



India Meteorological Department
FDP STORM Bulletin No.75 (19-05-2017)

1. CURRENT SYNOPTIC SITUATION at 0300UTC of the Day:

The Northern Limit of Monsoon (NLM) continues to pass through Lat.5.0°N/Long. 80.0°E, Lat. 8.0°N/Long. 87.0°E, Lat.13.0°N/ Long. 92.0°E and Lat. 16.0°N/ Long. 95.0°E. The NLM, is likely to persist over the same region during next 4-5 days.

The trough at mean sea level from south coastal Andhra Pradesh to Comorin area persists.

The upper air cyclonic circulation over Punjab & neighbourhood extending upto 0.9 Km above mean sea level persists. A trough runs from this system to southeast Madhya Pradesh across northeast Rajasthan and extends upto 0.9 km above mean sea level.

The trough from west Bihar to west central Bay of Bengal now runs from Bihar to west central Bay of Bengal, off north Andhra Pradesh coast at 1.5 km above mean sea level.

The upper air cyclonic circulation over north Chhattisgarh & adjoining Odisha now lies over south Chhattisgarh & adjoining Odisha and extends upto 0.9 km above mean sea level.

The Western Disturbance as a trough in mid-tropospheric westerlies roughly along longitude 75.0°E and north of latitude 30.0°N has moved away east-north-east-wards.

The upper air cyclonic circulation over Tripura & neighbourhood has become less marked.

The upper air cyclonic circulation over Gulf of Martaban & neighbourhood has moved away north-east-wards

SATELLITE OBSERVATIONS during past 24hrs and current observation:

Current Observation (based on 0330UTC imagery of INSAT 3D):

Cloud Description:

Scattered low/medium clouds with embedded moderate to intense convection were seen over W Uttar Pradesh and Bay Islands. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over E Meghalaya, Arunachal Pradesh, Nagaland Manipur, adjoining SE Assam, Coastal Karnataka, Kerala and S Tamilnadu. Scattered low/medium clouds with embedded weak to moderate convection were seen over NE Rajasthan adjoining N Madhya Pradesh. Scattered low/medium clouds were seen over J & K, Himachal Pradesh, Uttarakhand, C Madhya Pradesh W Vidarbha and rest parts of East & South India.

Arabian Sea:

Scattered low/medium clouds with embedded intense to very intense convection were seen over southwest Arabian Sea. Scattered low/medium clouds with embedded moderate to intense convection were seen over southeast Arabian Sea off Kerala & Karnataka coast.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded intense to very intense convection were seen over S Bay of Bengal, Andaman Sea, Gulf of Martaban and Tenasserim coast.

Past Weather:

Convection:-

Moderate to Intense convection was observed over J&k Himachal Pradesh Punjab North Rajasthan Uttarakhand North West Uttar Pradesh, Bihar Jharkhand Odisha West Bengal North-East States South Interior Karnataka Andhra Pradesh Kerala and Tamilnadu.

OLR:-

Upto **200** wm^{-2} was observed over East J&K, South Interior Karnataka Kerala West Tamilnadu. Upto **230** wm^{-2} was observed over Rest J&K, Himachal Pradesh, North Uttarakhand Delhi North East Odisha East Jharkhand West Gangetic West Bengal Rest Tamilnadu. Upto **250** wm^{-2} was observed over Sikkim Meghalaya Arunachal Pradesh Assam Nagaland.

Westerly Trough & Jet-Stream:

Trough in Westerlies runs roughly along longitude 76.0E North of Lat. 24.0N.

No Jet Stream is observed over India Dynamic Features

Dynamic Features:

Low to Medium wind shear is observed over India.

Negative shear tendency is observed over Gujarat Rajasthan Coastal Andhra Pradesh and Positive shear tendency is observed over rest India.

A positive Vorticity field is observed over Odisha North Coastal Andhra Pradesh Extreme South Tamilnadu.

Negative low level convergence observed over Bihar and Positive low level convergence observed over rest parts of India.

Precipitation:**IMR:**

Rainfall Up to 110 mm was observed over South East Jharkhand.

Rainfall Up to 50 mm was observed over North East Odisha West Gangetic West Bengal South Interior Karnataka West Tamilnadu Kerala East. Rainfall Up to 10mm was observed over Meghalaya. Rainfall Up to 10mm was observed over East J&K Himachal Pradesh North Uttarakhand South Haryana Delhi North East Rajasthan West Assam Nagaland Manipur.

HEM:

Rainfall Up to 70 mm was observed over North East Odisha South Interior Karnataka Kerala North West Tamilnadu South Assam.

Rainfall Up to 14 mm was observed over South West J&K Himachal Pradesh Meghalaya.

Rainfall Up to 07 mm was observed over Haryana Delhi North West Uttar Pradesh North East Rajasthan West Bengal Assam Nagaland Manipur.

RADAR and RAPID Observation:

DWR Composite at 1230hrs IST indicated moderate convection over extreme east Rajasthan and SW Uttar Pradesh. Isolated/multiple echoes with dBZ 45-50 and height 10-12km were seen in DWR Delhi and Jaipur at 0702UTC (1232hrs IST).

RAPID RGB Satellite imagery at 1200hrs IST indicated significant convective activity over SW & Central parts of Uttar Pradesh adjoining East Rajasthan, South Assam, Manipur, Mizoram, Tripura, Andaman Islands & Lakshadweep Islands.

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

Higher Dust concentration was observed over north-west Africa . Dust concentration is expected to increase over north India for next five days. High PM10 concentration was observed over Rajasthan and is expected to increase over north India in next five days.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

12UTC Charts of Day 2-3 show evolution of heat low over NW India and adjoining Pakistan with MSLP values lower than 994hPa.

12UTC charts on days from Day0-4: show a zones of wind discontinuity at 925 hPa :(i) SW-NE extending from northern Telangana-Maharashtra region to Chhattisgarh-Jharkhand region.

Over Arabian Sea a weak CYCIR at 850 hPa is seen near in Day-3 and 4.

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

Weaker core winds at 12 UTC on all days over India..

3. Convergence at 850 hPa:

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

Day0: West RJ, East RJ, Odisha, Saurashtra Kutch, Coastal AP,

Day1: Punjab, West RJ,

Day2: Assam Meghalaya, Uttarakhand, Chhattisgarh, Telangana, Rayalaseema,

Day3: Jharkhand, West UP, Hry Chd Delhi, Punjab, Odisha, Madhya Maharashtra, Vidarbha, NI Karnataka, SI Karnataka,

Day4: Assam Meghalaya, Odisha, Madhya Maharashtra, NI Karnataka, SI Karnataka

4. Low level Vorticity:-Positive Vorticity (> 15×10^{-5} /s):

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

Day0: Assam Meghalaya, TN Puducherry,

Day1: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, TN Puducherry,

Day2: Arunachal Pradesh, Assam Meghalaya, Uttarakhand, Punjab, TN Puducherry,

Day3: Arunachal Pradesh, Assam Meghalaya, Jharkhand, Bihar, Uttarakhand, Odisha, TN Puducherry,

Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, TN Puducherry, NI Karnataka, Kerala.

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

(Day/Index : Subdivisions with Showalter Index < -4):

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

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Guj Reg, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala.

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

(Day/Index : Subdivisions with K Index > 40):

Day0: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Hry Chd Delhi, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Madhya Maharashtra, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Guj Reg, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Rayalaseema, TN Puducherry, NI Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN 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, Sub Himalayan WB, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Guj Reg, Saurashtra Kutch, Coastal AP,

Day1: Arunachal Pradesh, Sub Himalayan WB, Bihar, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Coastal AP, TN Puducherry,

Day2: Arunachal Pradesh, Sub Himalayan WB, Jharkhand, Bihar, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Guj Reg, Saurashtra Kutch, Coastal AP, TN Puducherry,

Day3: Arunachal Pradesh, Sub Himalayan WB, Bihar, East UP, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Coastal AP, TN Puducherry,

Day4: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, West MP, Chhattisgarh, Coastal AP, Telangana, TN Puducherry, SI Karnataka.

8. Rainfall and thunder storm activity:

(Day/Index : Subdivisions with Precipitation > 2 cm):

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Andaman Nicobar,

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

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

Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Andaman Nicobar,

Day5: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Himachal Pradesh, Jammu Kashmir, Andaman Nicobar.

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

Not Received.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

Presently, the upper air cyclonic circulation over Punjab & neighbourhood extending upto 0.9 Km above mean sea level persists. A trough runs from this system to southeast Madhya Pradesh across northeast Rajasthan and extends upto 0.9 km above mean sea level. Due to which Himachal Pradesh and Uttrakhand may experience thunder storm with gusty wind on Day-1. On Day-2, the activity will increase over Haryana and Uttar Pradesh and Punjab.

The trough at mean sea level from south coastal Andhra Pradesh to Comorin area persists. This will give rise to thunder storm with gusty wind over Interior Karnataka, Kerala and Rayalseema on Day-1.

The trough from west Bihar to west central Bay of Bengal now runs from Bihar to east central Bay of Bengal, off north Andhra Pradesh coast at 1.5 km above mean sea level. This will give rise to thunder storm with gusty wind over Bihar, Jharkhand, Parts of Orissa and SHWB, Sikkim on Day-1.

24 hour Advisory for IOP:

Kerala, Interior Tamilnadu, South and North Interior Karnataka, Coastal Karnataka, Rayalaseema
Gangetic west Bengal, Sub Himalayan West Bengal, Sikkim, Orissa, Bihar, Jharkhand
Himachal Pradesh, Uttarakhand
Assam, Meghalaya, Manipur, Mizoram and Nagaland, Tripura

48 hour Advisory for IOP:

Kerala, Interior Tamilnadu, North & South Interior Karnataka, Coastal Karnataka, Rayalaseema
Sikkim, Sub Himalayan West Bengal, Bihar
West and East Rajasthan
Punjab, Haryana, West and East UP

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 RAPID tool:

<http://rapid.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

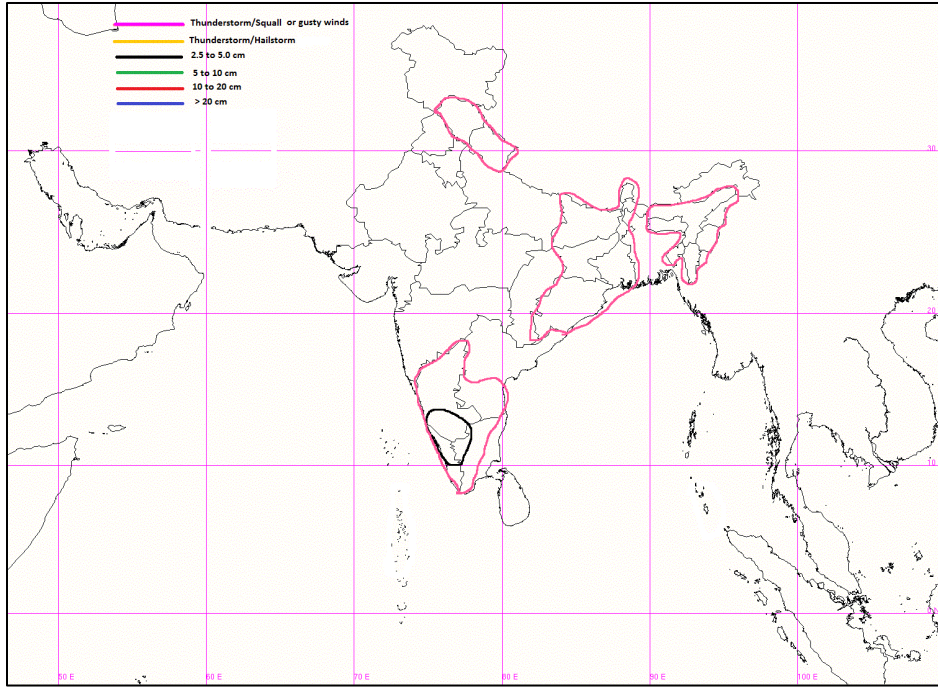
HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg

ForRadarimagesofthepast24hoursincludingmosaicofimages:

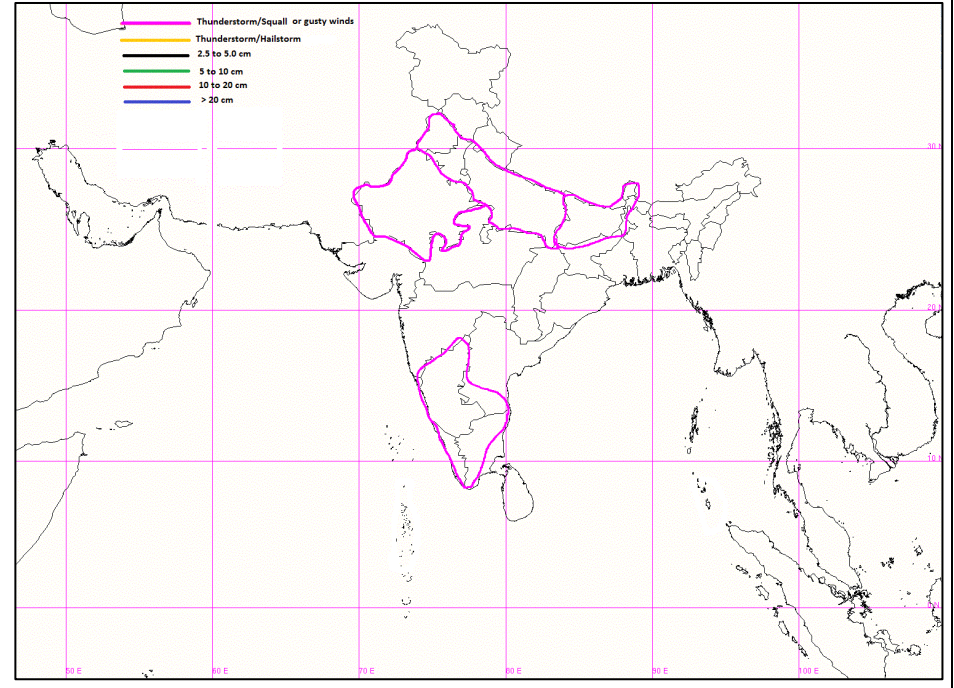
http://ddgmui.imd.gov.in/dwr_img/

Satellite sounder based T- Phigram

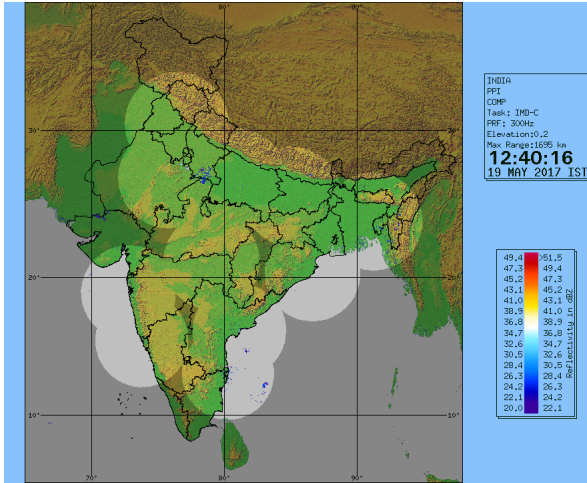
http://satellite.imd.gov.in/map_skm2.html



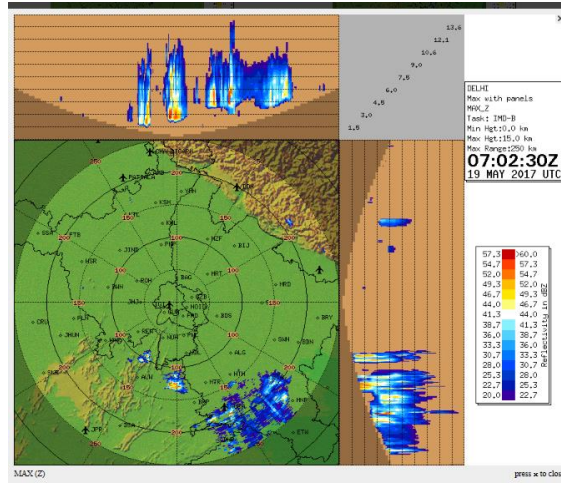
IOP Advisory for 24 hours



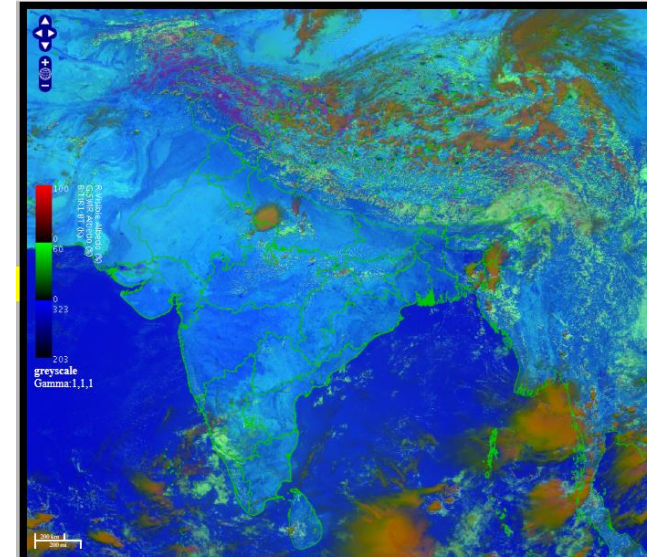
IOP Advisory for 48 hours



DWR Composite at 1230hrs IST

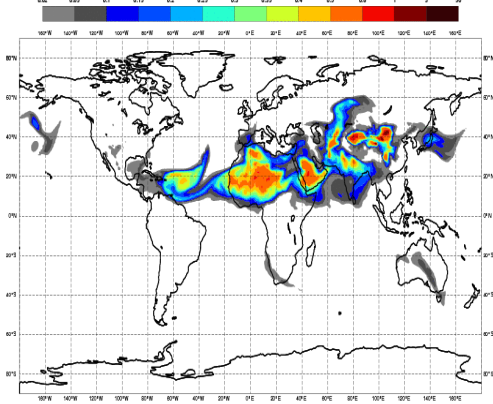


DWR Delhi at 0702UTC (1232hrs IST)

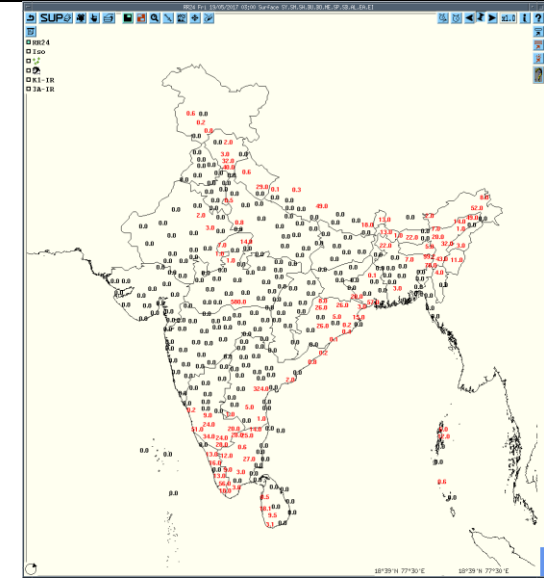
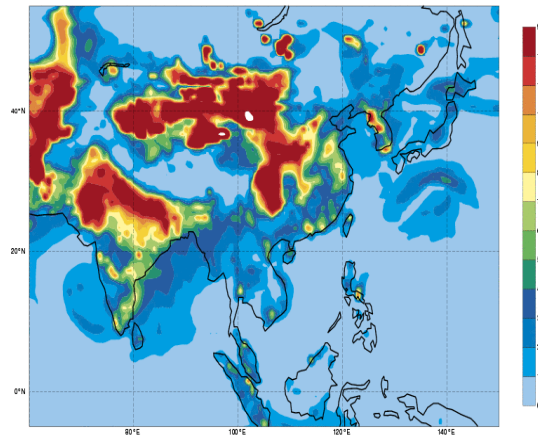


RAPID RGB Satellite Imagery at 1200 hrs IST of today

Thursday 18 May 2017 00UTC CAMS Forecast +120 VT: Tuesday 23 May 2017 00UTC
Dust Aerosols Optical Depth at 550 nm



Thursday 18 May 2017 00UTC CAMS Forecast +120 VT: Tuesday 23 May 2017 00UTC
Surface PM10 [$\mu\text{g}/\text{m}^3$]

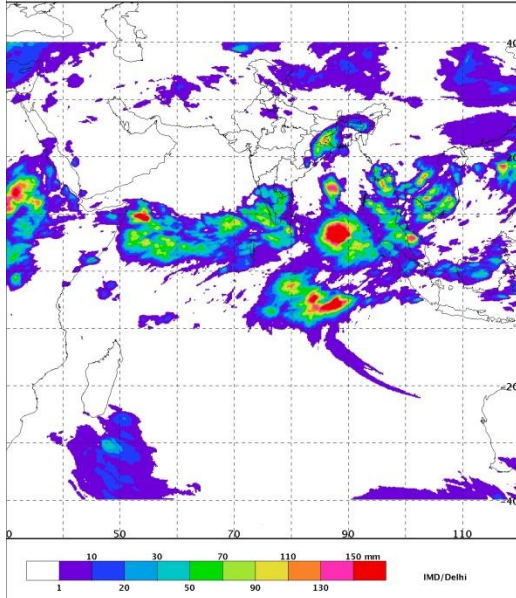


Forecast Dust Concentration for 00UTC of 23rd May

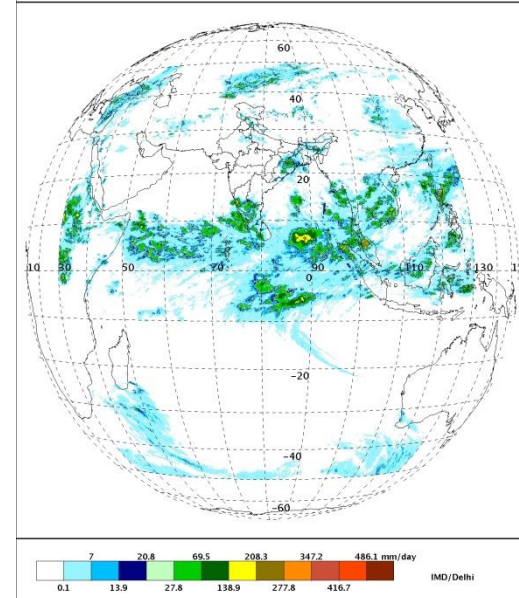
PM10 Forecast for 00UTC of 23rd May

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

SAT-INSAT-3D IMG 18-05-2017 (03:30 GMT) to 19-05-2017 (03:00 GMT)
INSAT Multispectral Rainfall(Daily)
L3G BINNED GEOPHYSICAL PARAMETER GRIDDED

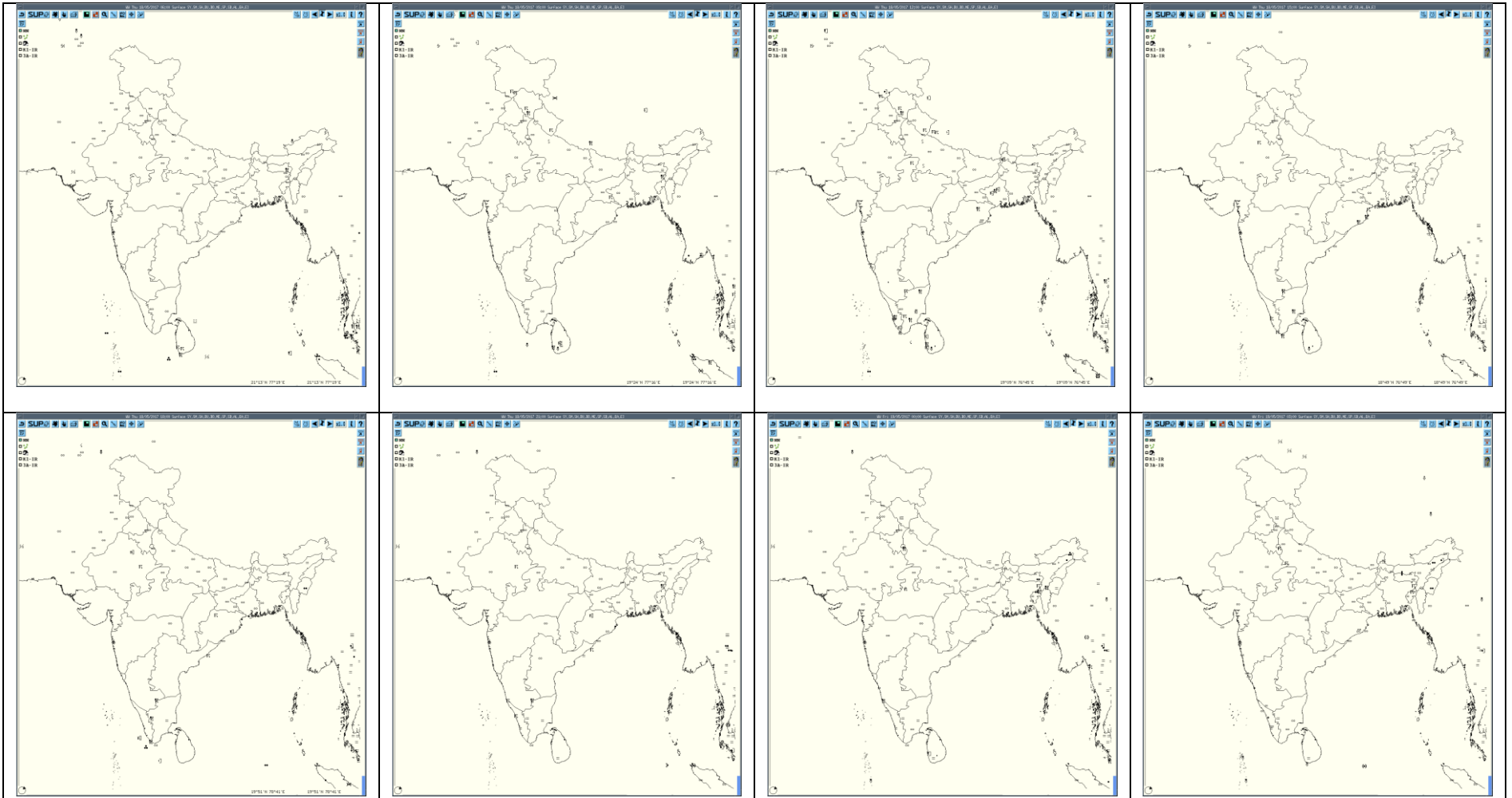


SAT-INSAT-3D IMG 18-05-2017 (03:30 GMT) to 19-05-2017 (03:00 GMT)
Precipitation(HE) Daily
L3B BINNED GEOPHYSICAL PARAMETER FULL DISK

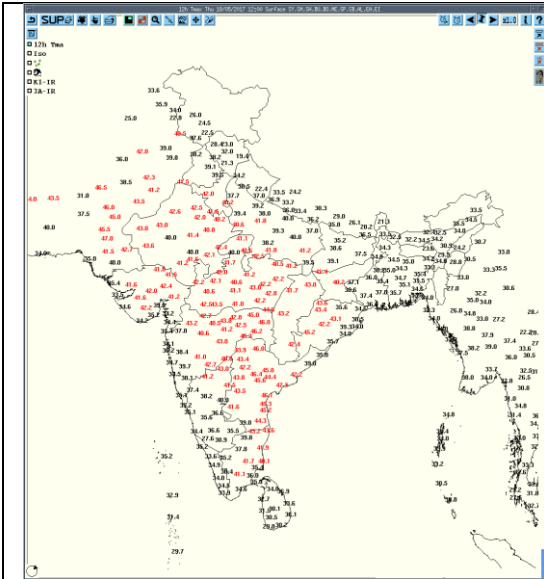


IMR Rainfall

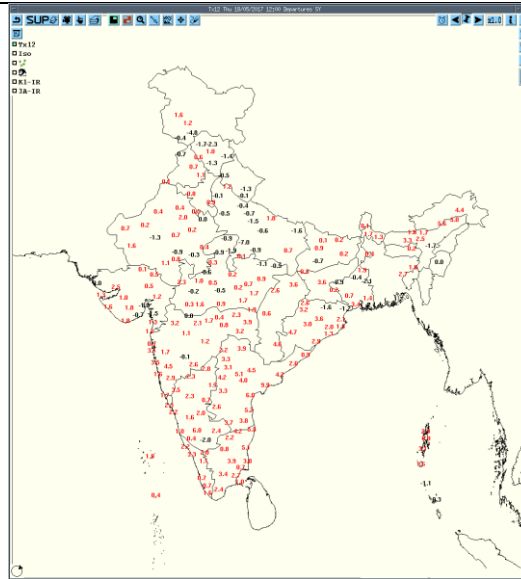
HEM Rainfall



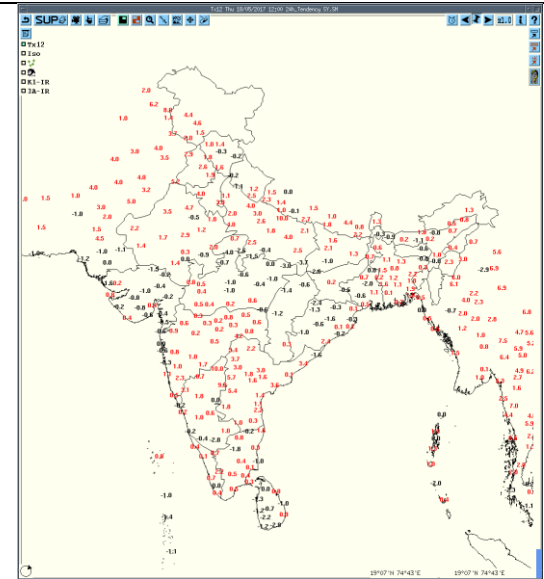
3hourly Past weather at 06,09,12,15,18,21UTC of yesterday and 00 & 03 hrs UTC of today



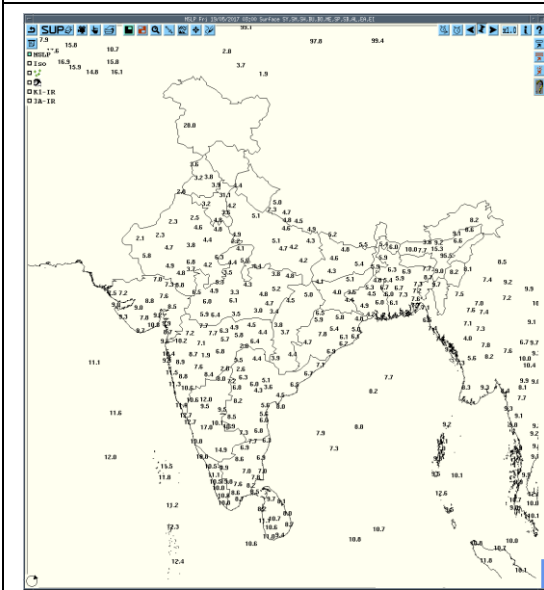
max



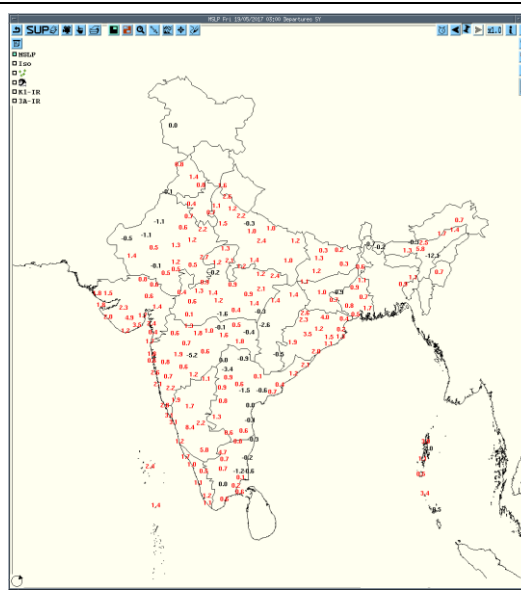
Departure Tmax



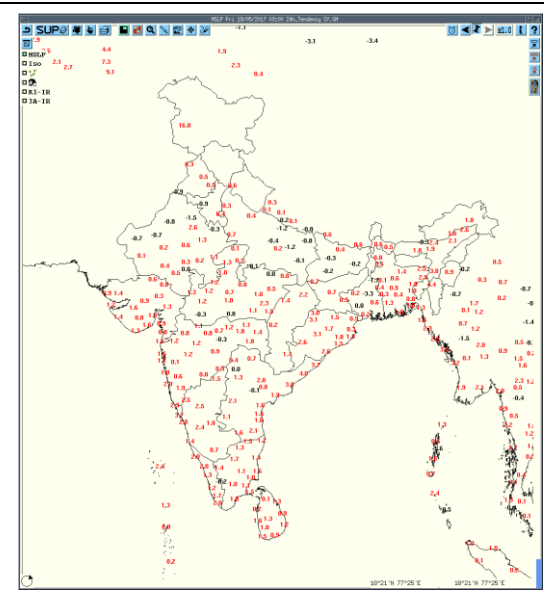
Tendency Tmax



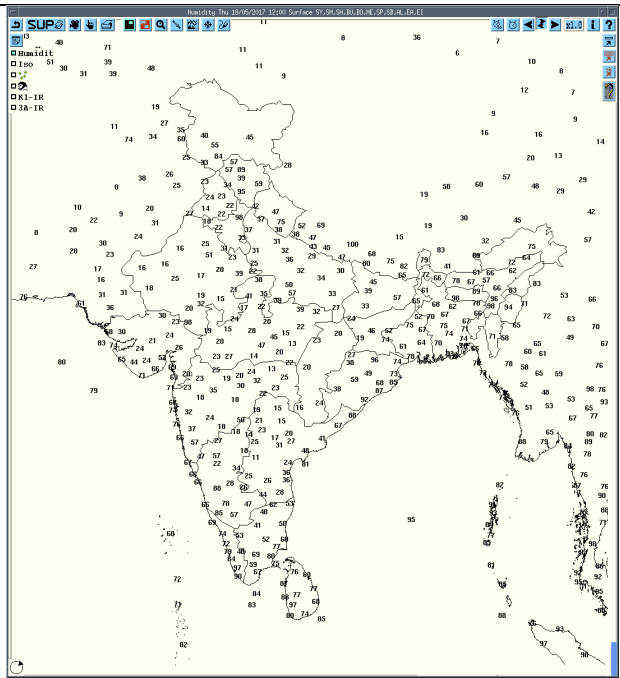
MSLP



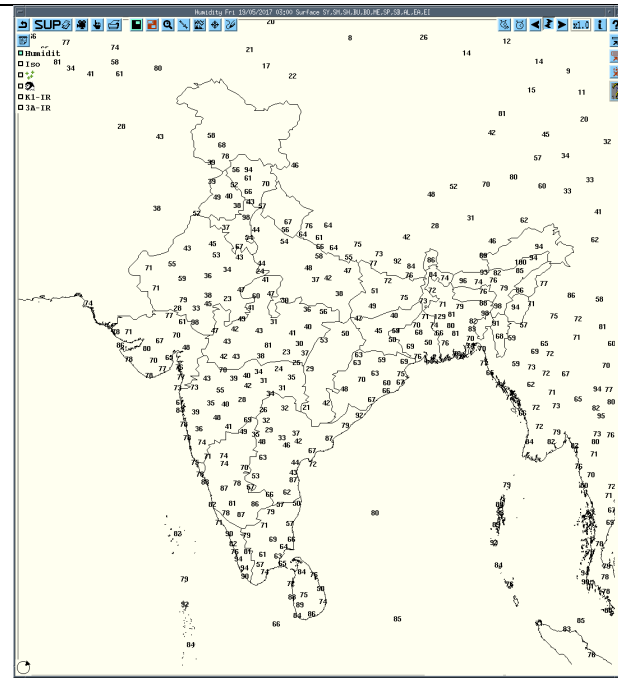
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

Realized weather past 24hours (Based on SYNERGIE Products)					
Date	Time of Reporting	Name of Station Reporting	Region	STATE	Weather Event
18-05-17	0600UTC	Shillong	NE India	Meghalaya	Thunderstorm
18-05-17	0900UTC	Banihal, Batote, Bhaderwah,	NW India	J & K	Thunderstorm
		Shimla	NW India	Himachal Pradesh	Thunderstorm
		Shimla (AP)	NW India	Himachal Pradesh	Thunderstorm
		Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Jamshedpur	E India	Jharkhand	Thunderstorm
18-05-17	1200UTC	Jammu	NW India	J & K	Thunderstorm
		Sundernagar, Shimla	NW India	Himachal Pradesh	Thunderstorm
		Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Gwalior	C India	Madhya Pradesh	Thunderstorm
		Bagdogra, Shantiniketan, Panagarh, Bankura	E India	West Bengal	Thunderstorm
		Keonjhar	E India	Odisha	Thunderstorm
		Bengaluru (HAL & City)	S India	Karnataka	Thunderstorm
		Vellore, Tiruchirappalli, Kodaikanal, Madurai	S India	Tamilnadu	Thunderstorm
		Cochin (City and AP), Punalur	S India	Kerala	Thunderstorm
		Thiruvananthapuram	S India	Kerala	Thunderstorm with Hail
			Thunderstorm		
18-05-17	1500UTC	Sundernagar	NW India	Himachal Pradesh	Lightening
		Churu	NW India	Rajasthan	Thunderstorm
		Jharsuguda	E India	Odisha	Lightening
		Bhubaneshwar, Chandbali, Balasore	E India	Odisha	Thunderstorm
		Digha	E India	West Bengal	Thunderstorm
		Tuni	S India	Andhra Pradesh	Lightening
		Bengaluru	S India	Karnataka	Thunderstorm
		Kanyakumari, Tiruchirappalli,	S India	Tamilnadu	Thunderstorm
		Coimbatore, Atirampattinam, Nagapattinam, Tondi	S India	Tamilnadu	Lightening
		Karaikal	S India	Puducherry	Lightening
Cochin, Thiruvananthapuram,	S India	Kerala	Lightening		
18-05-17	1800UTC	Churu, Jaipur	NW India	Rajasthan	Thunderstorm
		Jharsuguda, Bhubaneshwar	E India	Odisha	Thunderstorm
		Chandbali	E India	Odisha	Lightening
		Vishakhapatnam	S India	Andhra Pradeah	Thunderstorm
		Nagapattinam	S India	Tamilnadu	Lightening
		Thiruvananthapuram	S India	Kerala	Thunderstorm

		Coimbatore	S India	Tamilnadu	Thunderstorm
		Bengaluru	S India	Karnataka	Thunderstorm
		Aminidivi	S India	Lakshadweep & Minicoy Islands	Lightening
		Agartala	NE India	Tripura	Lightening
18-05-17	2100UTC	Jaipur	NW India	Rajasthan	Thunderstorm
		Jharsuguda	E India	Odisha	Thunderstorm
		Bajpe, Bengaluru	S India	Karnataka	Thunderstorm
		Kozhikode	S India	Kerala	Thunderstorm
		Aminidivi	S India	Lakshadweep & Minicoy Islands	Lightening
		Agartala	NE India	Tripura	Lightening
19-05-17	0000UTC	Safdarjung	NW India	Delhi	Thunderstorm
		Guna	C India	Madhya Pradesh	Thunderstorm with hail
		Bajpe	S India	Karnataka	Thunderstorm
		Kailasahar	NE India	Tripura	Thunderstorm
		Silchar	NE India	Assam	Thunderstorm
19-05-17	0300 UTC	Palam, Safdarjung	NW India	Delhi	Thunderstorm
		Agra	NW India	Uttar Pradesh	Thunderstorm

Past 24 hours DWR Report:

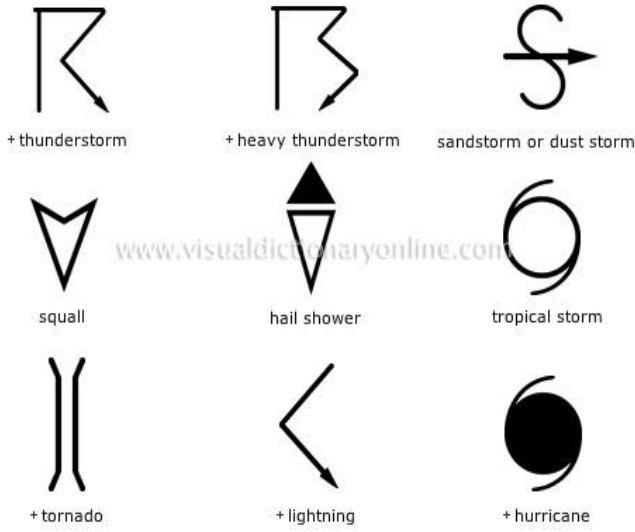
Radar Station name	Date of Reporting	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
JAIPUR	19/05/17 19/05/17 19/05/17	0730-1000 UTC	Multiple cell with average height of 5.3 km maximum reflectivity 52 dBZ	Cell develop 0730 to 1000 UTC towards north east & E of Jaipur and moves towards NE at speed 25-30 km/hr	Cells continuous forming from 0730 UTC NE & E of Jaipur and maximum refectionivity during 0840-0920 UTC	---	Alwar, Bharatpur, Dausa, Karauli
		1000-1250 UTC	Multiple cells with average height of 5.0 km maximum reflectivity 56 dBZ	Multiple Cells develop 1000 to 1250 UTC towards North East, South & Nort West and moves towards east at speed 25 to 30 km/hr.	Cells continuous forming from 1000 UTC North East, South & Nort West of Jaipur and maximum refectionivity during 1000-1250 UTC and died down at 1320 UTC	Moderate Thunderstorm	Sikar, Ajmer, Dausa, Karauli, Bharatpur, Tonk
		1250-2250	Multiple cells with average height of 5 km maximum reflectivity 54 dBZ	Multiple Cells develop 1250 to 2250 UTC towards NW and moves towards NE at speed 40-45 km/hr.	Cells continuous forming from 1250 UTC NW of Jaipur and maximum refectionivity during 1310-1420 UTC and 1450-2130 UTC and died down at 2250 UTC	Moderate Thunderstorm	Nagur, Churu, sikar, Jhunjhunu, Dausa, Jaipur, Karauli, Sawaimadhopur
Patna	19-05-17	180300-190300	Nil				
Patiala	19-05-17	18 MAY 0302 UTC- TO 0602 UTC	No significant Echo	---	-----	-----	-----
		18MAY 0602 UTC- TO 0902 UTC	Multiple cells Max= 57.0 dBz Ht.= 10-12 km	Formation in NE sector. MOVEMENT SE-WARDS.	-----	-----	SOLAN

		18MAY 0902UTC- TO 1202 UTC	Multiple cells Max= 56.0 dBz Ht.=11-13 km	Formation in NE sector. MOVEMENT SE- WARDS.			SHIMLA, NAHAN,SOLAN, MANDI
		18 MAY 1202 UTC TO 1502 UTC	Multiple cells Max= 55.5 dBz Ht.=10-12 km	Formation in NE sector. MOVEMENT SE- WARDS.		-	MANDI , BILASHPUR
		18MAY 1502UTC- TO 1802 UTC	No significant Echo	-----	-----	-----	-----
		18MAY 1802UTC- TO 2102 UTC	No significant Echo	-----	-----	-----	-----
		18MAY 2102UTC- TO 0002 UTC	No significant Echo	-----	-----	-----	-----
		19MAY 0002UTC- TO 0252 UTC	No significant Echo	-----	-----	-----	-----
Nagpur	19-05-17	180300- 190300	Nil				
Mumbai	19-05-17	180300- 190259	Nil				
Paradeep	19-05-17	0300-0900 UTC	Isolated cell seen developing in Keonjhar at 1230 IST with reflectivity values ranging between 38- 52 dBZ and eights exceeding 14kms..	Position: Lat:21.45 degree N Lon:86.68 degree E Movement: NWly	NIL	TS with rain	Keonjhar Bhadrak and Jajpur

		0900-1500 UTC	Isolated single cells seen to develop in the NW SECTOR of the RADAR with maximum reflectivity of 55 dBZ and heights exceeding 14 km.	Position: Scattered all along the NW sector of RADAR from 260-30 degrees(clockwise.) Movement: NWly	These cells later transform into convective regions after 1500 UTC.	TS with rain. Hailstorms also expected.	Keonjhar, Jajpur, Cuttack, Baleshwar, Dhenkanal, Sambalpur, Debagarh, Mayurbhanj, Ganjam, Angul, Nayagarh, Khorda, Puri and Jagatsinghpur.
Machilipatnam	19-05-17	0941 to 1101 UTC	Isolated Multiple cells average height of 9.5 km with maximum reflectivity of 54.5dBZ	W(225KM) and moving SW ly direction with average speed of 11.8 kmph	Cell started forming at 0941UTC, at W (225km) from Radar the maximum reflectivity during 0941 to 1101 UTC and died down at 1111UTC	Possibility of Thunder storm with rain and winds.	Ongole District
		1101 to 1211UTC	Isolated Multiple cells average height of 10.0km with maximum reflectivity of 60.0 dBZ	SW (198KM) and moving NWy direction with average speed of 10 kmph	Cells started forming at 1101UTC at SW (198KM) from Radar the maximum reflectivity during 1101 to 1211 and died Down at 1221UTC	Possibility of Thunder storm with hail and light winds.	Nellore District
		1021 to 1131UTC	Isolated Multiple cells average height of 13.8km with maximum reflectivity of 55.5 dBZ	NE (247M). The cell is stationary.	Cells started forming at 1021UTC at NE(247km) from Radar the maximum reflectivity during 1021 to 1131 and died Down at 1141UTC	Possibility of Thunder storm with Rain winds.	Visakhapatnam, District
		2111 to 2151UTC	Isolated Multiple cells average height of 3.8 km with maximum reflectivity of 48 dBZ	W (133M). The cell is stationary.	Cells started forming at 2111UTC at W(133km) from radar the maximum reflectivity during 2111 to 2151 and died Down at 2201UTC	Possibility of Thunder storm with Rain and light winds.	Guntur District

Agartala	19-05-17	180400 - 181440	Multiple cells with Maximum Height 09km and maximum reflectivity 45 dBZ (at 0620 UTC of 18.05.17)	Formed 120 km N NW of AGT at 0400 UTC and moved SE-wards at around 35 kmph	Cells Dissipated at 1440 UTC over Central part of Assam	TS with light rain	East Khasi Hills District of Meghalaya
		181250 - 181520	Single cell Maximum Height 14km and maximum reflectivity 42 dBZ (at 1400 UTC of 18.05.17)	Formed 220 km SW of AGT at 1250 UTC and moved E-wards at around 20 kmph	Cells Dissipated at 1520 UTC over BD	N/A	N/A
		181500 - 190300	Multi cells developed two distinct Squall line over Meghalaya and adjoining BD with Maximum Height 14 km and maximum reflectivity 45 dBZ(at 2050 UTC of over BD	Formed 370 km NW of AGT at 1500 UTC and moved SE-wards at around 40 kmph	Cell persist over Mizoram at 0300 UTC	TS with light/moderate rain	North, Unakoti, Dhalai districts of Tripura
		182000 - 190300	Multiple cells made squall line at 2230UTC over BD with Maximum Height 11km and maximum reflectivity 41 dBZ (at 0240 UTC of 19.05.17)	Formed 310 KM NW of AGT at 2000 UTC and moved SE wards with 50kmph	Cell persist over East BD at 0300 UTC	N/A	N/A
Kolkata	19-05-17	0301-0730 UTC	NIL	NIL	NO SIG ECHO	NIL	N/A
		0731-1001 UTC	Isolated cell at a position 21.933 N/ 86.425 E/ 250.9 Degree/ 210.7 km away from radar transformed into big cells with maximum reflectivity of 57.0 dBz at 0911 UTC and maximum height of 9.23 Km at 0911 UTC	SW (210 km) Moving in SE-ly direction.	A cell formed at 0731 UTC in SW at a distance of 210.7 km from radar. Matured and dissipated at 1001UTC in SW	Thunderstorm Hail/ Rain	N/A
		0731-1901 UTC	Isolated cell at a position 23.318 N/ 86.199 E/ 291.1 Degree/ 235.7 km	WNW (235 km) Moving in SE-ly direction.	A cell formed at 0731 UTC in WNW at a distance of 235 km from radar. Matured and	Thunderstorm Hail/ Rain	N/A

	away from radar transformed into multi cell system with maximum reflectivity of 61.0 dBz at 0841 UTC and maximum height of 16.30 Km at 0841 UTC		moving into Bay of Bengal at 1301 UTC in SW at a distance of 130.8 km from radar and later dissipated at 1901 UTC		
0931-1221 UTC	Isolated cell at a position 23.940 N/ 87.185 E/ 322.1 Degree/ 193.5 km away from radar transformed into big cell with maximum reflectivity of 61.5 dBz at 0941 UTC and maximum height of 14.60 Km at 0931 UTC	NNW (193 km) Moving in SE-ly direction.	A cell formed at 0731 UTC in WNW at a distance of 235 km from radar. Matured and dissipated at 1221 UTC in SW	Thunderstorm Hail/ Rain	N/A
1311-1511 UTC	Isolated cell transformed into big cell with maximum reflectivity of 62.5 dBz at 1411 UTC and maximum height of 15.49 Km at 1421 UTC	ENE (125.9 km) Moving in SE-ly direction.	A cell formed at 1311 UTC in ENE (125.9 km) from radar. Matured and dissipated at 1511UTC in ESE at a distance of 160.0 km from radar.	Thunderstorm Hail/ Rain	N/A
1911-2351 UTC	NIL	NIL	NO SIG ECHO	NIL	N/A
0001-0301 UTC	NIL	NIL	NO SIG ECHO	NIL	N/A



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∞	haze
rw	smoke
⊕	dust or sand storm
≡	fog
☉	drizzle
•	rain
*	snow
▽	showers
△	hail
⊕	thunderstorm
Weather Symbols	