



India Meteorological Department

FDP STORM Bulletin No. 29 (04-04-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

- ◆ The Western Disturbance as a trough in mid tropospheric westerlies roughly along Long 60°E to the north of Lat. 30°N now seen as an upper air cyclonic circulation over north Pakistan & neighbourhood at 3.1 km above mean sea level and is feeble.
- ◆ A cyclonic circulation extending upto 0.9 km above mean sea level lies over Punjab and adjoining north Pakistan.
- ◆ A trough at 0.9 km above mean sea level runs from the above cyclonic circulation to North Interior Karnataka across northeast Rajasthan, West Madhya Pradesh, western parts of Vidarbha and Marathwada.
- ◆ The north south trough from west Madhya Pradesh to north Kerala coast has merged with the above trough.
- ◆ The cyclonic circulation extending upto 1.5 km above mean sea level over Haryana and neighbourhood has also merged with the above trough.
- ◆ A trough in easterlies at 1.5 km above mean sea level runs from Comorin area to South Interior Karnataka across interior Tamilnadu.
- ◆ The cyclonic circulation over northeast Jharkhand and adjoining Gangetic West Bengal persists and now lies between 1.5 & 3.1 km above mean sea level.
- ◆ The remnant Western Disturbance as a trough in mid & upper tropospheric westerlies now runs with its axis at 7.6 km above mean sea level from east Arunachal Pradesh to north Bay of Bengal across Assam and Bangladesh.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

Current Observation (based on 0300UTC imagery of INSAT 3D):

Western Disturbance (WD):

Scattered multi/layered clouds seen over Caspian Sea, South Iraq, adjoining Iran, West Persian Gulf, & neighbour in association with WD over the area.

Westerly Trough:

Trough in westerlies runs roughly along long 60.0°E & north of lat 30.0°N (.)

Clouds descriptions within India:

Scattered low/medium clouds with embedded isolated weak to moderate convection seen over North Pakistan, adjoining Afghanistan. Scattered low/medium clouds with embedded isolated weak convection seen over Sikkim adjoining North Sub-Himalayan west Bengal. Scattered low medium clouds seen over Jammu & Kashmir, North Himachal Pradesh, Uttarakhand, Odisha, Gangetic West Bengal, Northeast Bihar, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, coastal Andhra Pradesh, East Telangana, South Interior Karnataka, Kerala, Tamilnadu, Lakshadweep and Bay Islands.

Arabian Sea:

Scattered low/medium clouds with embedded moderate to intense convection seen over South Arabian Sea, adjoining Indian Ocean between 4.0N to 6.5N long 58.0E to 66.0E. Scattered low/medium clouds with embedded weak to moderate convection seen over West Central Arabian Sea off Oman Coast between lat 17.0N to 21.0 N west of long 63.0E.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded moderate to intense convection seen over South Andaman Sea.

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

Moderate to Intense convection was observed over J&K Himachal Pradesh Uttarakhand South Chhattisgarh Coastal Odisha Telangana Andhra Pradesh South Interior Karnataka Kerala Tamilnadu and weak to moderate convection observed over North Rajasthan Punjab Haryana Delhi North-West Uttar Pradesh Sikkim North-East States

OLR:

Upto 230 wm^{-2} was observed over J&K Himachal Pradesh Uttarakhand and
Upto 250 wm^{-2} observed over South Punjab Sikkim Arunachal Pradesh Meghalaya Nagaland Manipur Mizoram.

Synoptic features: Trough in Westerlies: roughly along Longitude 60.0E & north of Latitude 30.0N.

Dynamic Features:-

Low to Medium wind shear is observed over India.

Positive shear tendency is observed over India.

A positive Vorticity field is observed over Uttar Pradesh Maharashtra Jharkhand.

Negative Low Level Convergence observed over Bihar North-East States and Positive Low Level Convergence is observed over rest India.

Precipitation:**IMR:**

Rainfall upto 10-20 mm observed over North Himachal Pradesh North Uttarakhand and

Rainfall upto 1-10 mm observed over J&K East Arunachal Pradesh Meghalaya Nagaland Mizoram Coastal Odisha North Coastal Andhra Pradesh South Chhattisgarh South Interior Karnataka Kerala South Tamilnadu.

HEM:

Rainfall upto 70-139 mm observed over North Uttarakhand and

Rainfall upto 28-70 mm observed over South-West J&K North Himachal Pradesh and

Rainfall upto 14-20 mm observed over North Arunachal Pradesh Meghalaya Nagaland Manipur South Interior Karnataka West Tamilnadu and

Rainfall upto 01-14 mm observed over South Chhattisgarh Coastal Odisha North Coastal Andhra Pradesh Kerala.

Convective Activity (During Last 24 hrs):

CELL NO.	DATE/ TIME (UTC)	AREA/ LOCATION	MINIMUM CTBT (MINUS DEG C)	MOVEMENT/ REMARKS
1	03/0900	S CHTGH COTL ORS ADJ N COTL AP	50	DEVELOPING
	1000	DO	60	EXPANDING
	1100	DO	60	STATIONARY
	1200	COTL ORS ADJ N COTL AP	56	STATIONARY
	1300	DO	50	WEAKENING
	1500	---	-	DISSIPATED
2	03/0900	MEGHA NAGA	40	DEVELOPING
	1000	DO	42	STATIONARY
	1100	MEGHA	40	WEAKENING
	1200	----	---	DISSIPATED
3	03/1000	SIK	55	DEVELOPING
	1100	DO	49	EXPANDING
	1200	---	---	DISSIPATED
4	03/1100	W TN	60	DEVELOPING
	1200	DO	60	STATIONARY
	1300	DO	59	EXPANDING
	1500	W TN	55	WEAKENING
	1700	----	---	DISIPATED

RADAR and RAPID RGB Observation:

Moderate isolated/multiple echoes were seen on DWR Agartala, Cherrapunjee (dBZ between 40-45 and height around 10km), Light to Moderate isolated echoes were also seen on DWR Lucknow, Machilipatnam and Nagpur at around 1230 IST.

RAPID RGB RAPID RGB Satellite imagery at 1200IST indicates significant convection over Meghalaya.

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

Higher Dust concentration was observed over Arab countries and western part of India. Dust concentration is expected to remain same over north-western part of India for next few days.

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

Delhi – SAFAR analysis & Forecast	04.04.2018	04.04.2018
PM10 (micro-g/m ³)	200	208
PM2.5 (micro-g/m ³)	84	88

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

Low level CYCIRs, Troughs: 12 UTC of Day 0-1:

Confluence & Wind Discontinuity regions: 12 UTC of Day 0-4: at 925 hPa S-N wind discontinuity over interior peninsula extending SW-NE over Chhattisgarh, Jharkhand and WB region

Synoptic Systems: 12 UTC of Day 0-4: At 700 hPa an anticyclone over Gujarat expands and evolves in to an elongated E-W ridge near 20N covering west coast to east coast.

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

3. Convergence at 850 hPa:

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

Day0: Jammu Kashmir, West MP, East MP, Madhya Maharashtra, Chhattisgarh, Coastal AP, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala,

Day1: Jharkhand, East RJ, Odisha, West MP, East MP, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Tamilnadu, Puducherry, NI Karnataka, SI Karnataka, Kerala,

Day2: Jharkhand, West RJ, East RJ, Madhya Maharashtra, Vidarbha, Chhattisgarh, Tamilnadu, Puducherry,

Day3: NE NMMT, Jharkhand, Bihar, East UP, Odisha, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Tamilnadu, Puducherry, SI Karnataka, Kerala,

Day4: Jharkhand, East UP, Odisha, East MP, Marathwada, Tamilnadu, Puducherry, SI Karnataka, Kerala,

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Uttarakhand, Himachal Pradesh, Odisha,

Day1: NE NMMT, Jharkhand, Bihar, East UP, Himachal Pradesh, Odisha, East MP, Coastal AP,

Day2: Gangetic WB, Jharkhand, Bihar, East UP, Himachal Pradesh, Madhya Maharashtra, Coastal AP,

Day3: Jharkhand, Bihar, West UP, Odisha, West MP, Chhattisgarh,

Day4: Jharkhand, Bihar, East UP,

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

Day/Index: Subdivisions with Showalter Index < -4

Day0: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Punjab, Jammu Kashmir, Odisha, Madhya Maharashtra, Vidarbha, Coastal AP, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Punjab, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Telangana, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

6. Spatial distribution of TTI: Day/Index Subdivision with Total Totals Index > 52

Day0: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, East MP, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, East MP, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, NI Karnataka, SI Karnataka,

Day2: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Gujarat Region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day4: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Gujarat Region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana, Coastal Karnataka, NI Karnataka, SI Karnataka,

7. K-Index :-> 35[Very Unstable thunderstorm likely]: Day/Index: Subdivisions with K Index > 40

Day0: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Odisha, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Punjab, Jammu Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Tamilnadu, Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Sub Himalayan WB, Bihar, Uttarakhand, Punjab, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, East UP, West UP, Uttarakhand, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Sub Himalayan WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Telangana, Tamilnadu, Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

8. Rainfall and thunder storm activity: Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Andaman Nicobar, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Bihar, Andaman Nicobar,

Day3: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Andaman Nicobar,

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

Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Odisha, Andaman Nicobar,

3. IOP ADVISORY FOR 24 and 48Hrs:

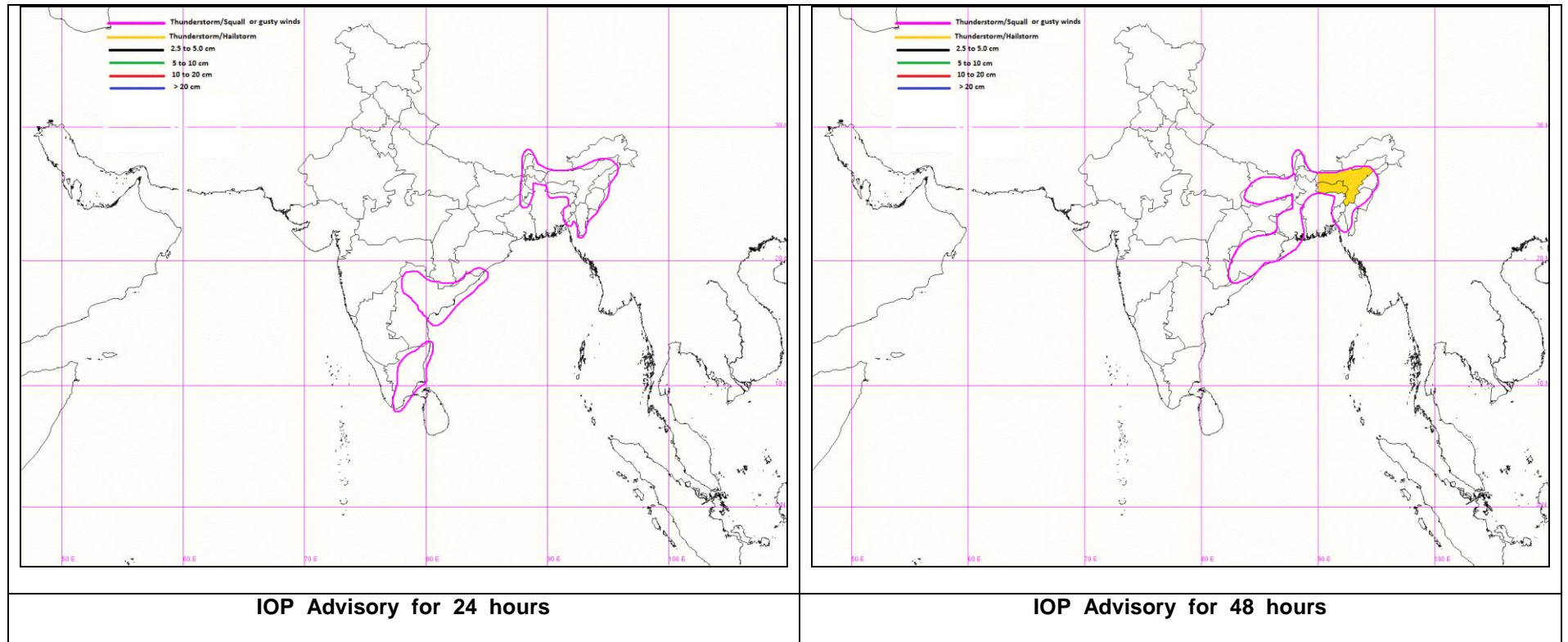
Summary and Conclusions:

Day-1 & Day-2:

- Synoptic analysis, as well as model analysis of today, indicates that the northsouth trough from west Madhya Pradesh to north Kerala coast has merged with another trough from North Interior Karnataka across northeast Rajasthan, West Madhya Pradesh, western parts of Vidarbha and Marathwada. Another trough in easterlies at 1.5 km above mean sea level runs from Comorin area to South Interior Karnataka across interior Tamilnadu. Considering these factors, Interior Tamilnadu, North coastal Andhra Pradesh, parts of Telangana may experience thunderstorm with gusty winds on Day-1.
- Due to the presence of the cyclonic circulation over northeast Jharkhand and adjoining Gangetic West Bengal, the Sub Himalaya West Bengal and Assam, Meghalaya, and NMMT may experience the thunderstorm with gusty winds on Day-1. However, these activities will continue on Day-2 including Orissa and Gangetic West Bengal.
- On Day-2, the IMD GFS deterministic models indicate an increase in rainfall activity from North Orissa, GWB, SHWB to Assam and Meghalaya. This may results in the thunderstorm with squall and hail is very likely at isolated places over Assam & Meghalaya.
- Most thermodynamic indices (CAPE, SWEAT, T-STORM Initiation Index, Lifted Index) indicate a high probability of thunderstorm occurrence along the south peninsular coast of India.

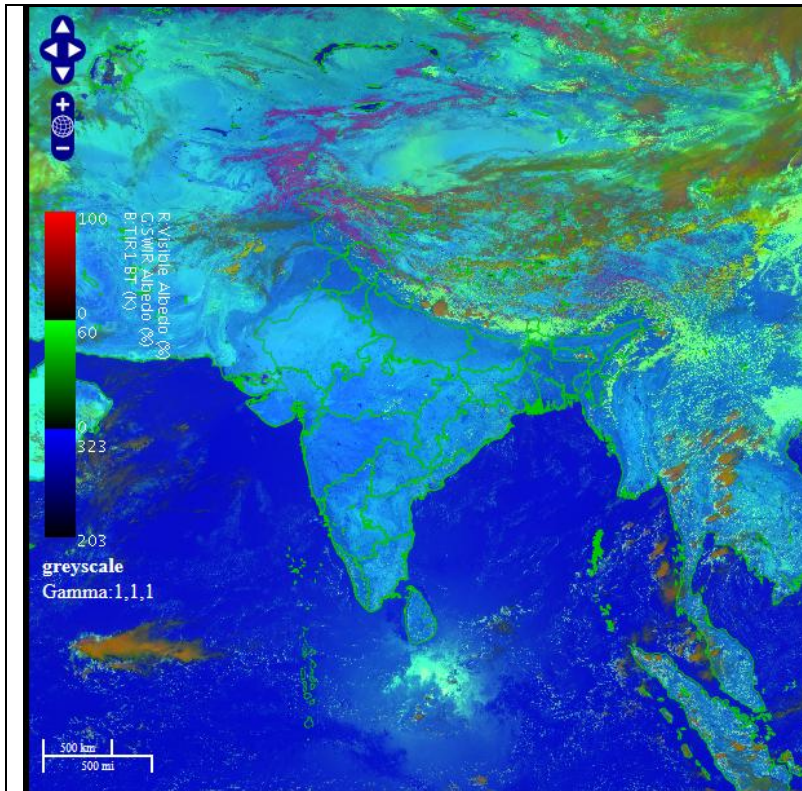
24 hour Advisory for IOP:	48 hour Advisory for IOP:
<p>Rainfall: Nil</p> <p>Thunderstorm with associated phenomena: Sikkim, Sub Himalayan West Bengal, Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura Coastal Andhra Pradesh, Telangana, Tamil Nadu,</p>	<p>Rainfall: Nil</p> <p>Thunderstorm with associated phenomena: Sikkim, Sub Himalayan West Bengal, Gangetic West Bengal Bihar, Odisha Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura</p>

Graphical Presentation of Potential Areas for Severe Weather:

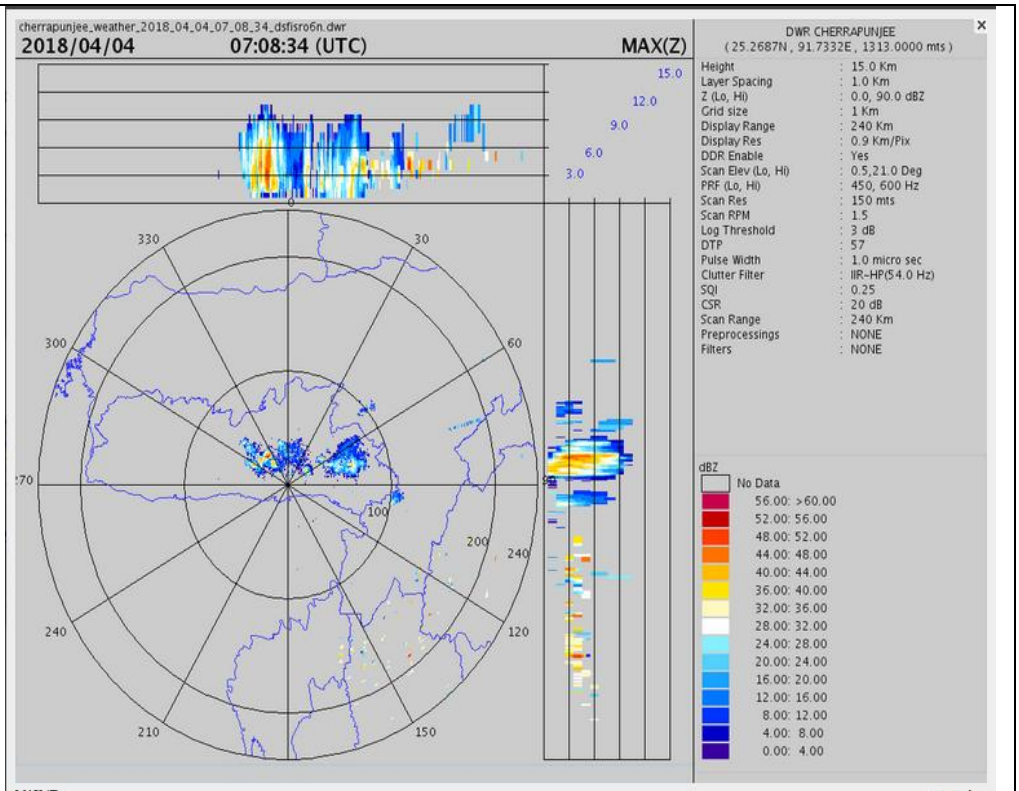


IOP Advisory for 24 hours

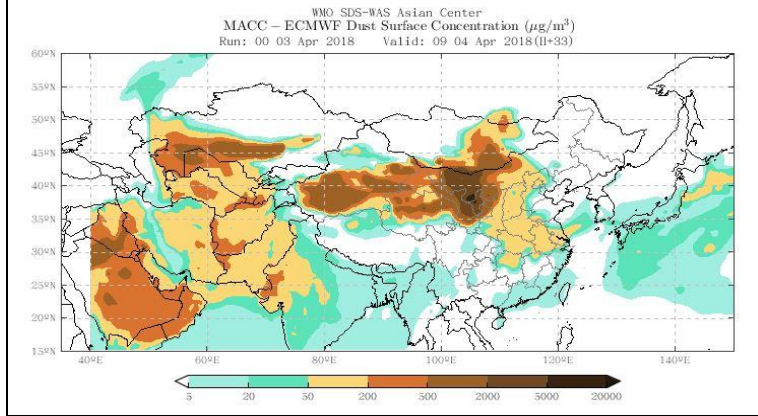
IOP Advisory for 48 hours



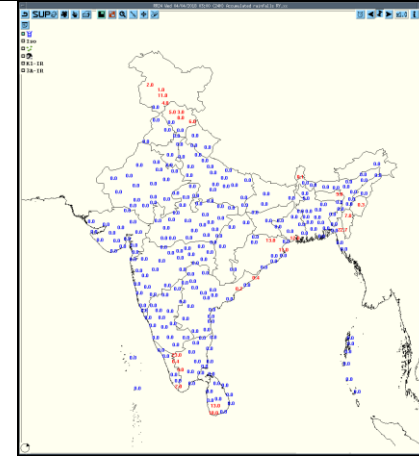
RAPID RGB Imagery at 1200 IST of the Day



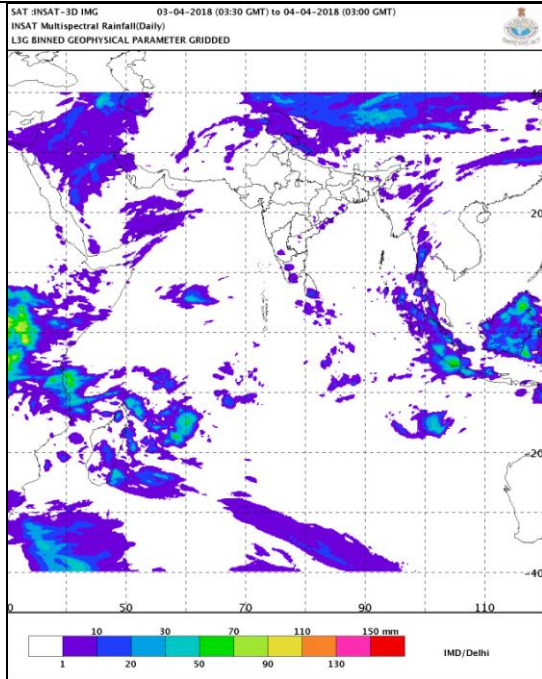
DWR Cherrapunjee at 1238IST of the Day



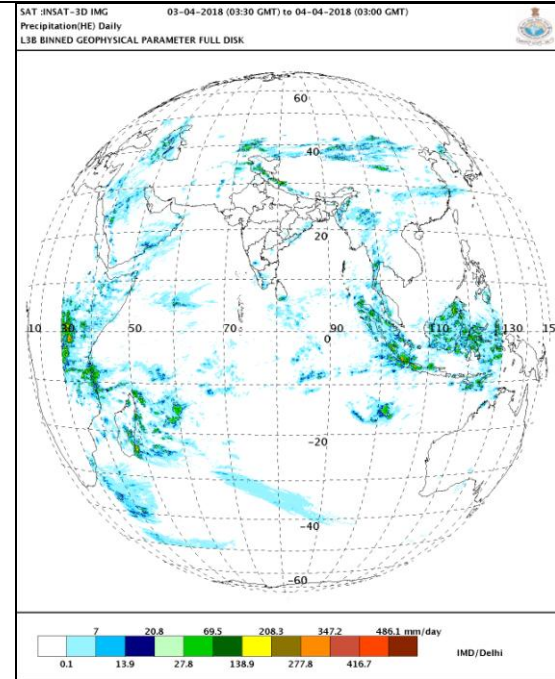
Dust Forecast



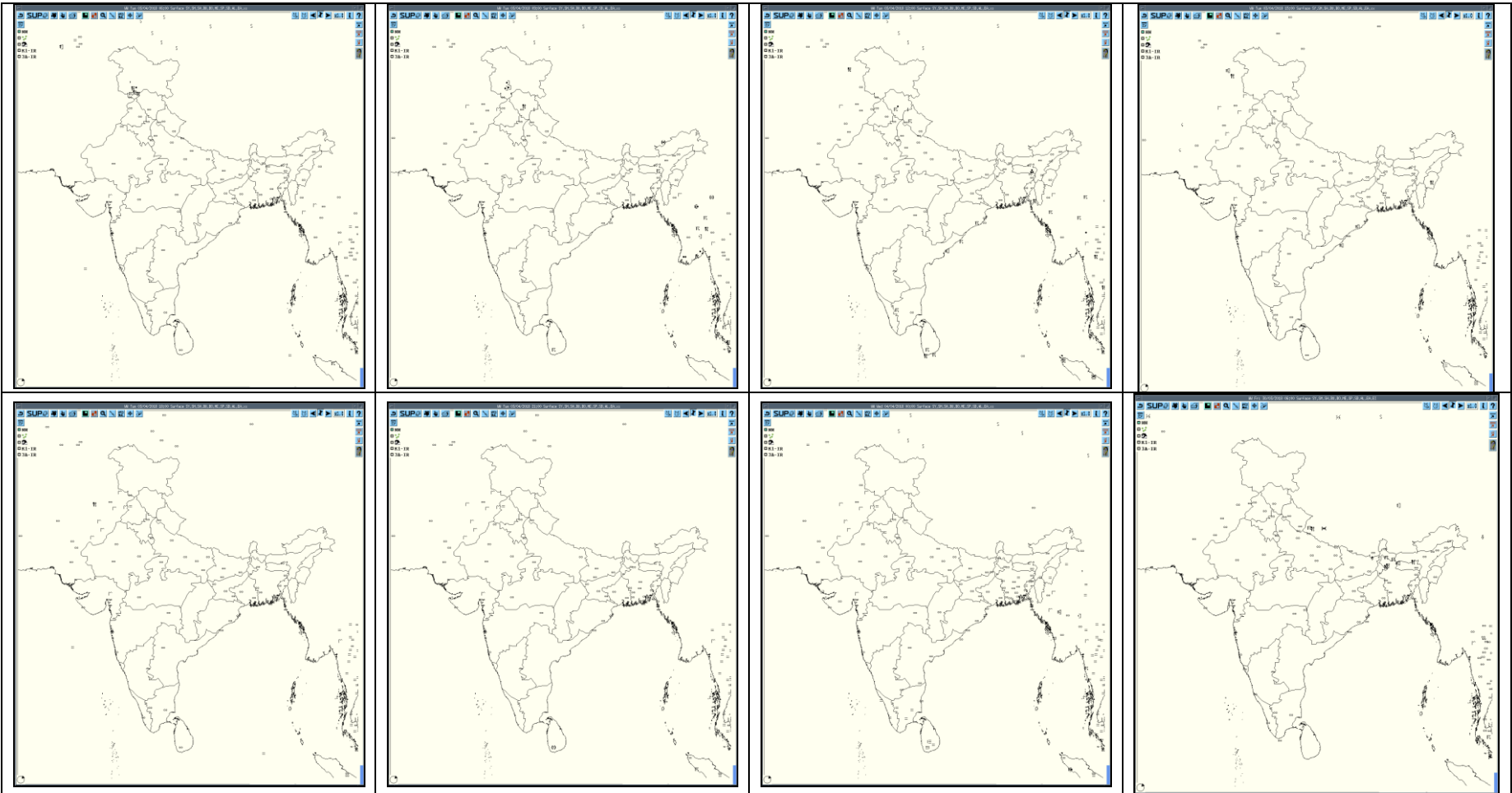
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



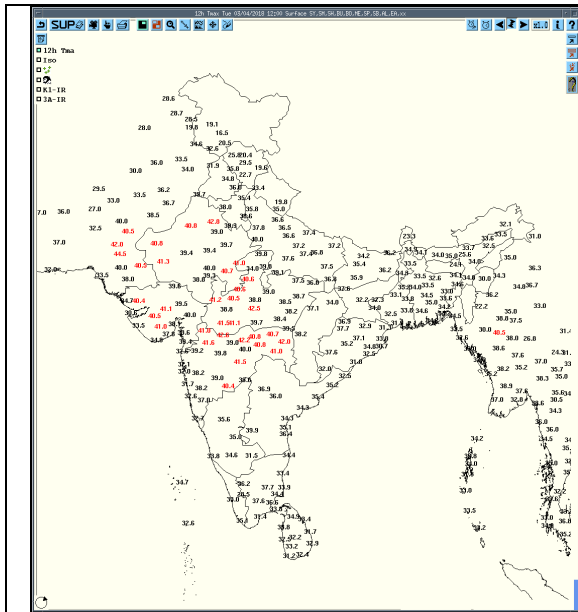
IMR



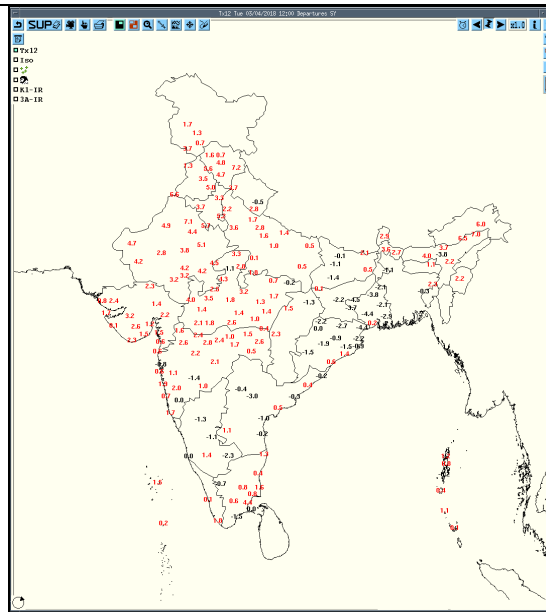
HEM



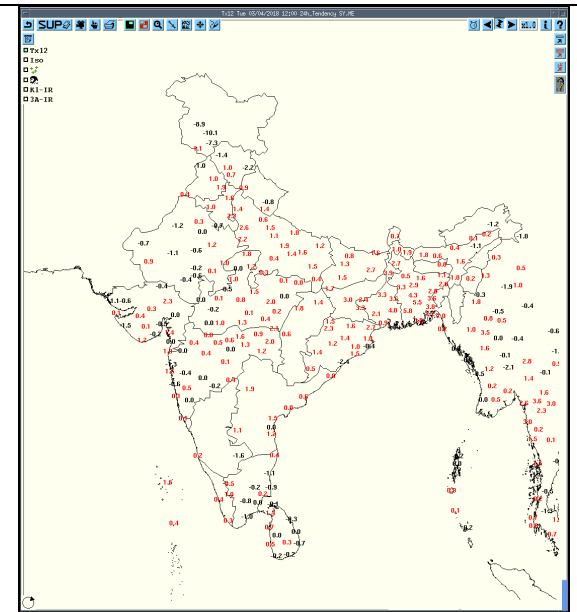
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



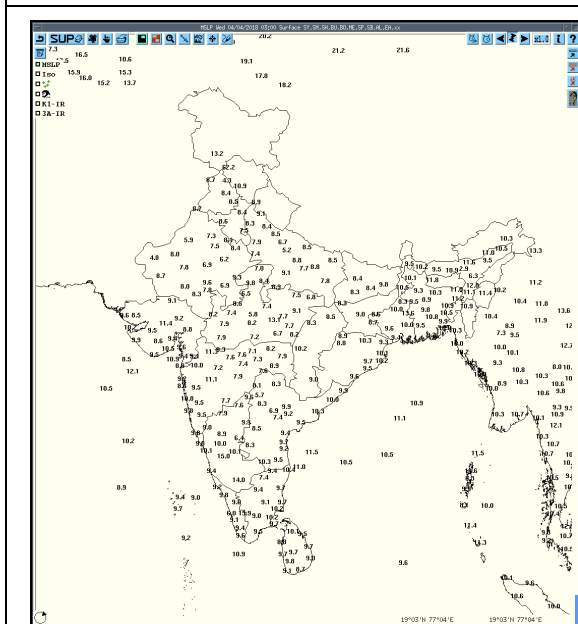
Tmax



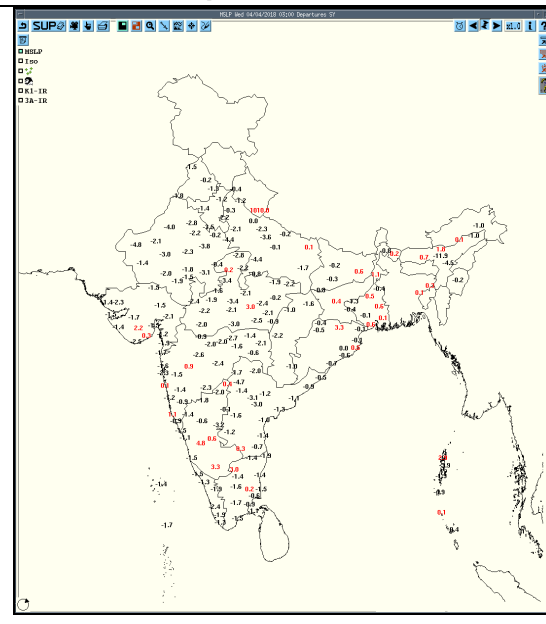
Departure Tmax



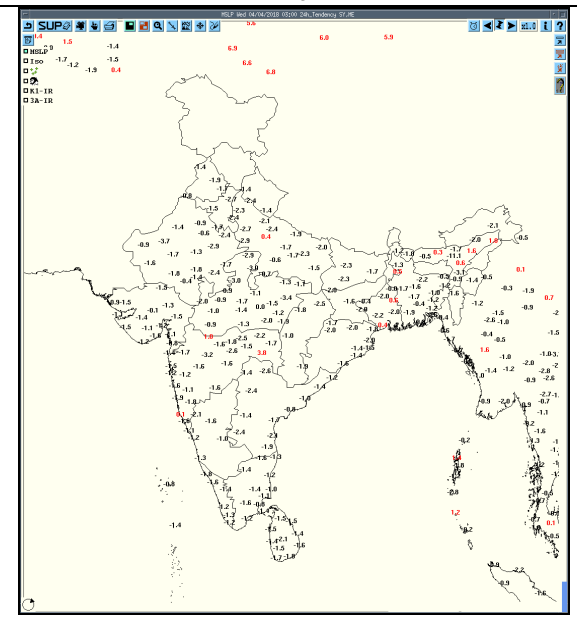
Tendency Tmax



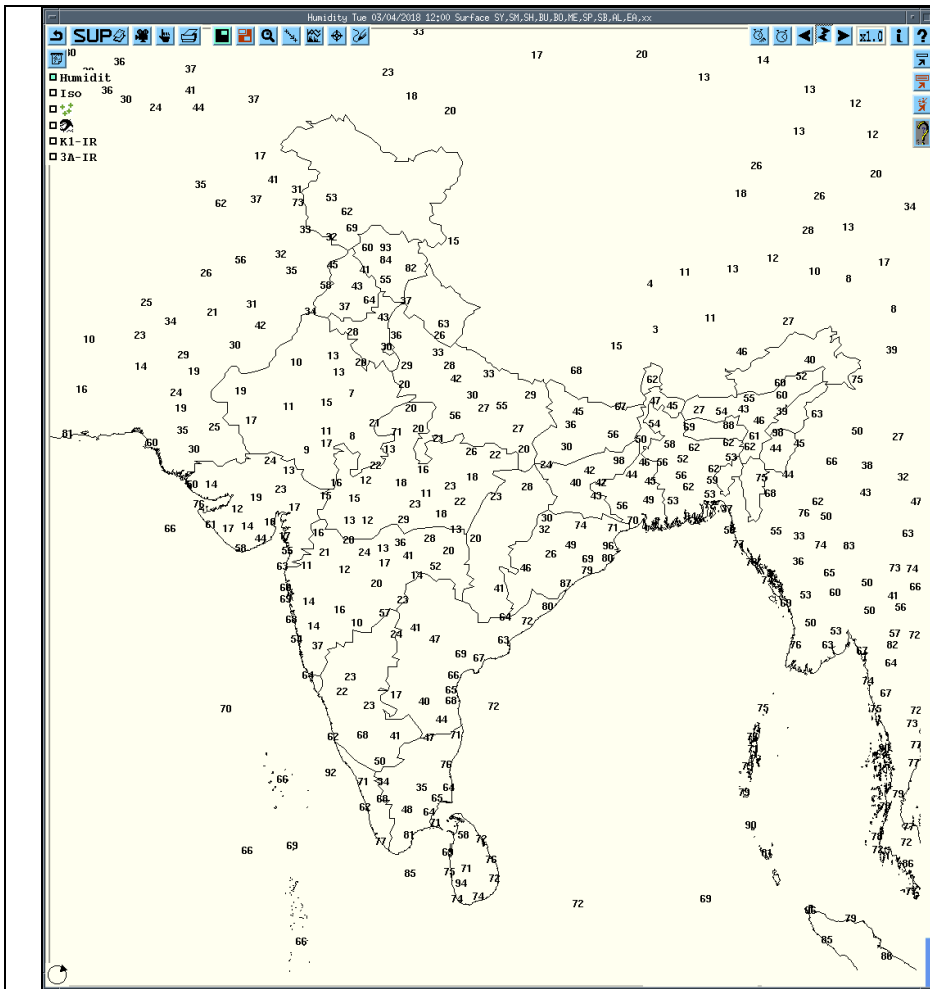
MSLP



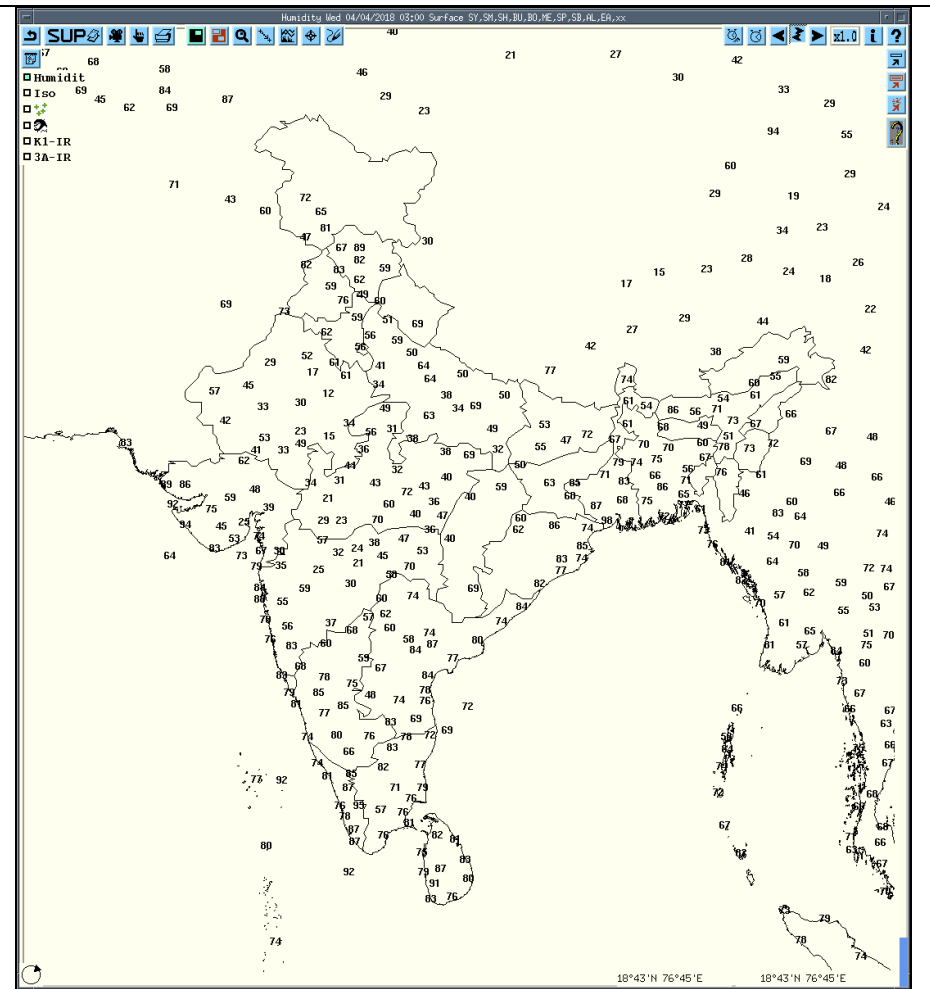
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

18°43'N 76°45'E 18°43'N 76°45'E

Past 24 hours DWR Report:

DWR Station Name	Date of Report	Time Interval of Observation	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	Associa ted Severe Weather if any	Districts affected
Lucknow	04-04-18	030300-040300	Nil	Nil	Nil	Nil	Nil
Jaipur	04-04-18	030300-040300	Nil	Nil	Nil	Nil	Nil
Patna	04-04-18	030300-040300	Nil	Nil	Nil	Nil	Nil
Agartala	04-04-18	030300-040300	Multiple cells are found over Meghalaya hills at 030712Z and subsequently squall line at 030952Z OF 44DBZ and subsequently 55 DBZ, 12 KMS	180 Kms TO 200 kms NNW, 30 kmph W-ly.	Dissipated over Meghalaya hills at 031302Z	Not Known.	
			Multiple cells are found over hills of Mizoram at 030852Z and subsequently squall line at 031152Z OF 44DBZ and subsequently 55 DBZ, 12 KMS	200 Kms TO 230 kms SW, 30 kmph SW-ly.	031422Z, persists with dissipating stage over Ambasa & Lengpui	Not Known.	
Patiala	030300-040252	030300- 030600	No Echo	--	--	--	--
		030600-003900	Multiple echoes , dBz =49.0, ht.08-10 km	NE, N Sectors. Movement towards E Direction		RA/TS	B Dam, Bhunter, Kalpa
		030900-031200	Multiple echoes, dBz =54.5, ht 09-12 km	NE, N Sectors. Movement towards E Direction		RA/TS	Sundernagar , Kalpa, Uttarkashi, Shimla
		031200-031500	Multiple echoes, dBz =49.0, ht 09-11 km	N, E Sectors. Movement towards E Direction		RA/TS	Dharmshala, Sundernagar , Mussoorie
		031500-040252	NO ECHO	--	--	--	--
Visakhapatnam	04-04-18	030900	Multiple Cb cells from W TO NE with max reflectivity 65dbz in the NE with height 13kms.	194kms (NE) .Since 06:41UTC and moving S ly.	Two more Cb cells of max reflectivity 60 dbz in the NW	-	Puri in odissa.
		031200	Multiple strong Cb cells at W,NW and NE where the max reflectivity 67dbz and height	194kms (NE)Since last	-	-	PURI,SRIKA KULAM
		031500	Multiple strong Cb cells at SW,W and NE where the max reflectivity 59dbz and height 11kms in the SW .	127kms (SW) Since last observation and moving SE ly.	-	-	Ganjam (Odisha), Srikakulam and East
		031800	Isolated Cb cells at N and NE where the max reflectivity 54dbz and height 10kms	128 kms, Since last observation and moving SE ly.	Dissipating started from 1541 UTC	-	Koraput and Ganjam (Odisha)

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	04-04-18	030301-030721	NIL	NIL	NOSIG ECHO	NIL	NIL
		030601-030901	Isolated single cell with maximum height of 11.20 km 0831 UTC and maximum reflectivity of 62.0 dBz at 0831 UTC.	SW (233.9 km) moving in Eastward direction with a speed of 18.0 kmph	Isolated single cell developed at 0601 UTC in SW at distance of 233.9 km from Radar. Matured, dissipated at 0901 UTC, in SW at a distance of 190.4 km from Radar.	Thunderstorm/Rain	N/A
		031132-03331	Isolated single cell with maximum height of 11.73 km 1231 UTC and maximum reflectivity of 53.0 dBz at 1222 UTC.	SW (248.6 km) moving in SEward direction with a speed of 38.0 kmph	Isolated single cell developed from SW at 1132 UTC at distance of 248.7 km from Radar. Matured, dissipated at 1331 UTC, in SSW at a distance of 244.7 km from Radar.	Thunderstorm/Rain	N/A
		031332-040301	NIL	NIL	NOSIG ECHO	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)
Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm	03-04-18	1654	1920
Tehri	Northwest India	Uttarakhand	Thunderstorm	03-04-18	1650	2010
Qazigund	Northwest India	Jammu & Kashmir	Thunderstorm	03-04-18	1100	1135
Kukernag	Northwest India	Jammu & Kashmir	Thunderstorm	03-04-18	1135	1145
Banihal	Northwest India	Jammu & Kashmir	Thunderstorm	03-04-18	1035	1200
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	03-04-18	1025	1310
Katra	Northwest India	Jammu & Kashmir	Thunderstorm	03-04-18	1105	1145
Bhaderwah	Northwest India	Jammu & Kashmir	Thunderstorm	03-04-18	1030 1330	1200 1415
Kalingapatnam	South India	Andhra Pradesh (CAP)	Thunderstorm	03-04-18	1800	1940
Tuni	South India	Andhra Pradesh (CAP)	Thunderstorm	03-04-18	1620	1700
Jagdapur		Chhattisgarh			1530	1610
Barapani	Northeast India	Meghalaya(NMMT)	Thunderstorm	03-04-18	1420	1710
Cherrapunjee	Northeast India	Meghalaya(NMMT)	Thunderstorm	03-04-18	1235	1615
Shillong	Northeast India	Meghalaya(NMMT)	Thunderstorm	03-04-18	1330 1550	1515 1615
Imphal	Northeast India	Manipur(NMMT)	Thunderstorm	03-04-18	1915	2045
Lengpui	Northeast India	Mizoram(NMMT)	Thunderstorm	03-04-18	1830	2110
Digha	East India	West Bengal (GWB)	Thunderstorm	03-04-18	0740	0830

IMPORTANT LINKS:

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

For IMD NWP products:(http://nwp.imd.gov.in/diagpro_new.php)

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

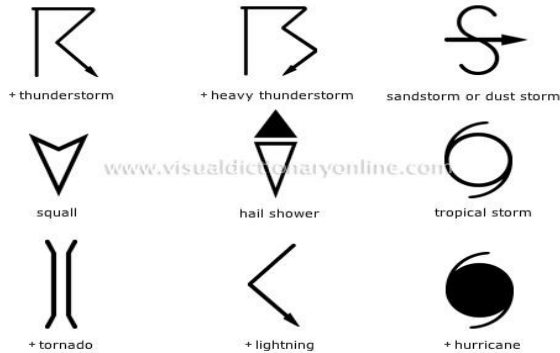
ForRadarimagesofthepast24hoursincludingmosaicofimages:

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

Satellite sounder based T- Phigram

http://satellite.imd.gov.in/mAndhra_Pradesh_skm2.html

WEATHER SYMBOLS:



∞	haze
☁	smoke
☁	dust or sand storm
≡	fog
⋄	drizzle
•	rain
*	snow
▽	showers
△	hail
⚡	thunderstorm
Weather Symbols	