



India Meteorological Department
FDP STORM Bulletin No. 34 (08-04-2017)

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

SYNOPTIC FEATURES:

The Western Disturbance as an upper air cyclonic circulation over Jammu & Kashmir and adjoining north Pakistan persists and extends upto 3.1 km above mean sea level with a trough aloft now runs roughly along Longitude 74.0°E and north of Latitude 30.0°N.

The induced upper air cyclonic circulation over Punjab & adjoining Haryana extending upto 1.5 km above mean sea level has become less marked.

The trough from the induced upper air cyclonic circulation to north coastal Odisha across south Uttar Pradesh, north Chhattisgarh and Jharkhand extending upto 0.9 km above mean sea level with an embedded upper air cyclonic circulation over south Uttar Pradesh & adjoining north Madhya Pradesh extending upto 0.9 km above mean sea level has also become less marked.

The north south trough from south Madhya Maharashtra to south Tamilnadu now runs from Marathawada to south Tamilnadu across interior Karnataka and extends upto 0.9 km above mean sea level.

The upper air cyclonic circulation over Assam & neighbourhood persists and now extends between 1.5 km & 2.1 Km above mean sea level.

The trough from southeast Srilanka to south coastal Tamilnadu between 1.5 to 2.1 km above mean sea level has become less marked.

The upper air cyclonic circulation over Malaya peninsula & neighbourhood now lies over Malaya peninsula and adjoining Tenasserim coast and extends upto 2.1 km above mean sea level.

An upper air cyclonic circulation lies over north Chhattisgarh and adjoining Jharkhand and extends upto 0.9 Km above mean sea level.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

Convective Activity & Cloud Description: (based on 0900UTC imagery of INSAT 3D):

Cell No.	Date/Time (UTC)	Area/Location	CTBT (minus °C)	Movement	Remarks
1.	08/0800	north coastal Andhra Pradesh & adjoining southwest Odisha	68	-----	developing
	0900	do	74	-----	---

Scattered multi-layered clouds were seen over J & K, north Himachal Pradesh and north Uttarakhand in association with western disturbance over the area.

Scattered low/medium clouds with embedded moderate to intense convection were seen over north coastal Andhra Pradesh adjoining southwest Odisha (minimum CTT minus 75deg C) & Bay Islands. Scattered low/medium clouds with embedded weak to moderate convection were seen over Chhattisgarh, northeast Odisha, Jharkhand, southwest Gangetic West Bengal, north

Rayalaseema, south Interior Karnataka and north Kerala. Scattered low/medium clouds were seen over Punjab, rest Himachal Pradesh, rest Uttarakhand, east Uttar Pradesh and rest parts of east & south India.

Arabian Sea:

No significant clouds over the region.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded moderate to intense convection were seen over southeast Bay and Andaman Sea.

Convection:

Light to moderate convection was observed over North India, Odisha, North East states, Karnataka, N Kerala, Telangana and Andhra Pradesh.

OLR:- Up to 200 Wm^{-2} was over J&K, South Uttarakhand. Up to 230 Wm^{-2} was over North Himachal Pradesh, North Uttarakhand, Coastal Odisha, South Interior Karnataka Extreme North Andhra Pradesh North Kerala. Up to 250 Wm^{-2} was over Sikkim, Arunachal Pradesh

Jet Stream:

No Jet stream and trough observed roughly along Longitude 72.0°E and North of Latitude 28.0°N over India

Dynamic Features:

Positive shear tendency observed over India except Negative shear tendency observed over extreme North West J&K.

Low wind shear observed over south and moderate wind shear observed over North India and weak to moderate wind shear observed over Central India.

A positive Vorticity field is seen over West Madhya Pradesh, Extreme South Interior Karnataka adjoining Kerala Coastal Odisha.

Positive Low Level Convergence observed over West Madhya Pradesh, Kerala, Coastal Tamilnadu, Odisha and Bihar.

Precipitation:

IMR: Rainfall Upto **50mm** was observed over North East Jharkhand. Rainfall upto **30mm** was observed over Extreme North J&K North West Bengal. Rainfall upto **20mm** was observed over Rest North J&K South West Bihar Coastal Odisha Rayalaseema. Rainfall upto **10mm** was observed over Rest J&K North Himachal Pradesh North Uttarakhand, North East Bihar Sikkim Sub Himalayan West Bengal West Assam Meghalaya South Nagaland South Andhra Pradesh South Interior Karnataka.

HEM: Rainfall upto 14mm was observed over South West J&K North East Jharkhand North West Bengal East Meghalaya Coastal Odisha Rayalaseema South Interior Karnataka. Rainfall Upto 7mm was observed over East Uttarakhand Sub Himalayan West Bengal West Assam North Manipur adjoining Nagaland.

RADAR and RAPID observation:

Significant convection was seen over north Andhra Pradesh adjoining Chhattisgarh, Odisha, eastern parts of Chhattisgarh adjoining Gangetic West Bengal, South Karnataka and Telangana in DWR composite at 1600hrs IST

RAPID RGB Satellite imagery of 1530hrs IST also indicates convective cells over north Kerala in addition to the area indicated in DWR Composite.

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

No major dust concentration was observed over Arabian Peninsula and west Rajasthan. Dust concentration is expected to increase over northern and western India for next three days.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

12UTC Charts on all days from Day 0-4 show trough in MSLP over J & K extending NW-SE.

12UTC charts on all days from Day 0-4 show wind discontinuity at 925 hPa over two regions: (i) SW-NE extending from northern Karnataka-Telangana region to Odisha-WB region. (ii) S-N extending from southern parts of TN to northern parts of Karnataka-Telangana region.

Weak CYCIR over northern Karnataka from day-1 to Day-3 at 00UTC

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

At 12UTC on Day 0 - Day 1 strong over Sikkim, Assam, Meghalaya and Nagaland at 12UTC on day-2 strong core is seen widespread extending from parts of Bihar and WB to most parts of NE India.

At all subsequent times the core strength is weaker

3. Convergence at 850 hPa:

At 12UTC on Day-1 to Day-3: High values along the Western Ghats in Karnataka and Maharashtra, parts of Odisha and WB along with adjoining Jharkhand and Chhattisgarh.

Day4: Very high value along the coast of Karnataka and Maharashtra.

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

At 12UTC on Day-3 to Day-4 high values mainly along the IG plains extending NW to SE-wards covering parts of HP, Uttarakhand and western UP.

Day-1 to Day-4 over many parts of Assam

At 00UTC on Day-0 to Day-2: along the line of low level confluence. In Day-3 to Day-5 along the Maharashtra coast and over NW India in Rajasthan and adjoining Pakistan

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

Day-0 at 12UTC: Prominent over eastern India extending from Bihar, Jharkhand and WB covering most parts of NE India.

Additionally over the coast of Odisha and AP in east and coastal Karnataka and Kerala in the west

Day 1-2: Southern parts of NE India, Jharkhand, WB, AP and Kerala

Day 3-4: Along west coast from Kerala to south Maharashtra

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

Day-0 at 12UTC: Prominent over eastern India extending from Bihar, Jharkhand and WB covering most parts of NE India.

Additionally over the coast of Odisha and AP in east and coastal Karnataka and Kerala in the west

Day 1-2: Southern parts of NE India, Jharkhand, WB, AP and Kerala

Day 3-4: Along west coast from Kerala to south Maharashtra

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

Day 0 to Day-1 prominent over J&K, Himachal Pradesh, Uttarakhand, UP, Bihar & Jharkhand, relatively weaker over coast of Odisha and AP. Day 2: Over many parts of J&K, HP and Uttarakhand

Day 3 and Day 4: Relatively weaker over coast of MH and Kerala

8. Rainfall and thunder storm activity:

Day-2-4:(> 4cm/day) over Assam and Arunachal Pradesh

Day5: (> 4cm/day) North of J&K over Tajikistan & Afghanistan due to approaching WD

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

1. Weather Systems:.

00 UTC analysis shows CYCIR over UP, Bihar, Jharkhand and adjoining areas. A trough from the above system runs along MP, interior Karnataka to northwest Bay of Bengal along interior AP. The forecast shows the persistence of east west trough along the major parts of UP, Bihar, GWB for all the five days. A trough from the above CYCIR is now seen over Bihar, WB, Coastal Odisha and adjoining areas of Bangladesh on the 2nd day and is seen persistent and extending up to the south peninsular region till the 5th day

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

No presence of jet core over the Indian region for the next 5 days.

3. Low level Vorticity:-Positive Vorticity 850hPa ($>12 \times 10^{-1}/s$):

Analysis shows the low level positive vorticity mainly over isolated pockets of UP, Bihar, Karnataka, AP and NE states. Forecast shows vorticity core zones mainly along UP, Bihar, interior parts of Karnataka and few pockets along the east coast bordering Odisha and West Bengal along with few regions of the north eastern states for the next 5 days

4. Spatial distribution of T-Storm Initiation Index, Lifted Index, Total Total Index, CAPE, CINE and Sweat Index (High potential for thunderstorm):

T-Storm Initiation Index (> 4): Significant values over Odisha, Bihar, Jharkhand and few pockets in AP. Threshold values are noticed over Odisha, Jharkhand, Bihar, and eastern coast adjoining Bangladesh during next 4/5 days.

Lifted Index (< -2): The areas with index less than -2 lies along east coast regions, GWB, Odisha, coastal AP, Bihar and adjoining areas with gradually the LI areas with less than -2 mainly extended towards south-eastern coastal regions.

Sweat Index (> 400): 00UTC shows significant values over major parts of UP, Bihar and Jharkhand along with the east coast extending upto coastal TN. The significant zones are confined along east coast of India over GWB, Odisha, Bangladesh and adjoining regions and high value of SI observed over WB, Bihar, and east UP, Bangladesh and NE region for day 1 to day 5.

Total Total Index (> 50): 00UTC shows significant values over parts of Rajasthan and Gujarat. Above threshold value in most regions of central and western India and adjoining northern parts of India along with areas bordering north west India from day 1 to day 4 particularly at 12 UTC of each day.

CAPE (> 1000): Mostly along east coast of India over Gangetic West Bengal, Odisha, Bihar, Jharkhand and adjoining regions along with parts in south peninsular region and coastal Karnataka during next 5 days.

CINE (50-150): Maximum CINE values are found in some areas of GWB and along east coast over Odisha, coastal AP and Tamil Nadu and also over Bihar, Jharkhand and adjoining areas..

5. Rainfall and thunderstorm activity:

10-40 mm rainfall is forecasted tomorrow over isolated pockets over J&K and NE states. Isolated pockets over NE states are also forecasted for rain for all the five days.

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

1. Model Reflectivity (Max.dBz): (>25 dBZ))

Model reflectivity exceeding the threshold value, is forecasted over isolated pockets of NE states on day 1. Model reflectivity exceeding the threshold value are also forecasted over many pockets of NE during the evening hours of day1.

2. Spatial distribution of Total Total Index, K-Index, CAPE and CIN [High potential for thunderstorm]

Total Total Index (> 50): Above threshold values is observed over most parts of India during next 3 days except parts of extreme south peninsular region, north-eastern states and J & K.

K-Index (> 35): Less than threshold value over most parts of India during next 3 days.

CAPE (> 1000): Mostly along east coast of India over Andhra Pradesh, Odisha, GWB and Bihar during next 3 days. Another zone along west coast over Kerala, coastal Karnataka and Konkan & Goa during next 3 days.

CINE (50-150): CINE values are mostly small all over India during all three days of forecasts except some areas over Odisha, GWB, Eastern UP, Bihar, Jharkhand, coastal AP, coastal Karnataka and Konkan-Goa during next 3 days.

3. Rainfall and thunderstorm activity:

Rainfall activity (~ 10-40 mm) is expected to persist till next 3 days over few pockets in the NE states.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day 1 & Day 2:

In association with the upper air cyclonic circulation over Malaya peninsula and adjoining Tenasserim coast, isolated heavy rainfall is expected over Nicobar Islands on day 1. The system is likely to move westward over the next two days. However, rainfall is likely to continue over Andaman and Nicobar islands on day 2 and decrease thereafter. In association with the upper air cyclonic circulation over Assam & neighbourhood, thunderstorms accompanied by squall and hail is likely over the eastern and north eastern states on day 1. On day 2, the cyclonic circulation is likely to move eastwards and result in increased rainfall over Arunachal Pradesh.

The guidance from the NWP model output from ECMWF, IMD1534 and NCEP, IITM GFS, NCUM, NEPS and Satellite imageries are also suggesting the similar area of rainfall activities on Day1 and Day2.

24 hour Advisory for IOP:

Andaman and Nicobar Islands
East Assam, East Arunachal Pradesh, North Nagaland
Meghalaya, Manipur, Mizoram and Tripura
South Interior Karnataka,
Telangana,
North Coastal Andhra Pradesh
Orissa
Jharkhand
East Bihar
Gangetic West Bengal

48 hour Advisory for IOP:

Andaman and Nicobar Islands
East Assam, East Arunachal Pradesh, North Nagaland
Meghalaya, Manipur, Mizoram and Tripura
Interior Tamil Nadu
Interior Karnataka
South Madhya Maharashtra
Orissa
Gangetic West Bengal

ForNCMRWFNWPproducts:(<http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php>)

ForIMDNWPproducts:(http://nwp.imd.gov.in/diagpro_new.php)

ForSynopticplotteddataandcharts

<http://amssdelhi.gov.in/>

<http://www.amsskolkata.gov.in/>

ForRAPIDtool:

<http://rapid.imd.gov.in/>

LowLevelWinds

http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR_2017/?C=M;O=D

Upperlevelwinds

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

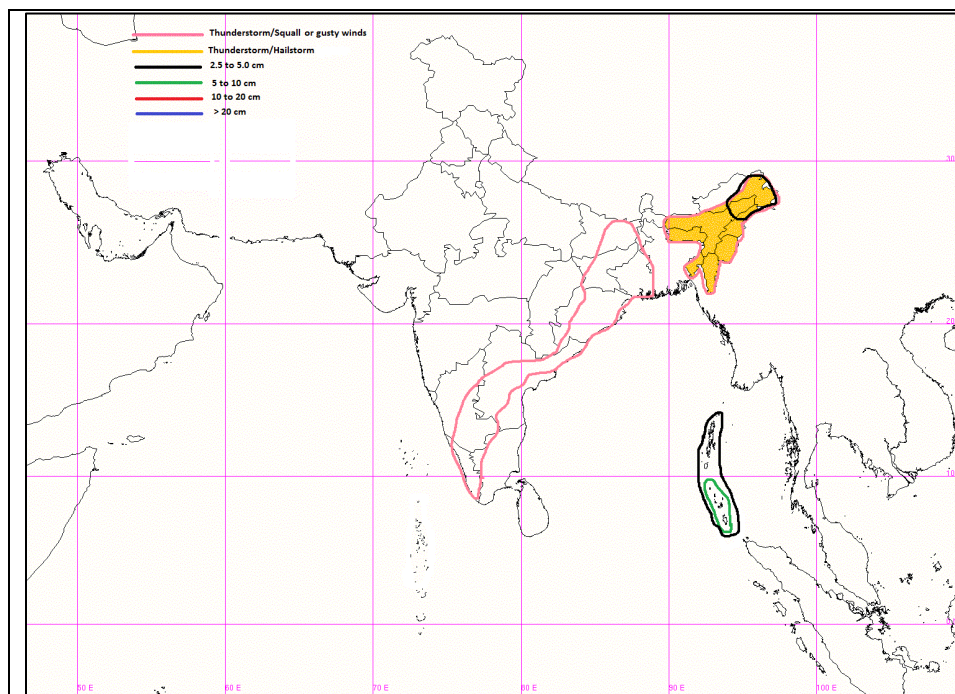
HEM:http://satellite.imd.gov.in/img/3Ddaily_he.jpg

ForRadarimagesofthepast24hoursincludingmosaicofimages:

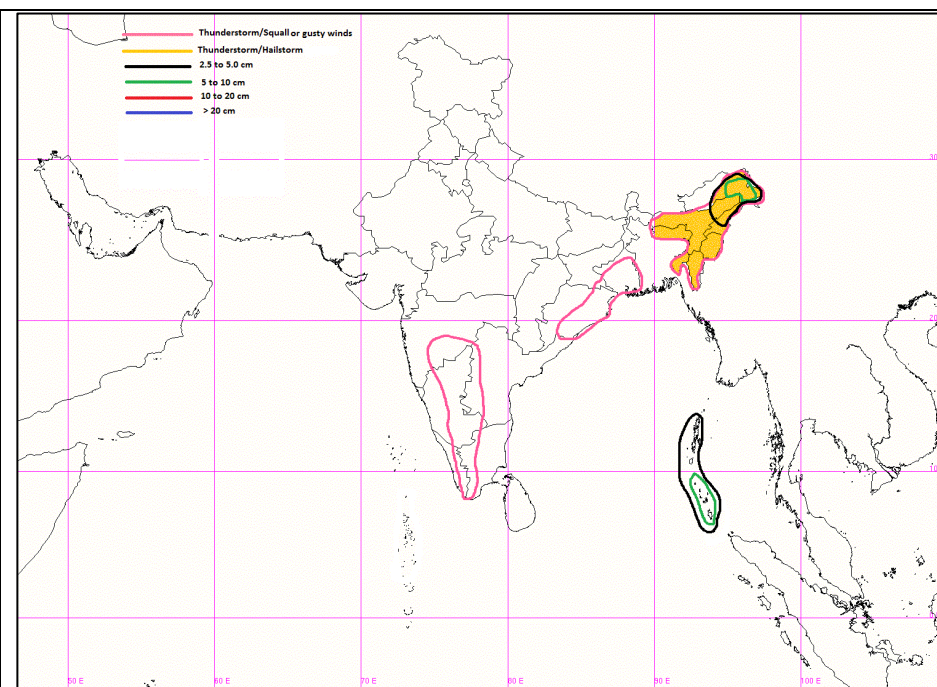
http://ddgmui.imd.gov.in/dwr_img/

Satellite sounder based T-Phi gram

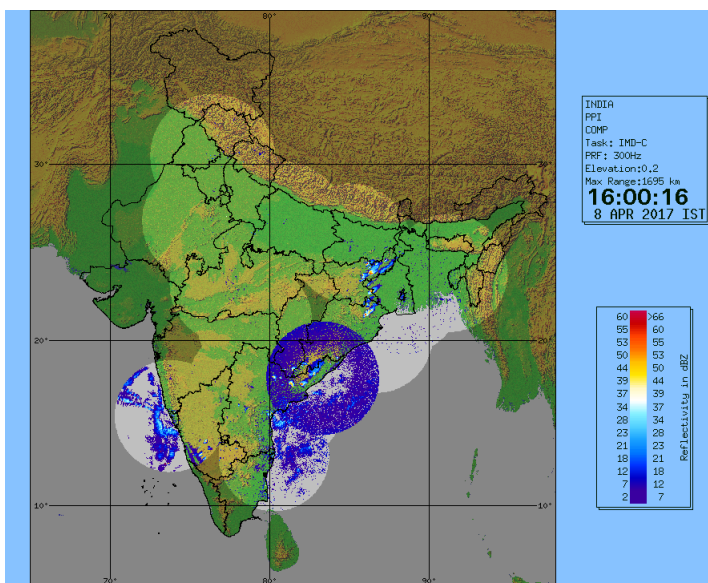
http://satellite.imd.gov.in/map_skm2.html



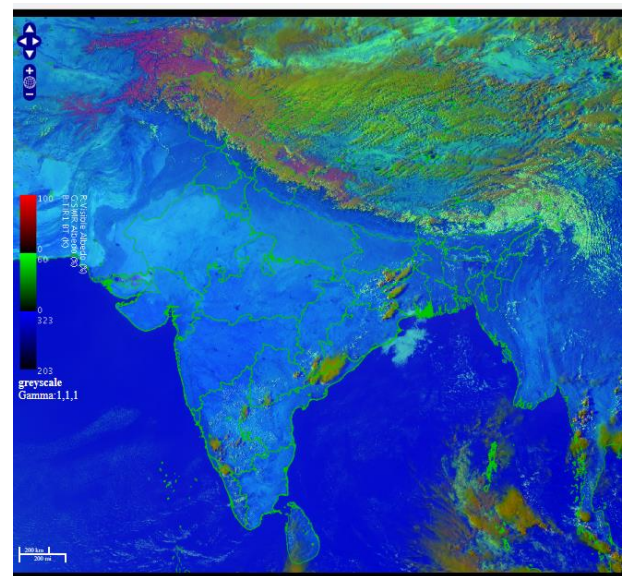
IOP Advisory for 24 hours



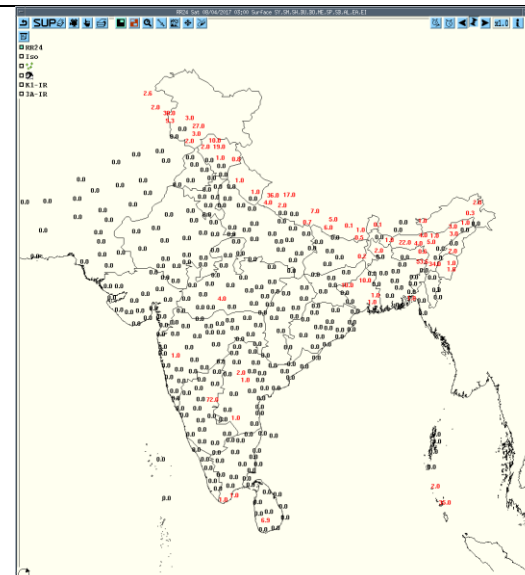
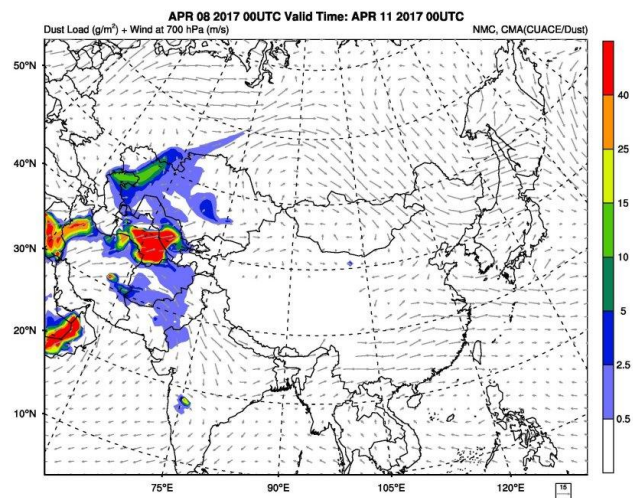
IOP Advisory for 48 hours



DWR Composite at 1600 hrs IST

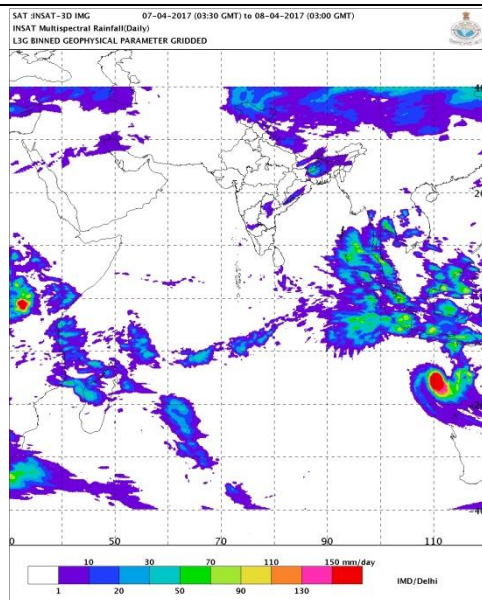


RAPID RGB Image of INSAT 3D at 1530 hrs IST

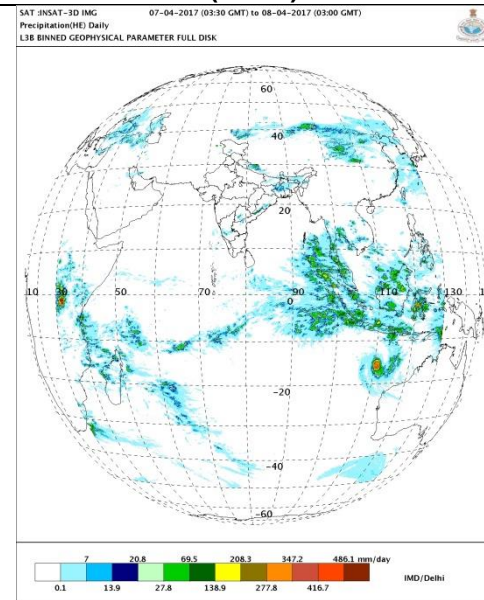


Forecast Dust Concentration for 00UTC of 11th April

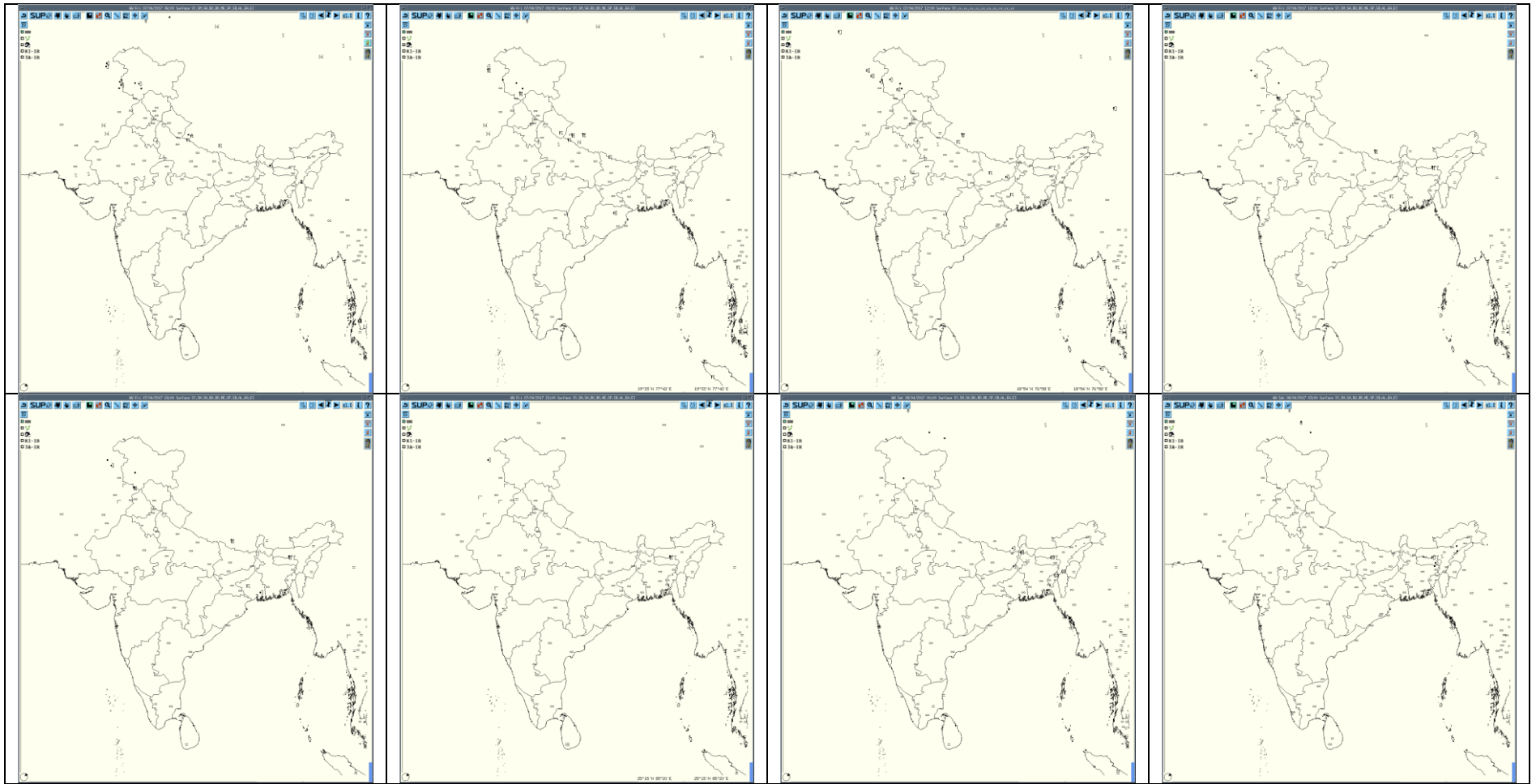
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



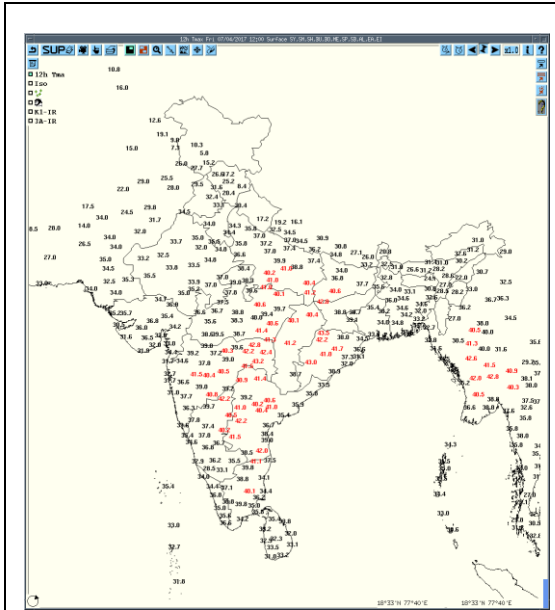
IMR Rainfall



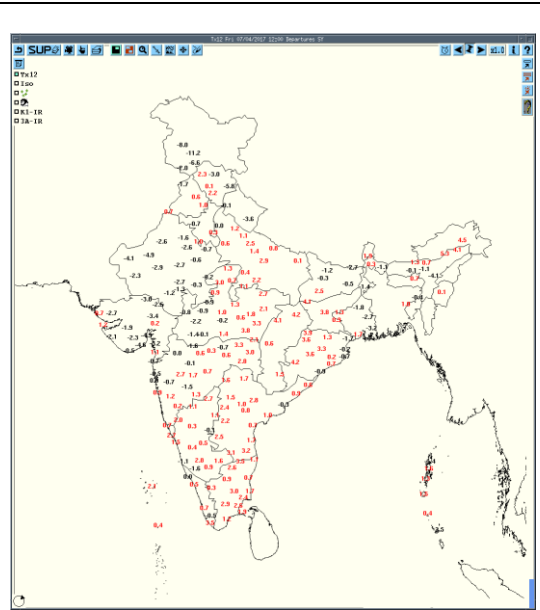
HEM Rainfall



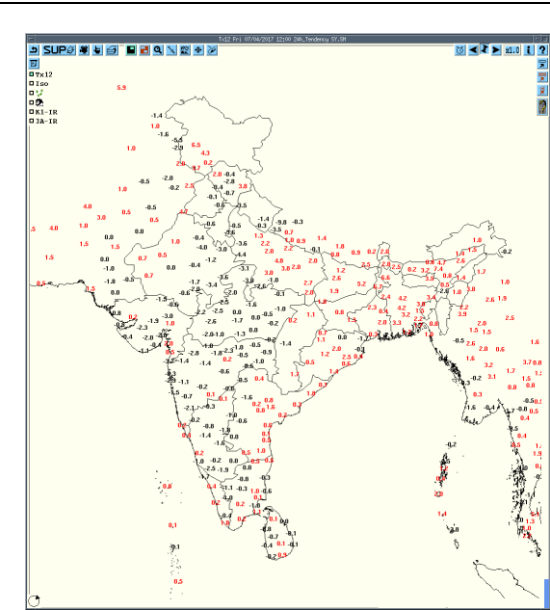
3hourly Past weather at 06, 09, 12, 15, 18, 21UTC of yesterday and 00 & 03 hrs UTC of today



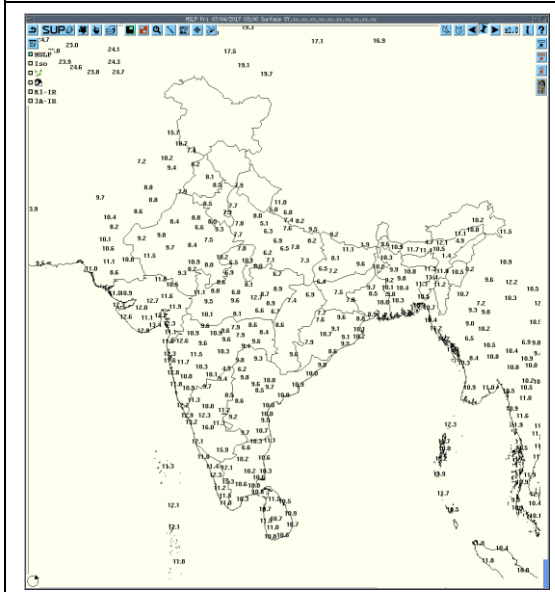
Tmax



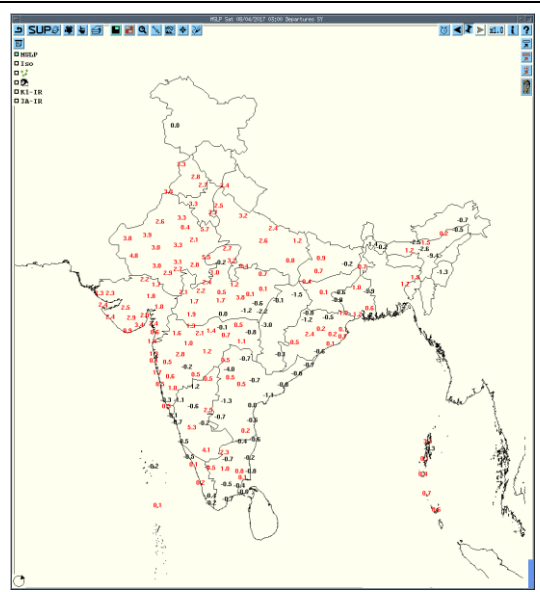
Departure Tmax



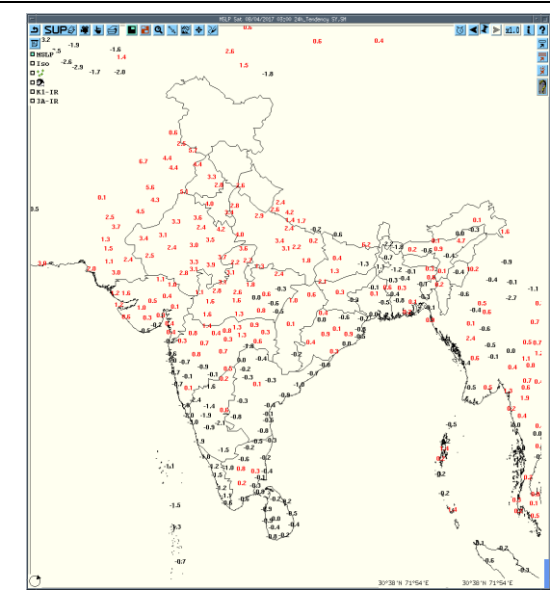
Tendency Tmax



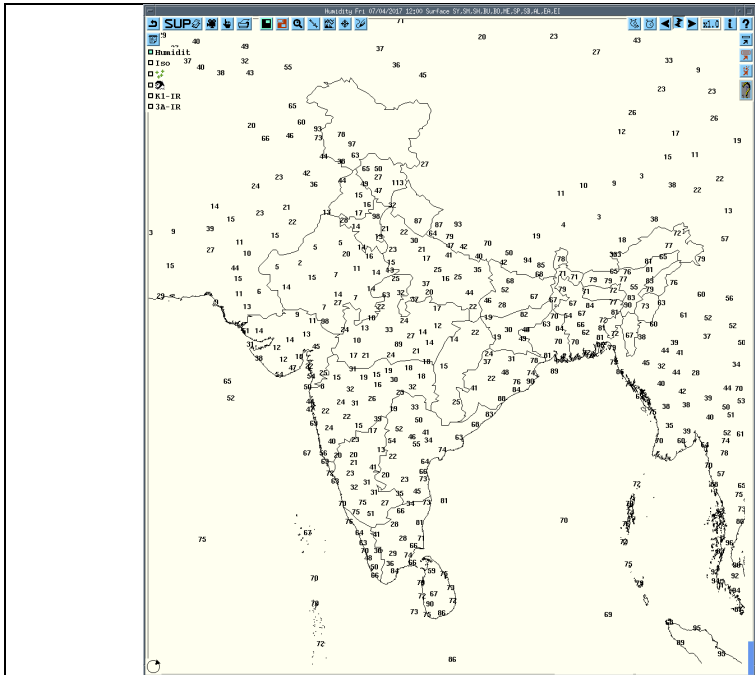
MSLP



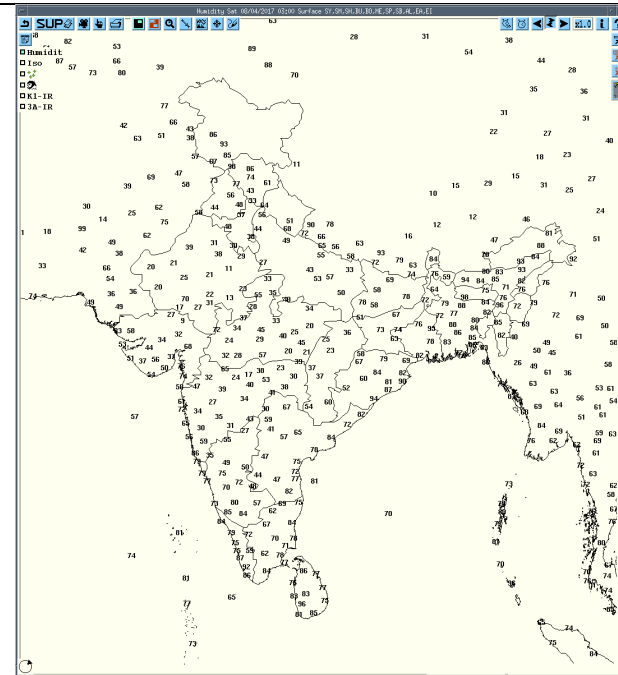
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

Realized weather past 24 hours (Based on SYNERGIE Products)					
Date	Time of Reporting	Name of Station Reporting	Region	STATE	Weather Event
07-04-17	0600 UTC	Nil	Nil	Nil	Nil
07-04-17	0900 UTC	Batote	Northwest India	J & K	Thunderstorm
		Mukteshwar	Northwest India	Uttarakhand	Thunderstorm
		Keonjhargarh	East India	Odisha	Thunderstorm
07-04-17	1200 UTC	Batote	Northwest India	J & K	Thunderstorm
		Patna, Bhagalpur	East India	Bihar	Thunderstorm
		Panagarh	East India	West Bengal(GWB)	Thunderstorm
07-04-17	1500 UTC	Jammu	Northwest India	Uttarakhand	Thunderstorm
		Bankura	East India	West Bengal(GWB)	Thunderstorm
		Patna	East India	Bihar	Thunderstorm
07-04-17	1800 UTC	Jammu	Northwest India	Uttarakhand	Thunderstorm
		Bankura	East India	West Bengal(GWB)	Thunderstorm
		Guwahati	Northeast India	Assam	Thunderstorm
07-04-17	2100 UTC	Guwahati	Northeast India	Assam	Thunderstorm
08-04-17	0000 UTC	Bagdogra	East India	West Bengal	Thunderstorm
08-04-17	0300 UTC	Guwahati	Northeast India	Assam	Thunderstorm

Realised TS/HS/SQ during past 24 hours ending at 0300UTC of today(received from RMCs/MCs)						
Name of Station Reporting	Region	STATE	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Banihal	Northwest India	J & K	TSRA	07-04-17	0830 1500 2100	0920 1630 0330
Katra	Northwest India	J & K	TSRA	07-04-17	1950	2350
Mukteshwar	Northwest India	Uttarakhand	TSRA	07-04-17	0830 1430	0950 1500
Dhubri	Northeast India	Assam	TSRA	7/8-04-17	72300	80505
Guwahati	Northeast India	Assam	TSRA	7/8-04-17	072110 080710	080310 080720
Hyderabad	South India	Telangana	TSRA	07-04-17	1520	1600
Haldia	East India	West Bengal(GWB)	TSRA		2120	2148
Bankura	East India	West Bengal(GWB)	TSRA	7/8-04-17	071800	080040
			SQUALL from NW with max speed 60kmph	7-04-17	1825	1827
			Lightening	7/-04-17	071840	080030
Asansol	East India	West Bengal(GWB)	TSRA	07-04-17	1700	2200
Patna	East India	Bihar	TSRA	07-04-17	1810	1850
Gaya	East India	Bihar	TSRA	07-04-17	1535	1650
Keonjhargarh	East India	Odisha	TSRA	07-04-17	1220	1345

Past 24 hours DWR Report:

Radar Station name	Date	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	Associate d severe weather if any	Districts affected
Paradeep	08-4-17	070820-071540	Isolated cells observed forming after 1340 IST with av. Heights of 8 km. and maximum height exceeding 10 km. reflectivity values reaching up to 45 dBZ .	Isolated cells observed forming between 250-330 degrees and in the range of 170-220 kms. from RADAR. Movement: NWly	Cells started developing after 1340 IST and dissipated by 1600 IST.	TS with slight Rain	Nayagarh, Khorda, Dhenkanal, Anugul & Cuttack
Patiala	08-04-17	070302-080252	Nil	Nil	Nil	Nil	Nil
Vishakhapatnam	08-04-17	070300-070600	Isolated cells with average height of 6kms with max reflectivity 49DBZ	47.8kms(SE)	Cells are formed at 03.01UTC into a well conviction with reflectivity 47dbz SEly and moving further to southerly and dissipated from Max reflectivity from 49 DBZ during the period 03.01UTC to 04.01 UTC.	NIL	NIL
		070600-07090	Squal line convective system with average height of 17kms with max reflectivity 59DBZ	NW(90kms) moving Sly direction	Cells are formed at 06.11UTC into a well conviction with reflectivity 40dbz NWly. Organised into squall line during 0821UTC to 0851 UTC and disorganizing at 0851 UTC.		
		070900-071200	Isolated single cells with average height of 17kms with max reflectivity 59DBZ	NE(180kms), WSW(150kms) moving Sly direction	Squall line disorganized to isolated single cells. Maximum reflectivity 59 DBZ during 1031utc to 1051utc and dissipating from 1051 utc.		
		071200-071500	Isolated single cells with average height of 10kms with max reflectivity 57DBZ	NW(155Kms) moving Nly direction	Isolated single cells with Maximum reflectivity 57 DBZ during 1341utc to 14211utc and dissipating from 1421 utc.		
		071500-071800	Isolated single cells with	SW(140Kms) moving Wly	Isolated single cells with		










			average height of 6kms with max reflectivity 59DBZ	direction	Maximum reflectivity 59 DBZ during 1511utc to 1751utc and dissipating from 1751 utc.		
		071800-080000	Isolated single cells with average height of 9kms with max reflectivity 59DBZ	SW(220Kms) moving Wly direction	Isolated single cells with Maximum reflectivity 59 DBZ during 2321utc to 23411utc and dissipating from 2341 utc.		
Nagpur	08-04-17	070302-070852	Nil	Nil	No Echoes	Nil	Nil
		070902-071012	Single cell	220 km S,<20 dBz	standstill	-----	-----
		071022-072352	Nil	Nil	Nil	Nil	Nil
		080002-080302	Nil	Nil	No Echoes	Nil	Nil
Patna	08-04-17	070300-080300	(1).Single cell-56.5 dBZ having height of 13.8 km (2). Single cell-52dBZ having Ht of 13 km	(1). Formed at SW at the distance of 70.8 KM from DWR Patna moving towards NEly direction (2).Formed at SE at the distance of 142 KM From DWR patna moving towards Ely direction	NIL	Thunderst orm with rain	Aurangaba d,Gaya,Na wada,Jamu i,Lakhisarai ,Arwal, Bhojpur Saran
Agartala	08-04-17	071620- 080240	Multiple Cells with Maximum Height 14 km and maximum reflectivity 45 dBZ (at 1940 UTC over Western parts of Meghalaya)	NW (350 KM) from DWR Agartala, cells continuously forming one after another since 1620 UTC of 07.04.17 moving ESE-wards at around 35 kmph	Cells dissipated at 0240 UTC of 08.04.17 over Eastern parts of Meghalaya	N/A	N/A
Hyderabad	08-04-17	070610-071202	Scattered cells with average height of 12 Kms with max reflectivity of 62.0 dBZ	Formed at NE and SW Directions, predominantly at SW Direction (90 Kms)moving from NNE to SSW at a speed of about 12Km/hr	Cells started forming at 0612 UTC at NE and SW Directions from radar. Matured in size with a Maximum reflectivity upto 62.0 dBZ and dissipated by 1122 UTC	Not known	Jangamah eshwarapu ram in NE, Shamshab ad,Shadna gar Mahabubn agar etc in S.
Lucknow	08-04-17	071022-071112	Isolated cell with height of 10 Km and maximum reflectivity 42 dBZ	NNE at distance 110 Km , moving north-easterly at average speed 72 Km/hr.	Became weaker at about 1102 UTC and dissipated at 1112 UTC	NIL	NIL

		071512-071612	Isolated cell with height 13 Km and maximum reflectivity 54 dBZ	Around 200 Km ENE, moving easterly at avg. speed 80 Km/hr.	Developed into two cells at 1612 UTC	NIL	NIL
		071612-071710	Multiple cells developed with height 13 Km and maximum reflectivity 46 dBZ	240 Km ENE moving Easterly at avg. speed 80 Km/hr.	Dissipated at 1710 UTC at 280 Km NE	NIL	NIL
Mohanbari	08-04-17	070722-071002	Cell type- Isolated Avg. ht.- 4.5 Km MAX_Z:- 45.5 dbZ	Distance- 66 Km Direction- SE Movement- NEly	Cells started forming at 0722 UTC and moved slowly towards NEly and start dissipating around 1002 UTC. During movement the Max_Z & height of the cell almost remains constant.	N/A	N/A
		071002-071102	Cell type- Isolated Avg. ht.- 4.5 Km MAX_Z:- 46.0 dbZ	Distance- 72 Km Direction- ENE Movement- NEly	Cell started forming at 1002 UTC and start dissipating around 1052 UTC.	N/A	N/A
Kolkata	08-04-17	070301-070931	NIL	NIL	NO ECHO	NIL	NIL
		070941-071241	Isolated single cell with maximum height of 12.96 Km at 1021 UTC and maximum reflectivity of 53.0 dBz at 1111 UTC	WNW (245.7 km) moving in SE-ly direction at a speed of 20 kmph	Cell started forming at 0941 UTC at WNW (245.7 Km) from radar. Matured, dissipated at 1241 UTC in WNW at a distance of 187.8 km from Radar.	Thunderstorm /Rain	N/A
		071001-071601	Initially Isolated single cell, later converted into multi cell system with maximum height of 17.46 km at 1001 UTC and maximum reflectivity of 66.0 dBz at 1101 UTC	NW (248.7 km) moving in SE-ly direction at a speed of 27 kmph	Cell started forming at 0951 UTC at NW (248.7 Km) from radar, matured, converted into multi cell system at 1031 UTC. Dissipated at 1601 UTC in ESE at 06.1 km from Radar.	Thunderstorm /Hailstorm / Rain	N/A
		071422-071622	Scattered cells with maximum height of 9.05 km at 1442 UTC and maximum reflectivity of 56.5 dBz at 1512	NW (152.6 km) moving in SE-ly	Cell started forming at 1422 UTC at NW (152.6 km) from radar, dissipated at 1622 UTC in NW at 146 km from Radar.	TS/Rain	N/A
		071632-072031	Multi cell system with maximum height of 16.57 km at 1732 UTC and maximum reflectivity of	WNW (246.1 km) moving in SE-ly direction at a speed of 38 kmph	Cell started forming at 1632 UTC at WNW (246.1 km) from Radar, matured, Dissipation completed at	Thunderstorm/ Hailstorm/ Rain	N/A

			64.0 dBz at 1811 UTC		2031 UTC in WSW at 104.9 km from Radar.		
		072041-072351	NIL	NIL	NO ECHO	NIL	NIL
		080001- 080301	NIL	NIL	NO ECHO	NIL	NIL
Jaipur	08-04-17	07033-080300	Nil	Nil	Nil	Nil	Nil

∞	haze
☁	smoke
☼	dust or sand storm
≡	fog
☂	drizzle
•	rain
✱	snow
▽	showers
△	hail
⚡	thunderstorm

Weather Symbols

		
+ thunderstorm	+ heavy thunderstorm	sandstorm or dust storm
		
squall	hail shower	tropical storm
		
+ tornado	+ lightning	+ hurricane