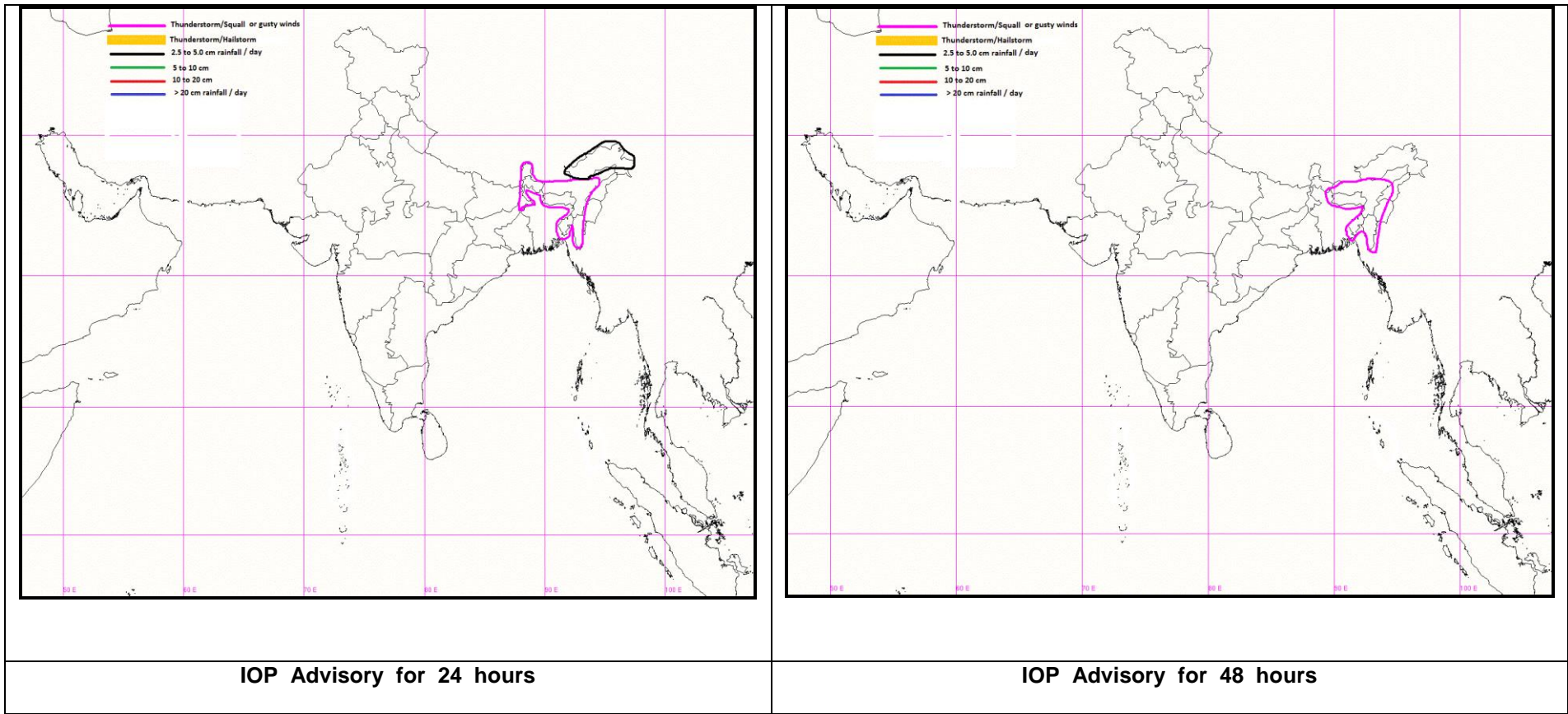
Day-1 & Day-2:

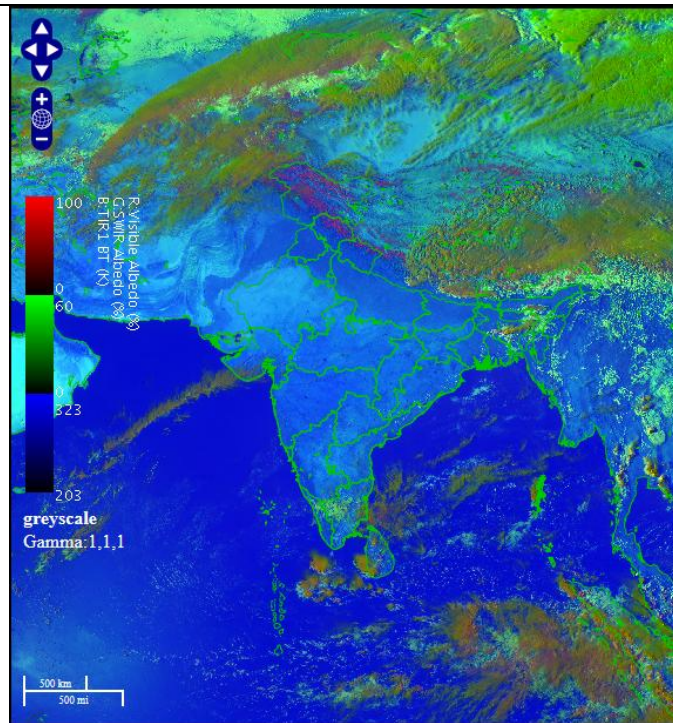
o In association with the fresh north-south trough in westerlies in the lower levels, extending from Sub-Himalayan West Bengal to interior Odisha across Gangetic West Bengal, and the northward position of the anticyclone over the Bay of Bengal, moisture is being pumped into Bangladesh and adjoining Northeast India. Hence, weather in the form of thunderstorms is expected over Sub-Himalayan West Bengal, Sikkim and Northeast India due to confluence to the east of the trough. However, there is not much upper level support from the jet core maxima over the region. On day 2, ECMWF and IMD GFS deterministic models indicate that the trough is moving eastwards. Correspondingly, the thunderstorm belt is also likely to shift eastwards to affect only North-eastern states.

o Over south India, the models indicate a north-south trough in the easterlies along the southeast peninsular coast, in which are embedded, the two cyclonic circulations (1) over Coastal Karnataka and neighbourhood and (2) The cyclonic circulation over Comorin area and neighbourhood. This is likely to pump in moisture into south peninsular India on day 1. On day 2, the rainfall is likely to decrease due to the change in the orientation of the trough and be confined to Kerala coast.

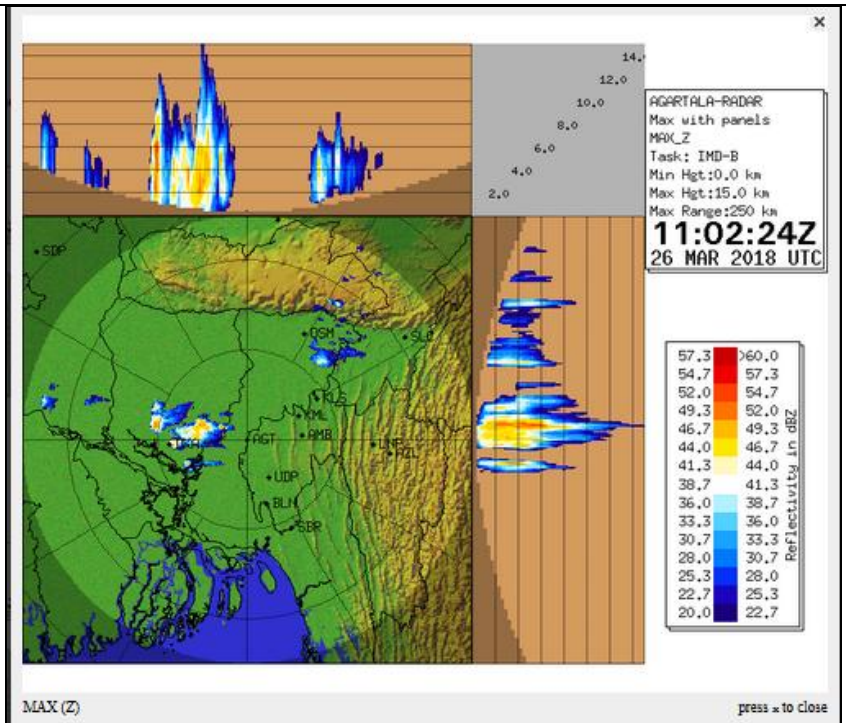
24 hour Advisory for IOP: Rainfall: Significant Rainfall over Arunachal Pradesh Thunderstorm with associated phenomenon: Sub Himalayan West Bengal, Sikkim, Assam and Meghalaya, Mizoram and Tripura.	48 hour Advisory for IOP: Rainfall: Nil Thunderstorm with associated phenomenon: Assam and Meghalaya, Mizoram and Tripura
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Graphical Presentation of Potential Areas for Severe Weather:

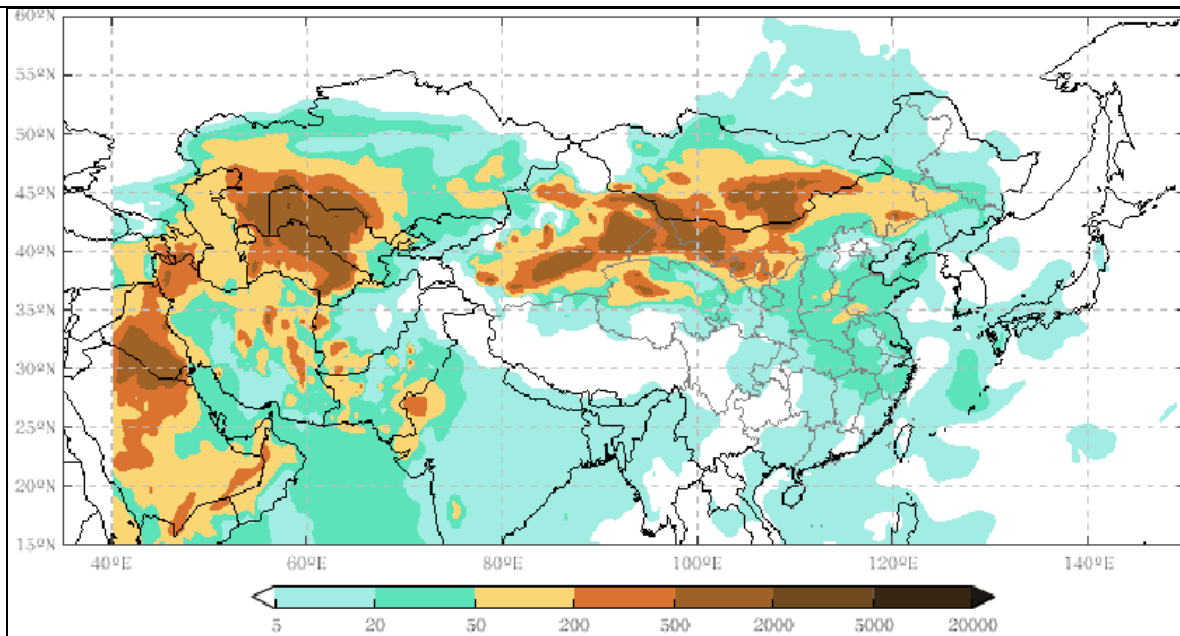




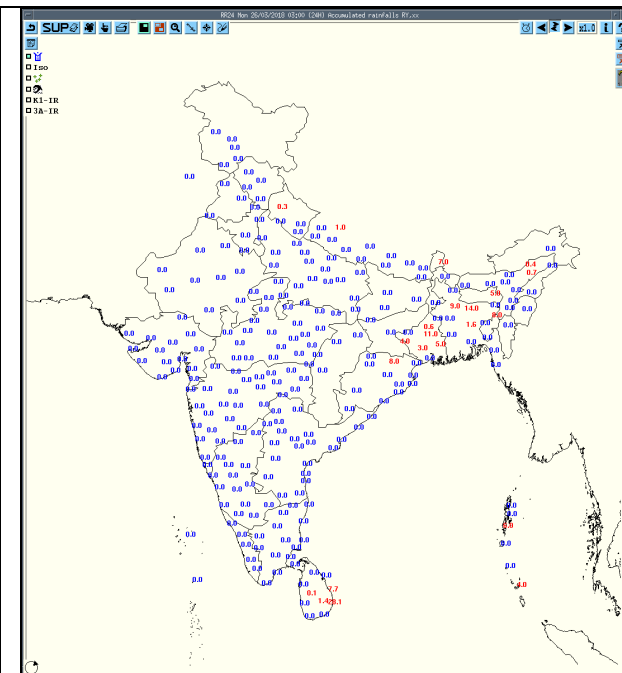
RAPID RGB Imagery at 1530 IST of the Day



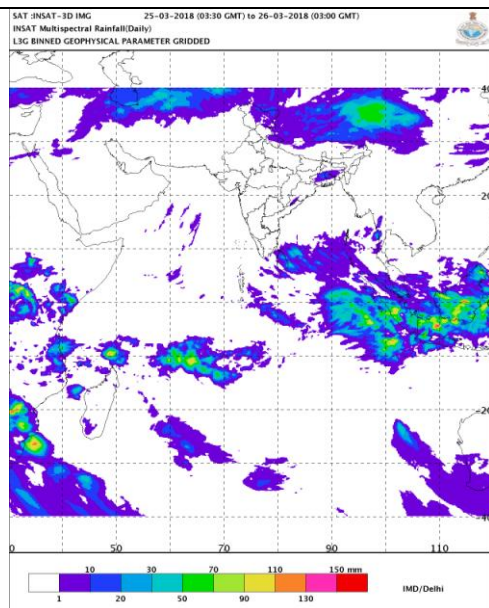
DWR Agartala at 1632 IST of the Day



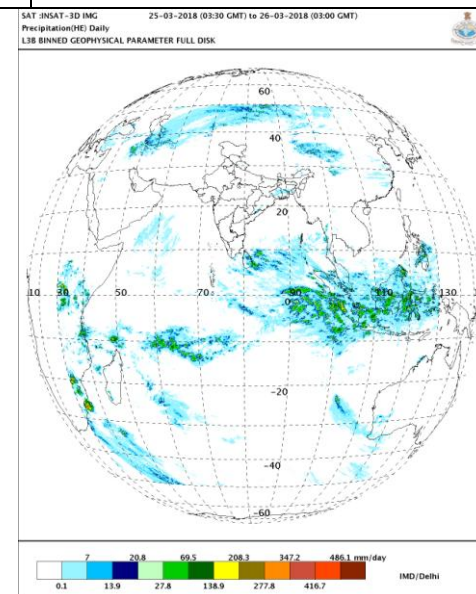
Environmental condition (dust etc) and its forecast based on 00UTC of date



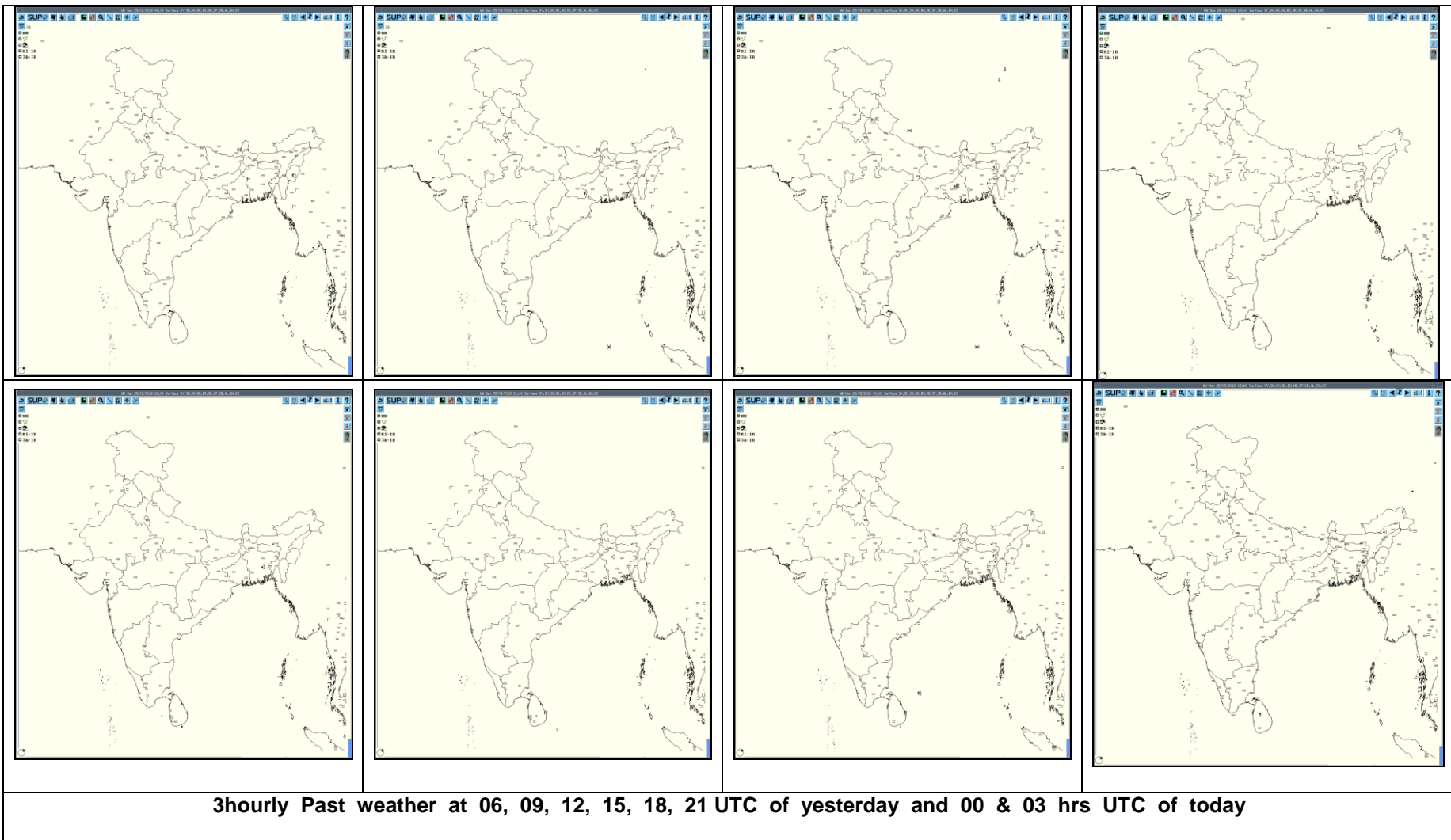
Accumulated 24 Hour rainfall (in red)
recorded at 0300UTC of today

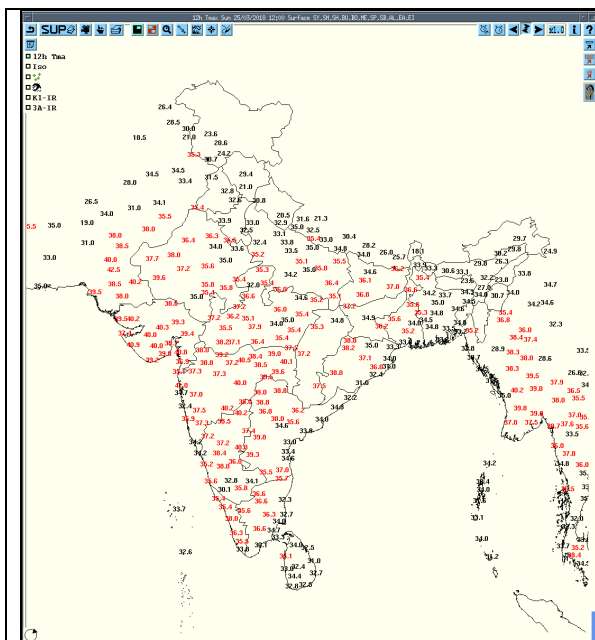


IMR

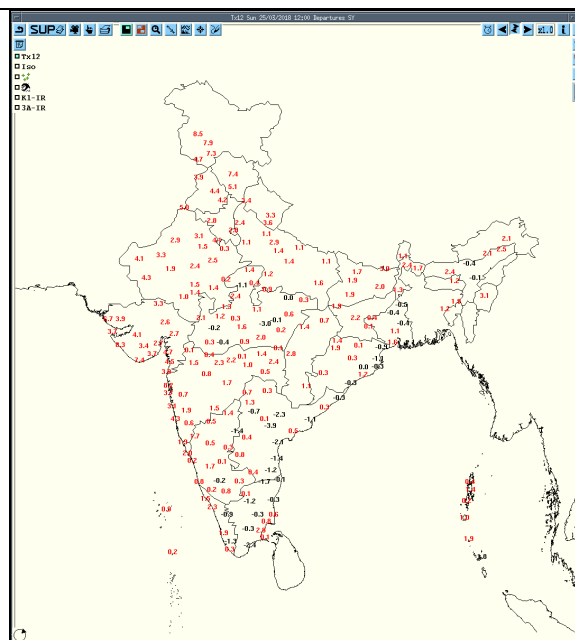


HEM

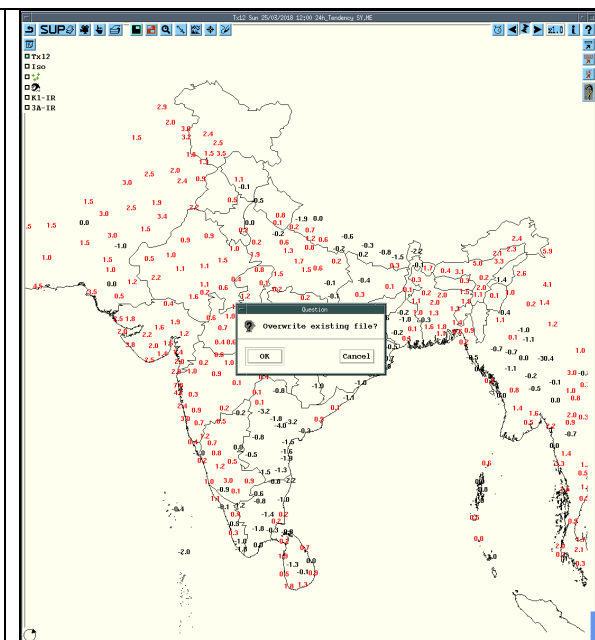




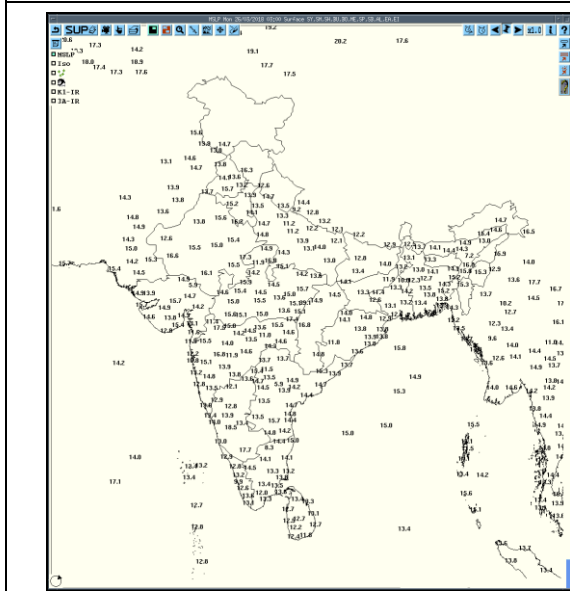
Tmax



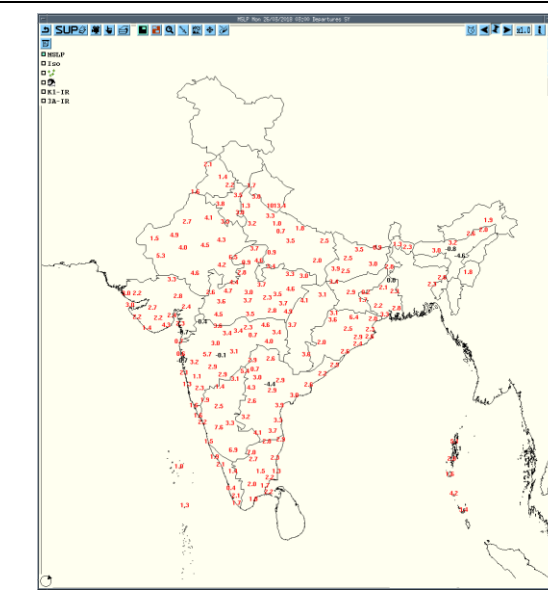
Departure Tmax



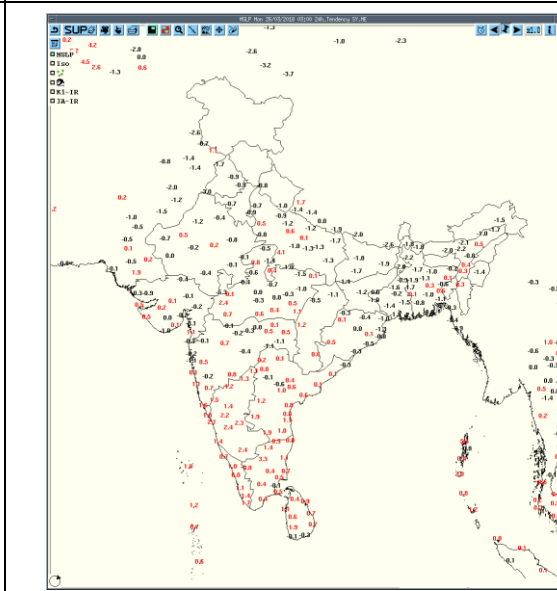
Tendency Tmax



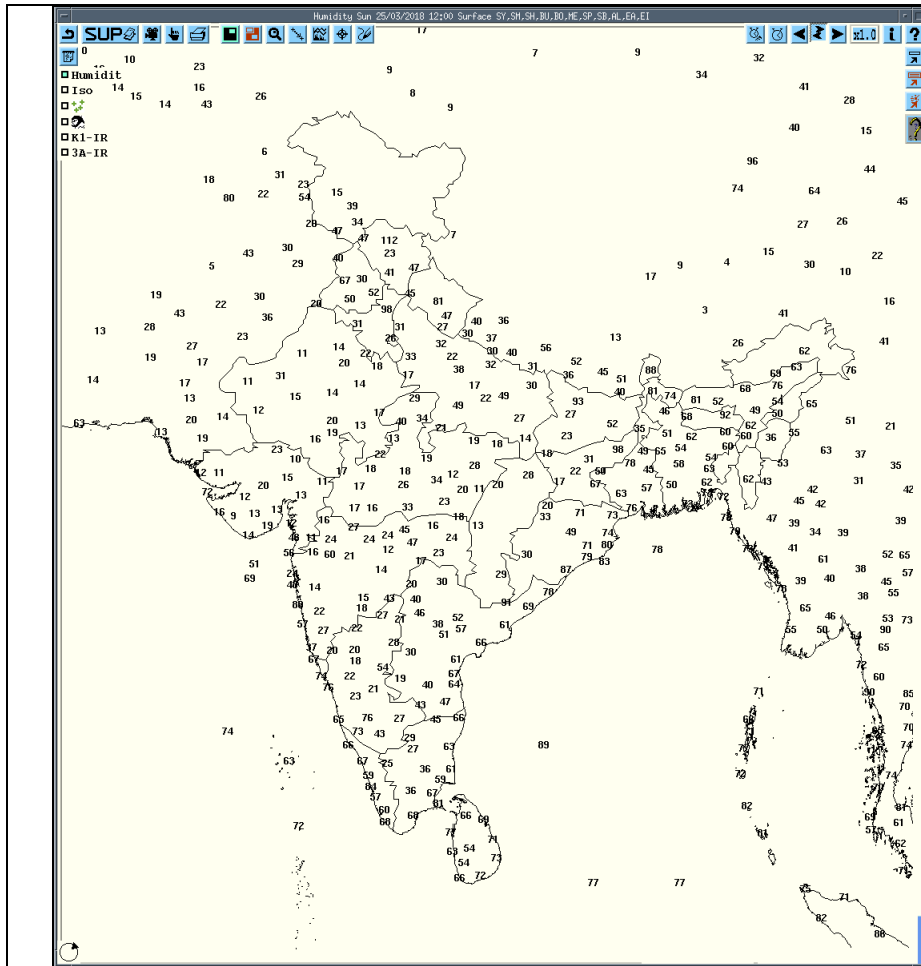
MSLP



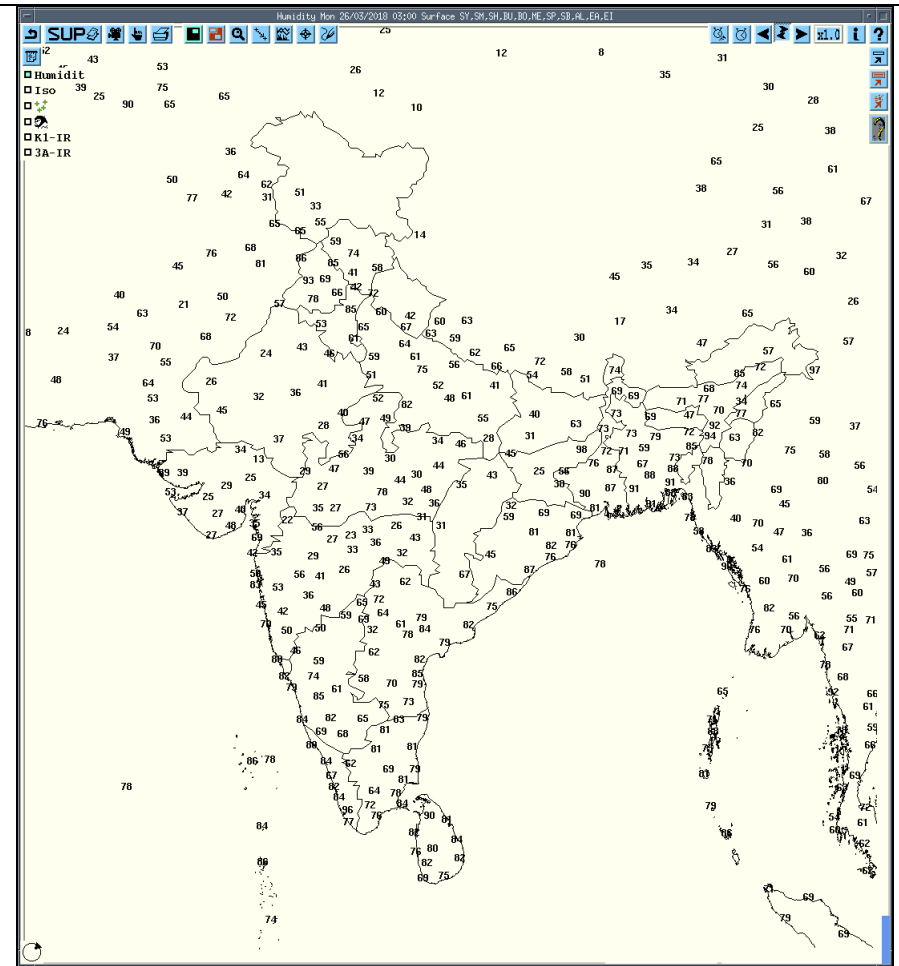
Departure MSLP



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	Associated Severe Weather if any	Districts affected
Kolkata	25-03-18	250301-250751	NIL	NIL	NOSIG ECHO	NIL	NIL
		250801-251511	1. Isolated single cell developed 0801 UTC AT 22.612N / 86.035 E / 271.7 Degree / 238.1 km. and maximum reflectivity of 62.0 dBz at 1031 UTC and maximum height 15.49 at 1031 UTC 2. Isolated single cell developed 0901 UTC AT 23.599N / 87.257 E / 215.8 Degree / 160.1 km. and maximum reflectivity of 62.5 dBz at 1031 UTC and maximum height 14.96 at 1111 UTC 3. Multi Cell System developed 1011 UTC AT from 23.205N / 86.613 E / 292.0 Degree / 191.7 km. to 23.735N / 87.383 E / 322.7 Degree / 163.0 km. and maximum reflectivity of 67.5 dBz at 1251 UTC and maximum height more than 18 km at 1241 UTC 4. Single cell with maximum reflectivity of 67.5 dBz at 1341 UTC and maximum height 17.28km at 1311 UTC	W (238.1 km) to moving in SE-ward direction. NW (160.1 km) to moving in SE-ward direction NW (292.0 km) to moving in SE-ward direction NW (56.0 km) moving in SE-ward direction	Isolated Single cell developed into multi cell system formed in W direction at a distance 238.1 km. and dissipated at 1211 UTC at a distance 128.7 K.M. from Radar. Isolated Single cell developed in the NW direction at a distance 160.1 km. matured and merged with cell no. 3 to form cell no 4 at 1311 UTC in NW at a distance 56.0 K.M. from Radar. Isolated multi Single cell merged into big cell system formed in NW direction at a distance 292 km. Matured and merged with cell no. 2 to form cell no 4 at 1311 UTC in NW at a distance 56.0 K.M. from Radar. Single cell formed by merging cell no. 2 and 3 in NW at a distance 56.0 km from radar. Matured and dissipated at 1511 UTC in NE at distance 20 km from radar.	Thunderstorm / Rain Thunderstorm / Rain / Hail Thunderstorm / Rain / Hail Thunderstorm / Rain / Hail	N/A N/A N/A
		251522-251901	NIL	NIL	NOSIG ECHO	NIL	NIL
		251911 – 260111	1. Single cell with maximum reflectivity of 54.5 dBz at 1941 UTC and maximum height 10.39km at 1932 UTC 2. Single cell with maximum reflectivity of 58.0 dBz at 2031 UTC and maximum height 13.88 km at 2112 UTC	NNW (214.3 km) moving in E-ward direction WNW (168.9 km) moving in E-ward direction	Single cell developed in NNW direction at a distance 214.3 k.m. not matured and dissipated at 2052 UTC in N at a distance 220.1 K.M. from Radar. Single cell developed in WNW direction at a distance 168.9 k.m. matured and dissipated at 2331 UTC in WNW at a distance 090.4 K.M. from Radar.	Thunderstorm / Rain Thunderstorm / Rain	N/A N/A
Kolkata	26-03-18	251911-260111	3. Single cell with maximum reflectivity of 55.0 dBz at 0022 UTC and maximum height 08.87 km at 0022 UTC	W (148.6 km) moving in ENE-ward and then E-ward direction	Single cell developed in W direction at a distance 148.6 k.m. and not matured dissipated at 0111 UTC in WSW at a distance 044.6 K.M. from Radar.		
		260121-260301	NIL	NIL	NOSIG ECHO	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
Patiala	26-03-18	250300-250900	Nil	Nil	Nil	Nil	Nil
		250900-251200	Multiple Cells. Ht. 12-14 Kms. dBZ 53.0.	East- Sector; Movement S-Wards.		RA/TS	Nahan, Dehradun, Mussoorie, Yamunanagr and Its adjoining areas.
		251200-260252	Nil	Nil	Nil	Nil	Nil
Visakhapatnam	26-03-18	250900	Convective cells of maximum reflectivity of 37 dBZ with average height of 1.5 kms	NW-ly (85kms) moving E ly	started from 0731UTC and maximum at 0841UTC	NIL	East Godavari districts
		251200	Convective cells of maximum reflectivity of 39 dBZ with average height of 3 kms	NW-ly (105kms) moving E ly	started from 0921UTC and maximum at 1031UTC and dissipated at 1111UTC	NIL	East Godavari district
Agartala	26-03-18	250300-260300	ISLTD SINGLE CELL FORMING MUTIPLE CELLS 40 dBZ,10 Kms formed @250700Z	190 KMS. TO NNE OVER MEGHALAYA HILLS/ ESE'LY /30 Kmph.	Dissipated over the hills @241152z.	Not Known	Not Known
			SQUALL LINE stretching 100 Kms,47Dbz, 10 Kms Formed @260042Z	30 KMS.EAST TO 100 Kms NE , E'ly/35 Kmph.	Dissipated near AMBASSA @260300Z	Not known	Not known
Lucknow	26-03-18	250300-260300	Nil	Nil	Nil	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)
Tehri	Northwest India	Uttarakhand	Thunderstorm	25-03-18	1435	1750
Dehradun	Northwest India	Uttarakhand	Thunderstorm	25-03-18	1610	1750
Jorhat	Northeast India	Assam	Thunderstorm	26-03-18	0045	0200
Dum Dum	East India	Gangetic West Bengal	Thunderstorm	25-03-18	1900	2118
			Squall, From West, Max. Wind 46kmph	25-03-18	1950	1951
			Lightening	25-03-18	1845	2130
Sriniketan	East India	Gangetic West Bengal	Thunderstorm	25-03-18	1550	1721
Jamshedpur	East India	Jharkhand	Thunderstorm	25-03-18	1430	1510
Jharsuguda	East India	Odisha	Thunderstorm	25-03-18	1445	1540
Port Blair	East India	Andaman & Nicobar Islands	Thunderstorm	25-03-18	2315	2340

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(upto03UTCof today)

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

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

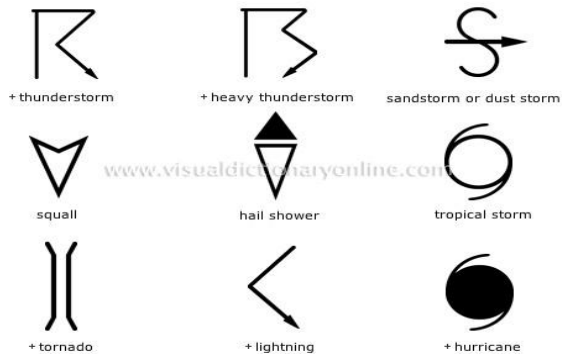
For Radar images of the past 24 hours including mosaic of images:

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	