



India Meteorological Department
FDP STORM Bulletin No. 32 (06-04-2017)

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

SYNOPTIC FEATURES:

The Western Disturbance as an upper air cyclonic circulation over north Pakistan & neighbourhood extending upto 3.1 km above mean sea level with a trough aloft roughly along Longitude 64.0°E and north of Latitude 28.0°N now seen as a trough in mid tropospheric westerlies along Longitude 70.0°E and north of Latitude 25.0°N.

Under the influence of induced upper air cyclonic circulation over Punjab & adjoining north Rajasthan & Haryana a Western Depression has formed over the same area with an associated upper air cyclonic circulation extending upto 1.5 km above mean sea level.

A trough runs from the centre of above system to northwest Bay of Bengal across north Rajasthan, south Uttar Pradesh, south Jharkhand and West Bengal and extends upto 1.5 km above mean sea level.

The eastwest trough at mean sea level from southeast Uttar Pradesh to Manipur across south Jharkhand and Gangetic West Bengal extending upto 0.9 km above mean sea level has merged with the above trough.

The northsouth trough from south Madhya Maharashtra to south Tamilnadu across Interior Karnataka extending upto 0.9 km above mean sea level now runs from Telangana to south Tamilnadu and extends upto 1.5 km above mean sea level.

An upper air cyclonic circulation lies over Gulf of Siam & neighbourhood and extends upto 3.1 km above mean sea level.

The upper air cyclonic circulation over east Bihar and adjoining West Bengal seen between 1.5 km & 2.1 km above mean sea level has become less marked.

The trough of low over Malaya Peninsula & adjoining south Andaman Sea with upper air cyclonic circulation aloft extending upto 1.5 km above mean sea level has become less marked. For more details kindly

SATELLITE OBSERVATIONS during past 24hrs and current observation (based on 0300UTC imagery of INSAT 3D):

Cloud Description:

Broken multi-layered clouds were seen over J & K adjoining Pakistan (minimum CTT minus 65 deg C), Himachal Pradesh and Uttarakhand (minimum CTT minus 50 deg C) in association with western disturbance over the area.

Scattered low/medium clouds were seen over Uttar Pradesh, south Chhattisgarh, Odisha, Sikkim, north-eastern states, Andhra Pradesh, South Interior Karnataka, north Kerala, west Tamilnadu and Bay Islands.

Arabian Sea:

No significant clouds over the region.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded weak to moderate convection were seen over Andaman Sea.

Convection: Light to moderate convection was observed over North and North East parts of India and Jharkhand West Bengal Odisha Karnataka Kerala Telangana Andhra Pradesh.

OLR:-

Up to 150 w m^{-2} was over North J&K Extreme East Himachal Pradesh North Uttarakhand Up to 200 w m^{-2} was over rest J&K, rest Himachal Pradesh rest Uttarakhand East Punjab, North Mizoram North Tripura. Up to 230 w m^{-2} was over rest Punjab, Extreme North Haryana, Extreme North West Uttar Pradesh, Sikkim, East Arunachal Pradesh, Central Assam, South Meghalaya, Manipur, rest Mizoram, rest Tripura, Telangana, Rayalaseema, extreme South Interior Karnataka and North Kerala.

Jet Stream: No Jet stream and no trough observed over India

Dynamic Features: Positive shear tendency observed over the South India. Negative shear tendency observed over Madhya Pradesh and J&K.

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

A positive Vorticity field is seen over Rajasthan, North West Gujarat, East Uttar Pradesh, Bihar and West Bengal.

Positive Low Level Convergence observed over Madhya Pradesh, Telangana and South West Bengal.

Precipitation:

IMR: Rainfall Upto 70mm was observed over Rainfall J&K Upto **50mm** was observed over Himachal Pradesh North Uttarakhand South Telangana. Rainfall upto **30mm** was observed over South Tripura Rainfall upto **20mm** was observed over Punjab, Rest Tripura South Mizoram. Rainfall upto **10mm** was observed over North Haryana, South Uttarakhand, South West Meghalaya Manipur, North Mizoram South West Bengal Coastal Odisha North Coastal Andhra Pradesh Rayalsima Sikkim Extreme north Kerala.

HEM: Rainfall Upto 70mm was observed over J&K, Himachal Pradesh, North Uttarakhand, North Punjab. Rainfall upto 14mm was observed over Telangana North coastal Andhra Pradesh, South Karnataka, Coastal Odisha, South west Bengal, Sikkim.

Rainfall Upto 7mm was observed over rest Punjab, Haryana, Extreme North West Uttar Pradesh, South West Meghalaya, Manipur, Mizoram, Tripura.

RADAR and RAPID observation:

Significant convection was seen over Himachal Pradesh, Uttarakhand, north Uttar Pradesh, southeast Bihar, north Odisha, Andhra Pradesh, south Interior Karnataka and Tamilnadu in DWR Composite at 1650hrs IST.

RAPID RGB Imagery of 1630hrs IST also indicates convective clouds over J & K, Punjab addition to the areas 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 Day0-4 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 :SW-NE extending from northern Karnataka-Telangana region to Maharashtra-Chhattisgarh region. This is also reflected at 850 hPa. 00UTC charts show feeble troughing along the line of discontinuity up to Day-1.

Weak CYCIR over Pakistan region in Day-1. In Day-2 and 3 at 850 hPa weak CYCIR can be located over NW UP and Jharkhand.

Weak CYCIR east of SriLanka and near Thailand coast at 00UTC from Day-2 to Day-4 moving NW wards over Bay of Bengal.

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

Day-0: Strong over Rajasthan and adjoining Pakistan region due to WD. Weakening in 24 hours and shifting to over Rajasthan and UP. At 12UTC on Day-1: strong at isolated regions over Pakistan and Afghanistan in the west.

From 12UTC on Day-3 to 00UTC on Day-5 strong over Sikkim, Assam, Meghalaya and Nagaland

From 06UTC on Day-4 to 00UTC on Day-5 strong over large parts of UP

3. Convergence at 850 hPa:

At 12UTC on Day-0 and Day-1: High values along the western Ghats in Karnataka and Maharashtra, parts of Odisha and WB along with adjoining Jharkhand and Chhattisgarh. Over NW India due to WD: mainly over Punjab and Haryana. On Day-2 to Day-4: over isolated regions along the west coast, over Odisha and parts of NW India.

4. Low level Vorticity:-Positive Vorticity (>15 x 10⁻⁵/s): At 12UTC on Day-0 to Day-1 high values mainly over NW India due to WD and along the IG plains extending NW to SE wards. Similarly in Day-3 and Day-4 over Assam several

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

Day-0 at 12UTC: Prominent over NW India extending along the IG Plains from Punjab towards UP and Bihar, Strong along coast of Karnataka and Kerala, all along the east coast from Chennai to WB. Over NE mainly over Bangladesh and adjoining Tripura and Mizoram. in Day-1 Prominent over Northern UP. In the west only along the coastal Kerala and Karnataka and in east mainly over Odisha to WB coast. Over Bangladesh and adjoining states in the east. Day-1 to Day-4 reduced values over NW India and reduced spatial coverage over NE India

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

Day-0 at 12UTC: Prominent over NW India extending along the IG Plains from Punjab towards UP and Bihar, Strong along coast of Karnataka and Kerala, all along the east coast from Chennai to WB. Over NE mainly over Bangladesh and adjoining Tripura and Mizoram. in Day-1 Prominent over Northern UP. In the west only along the coastal Kerala and Karnataka and in east mainly over Odisha to WB coast. Over Bangladesh and adjoining states in the east. Strongest over Arunachal in Day-2. Day-1 to Day-4 reduced values over NW India and reduced spatial coverage over NE India

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

Over peninsula along the east and west coasts , relatively lower values and seen only in Day0 to Day-1. Prominent over NW India and Pakistan region in Day-0 and Day-1. Extending to foothills over Himachal and Uttarakhand in Day-1-Day-3.

8. Rainfall and thunder storm activity: Day-1: (>16cm/day) over J & K region (SW region) which is reducing to about 4cm/day in day-2. Day-3-5:(> 4cm/day) over Assam and Arunachal

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

1. Weather Systems: 00 UTC analysis shows CYCIR over Punjab, north Rajasthan, Haryana and adjoining areas. A trough from the above system runs up 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. The trough from the above system now runs up to interior TN on day 5th day.

2. Location of jet and jet core at 500 hPa:-500 hPa Jet core (>60kt): 00UTC shows the jet core along parts of north west Rajasthan and Gujarat. The jet core does not exist over India during the next 5 days.

3. Low level Vorticity:-Positive Vorticity 850hPa (>12 x 10⁻¹/s): Analysis shows the low level positive vorticity mainly over parts of Punjab, Delhi, Haryana along with few pockets in the NE states and interior Karnataka. 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, 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 J&K, Punjab, Delhi, Bihar 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. Some parts of western Gujarat states and Karnataka coast along with few pockets in J & K also indicated the value > 400 K till day1.

Total Total Index (> 50): 00UTC shows significant values over parts of Rajasthan and Gujarat along with few pockets in Haryana. 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 and Kerala and parts of coastal Karnataka during next 5 days.

CIN (50-150): Maximum CIN 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 major regions of J&K, H.P and areas adjoining the foothills of the Himalayas till the next 48 hrs. Rainfall activity is also forecasted over parts of NE states 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 seen over major regions of J&K, HP and regions along the foothills of Himalayas and is seen very prominent till day 1 and day 2. Higher threshold values are seen over J & K region in evening hours at day1 to day3.

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, and GWB, Bihar and eastern UP during next 3 days. Another zone along west coast over Kerala, coastal Karnataka and Konkan & Goa during next 2 days.

CINE (50-150): CINE values are mostly small all over India during all three days of forecasts except some areas along coastal areas of India 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 2 days over J & K, H. P and over few pockets in WB.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

In association with the formation of the western depression over Punjab and adjoining North Rajasthan, wind speeds have intensified in the lower levels of the atmosphere. This is likely to give rise to dust-raising winds over Rajasthan. However, there is not much moisture flow into the system at 850 hPa and below. Southwesterlies at 700 hPa and aloft is likely to result in weather over the hills of western Himalayas on day 1. The western depression is likely to de-intensify on day 2 and weather will reduce substantially over the region on day 2.

In association with the trough that runs from the centre of above system to northwest Bay of Bengal thunderstorms with squalls are likely over south Assam, Mizoram, Tripura, Gangetic West Bengal on day 1. Weather is also expected on day 1 to the east of the troughline extending from Telangana to south Tamilnadu, over Coastal Andhra Pradesh which is the region of confluence between the dry land winds from the troughline and the moist winds from the anticyclone over Bay of Bengal.

IOP for day 1:

Jammu and Kashmir
Himachal Pradesh
Uttarakhand
South Assam, Tripura and Mizoram
Gangetic West Bengal, Orissa, Coastal Andhra Pradesh
East and West Uttar Pradesh
South Interior Karnataka and Kerala

IOP for day 2:

Jammu and Kashmir
East Uttar Pradesh
Jharkhand, Bihar

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

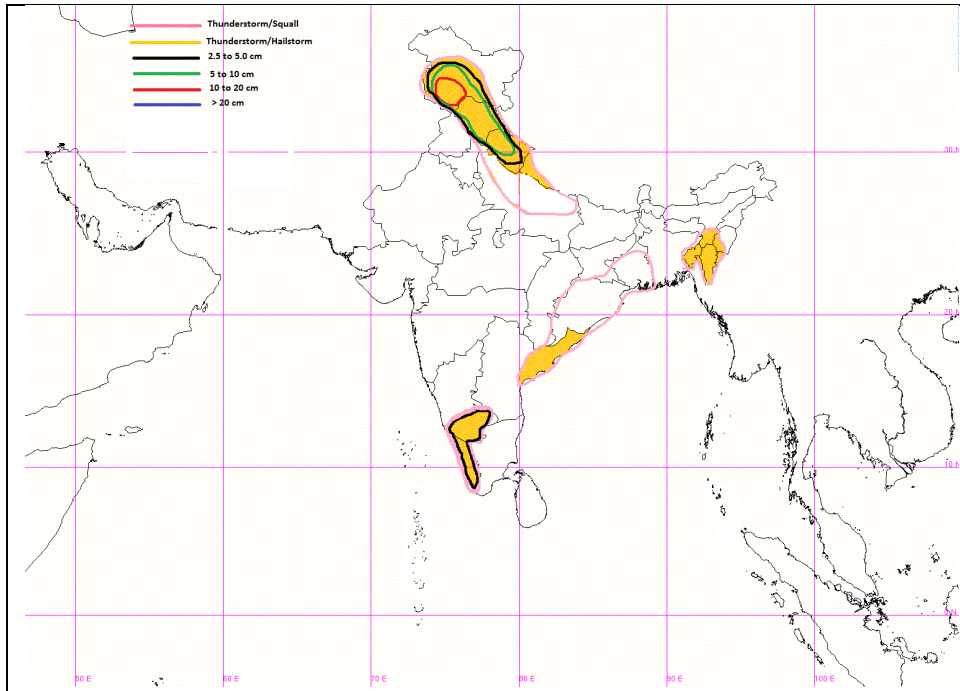
HEM:http://satellite.imd.gov.in/img/3Ddaily_he.jpg

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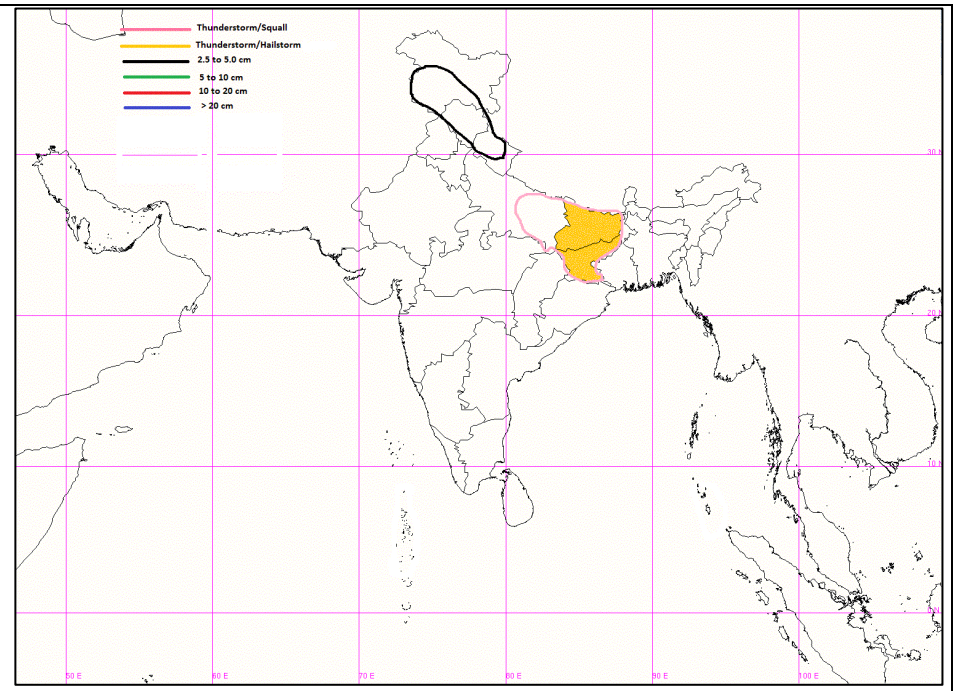
http://ddgmui.imd.gov.in/dwr_img/

Satellite sounder based T-Phi gram

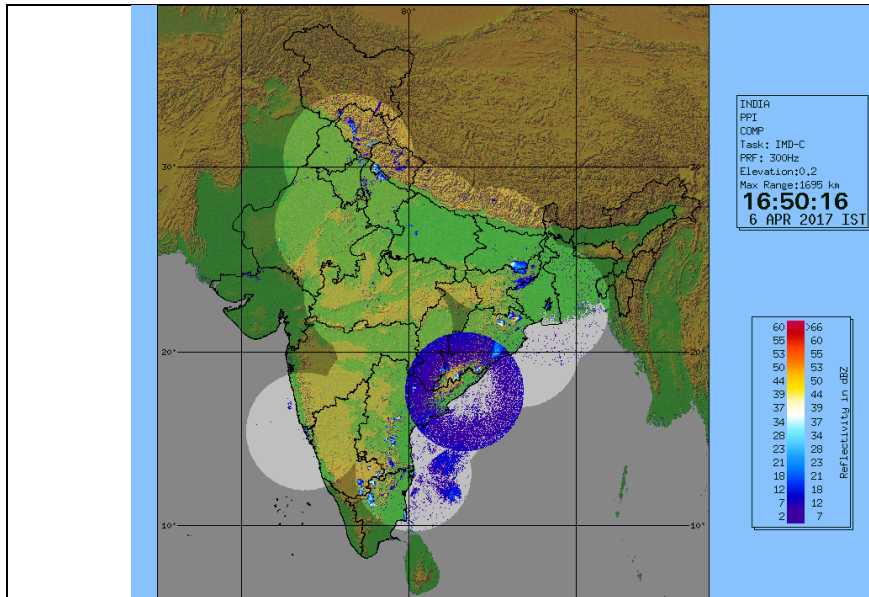
http://satellite.imd.gov.in/map_skm2.html



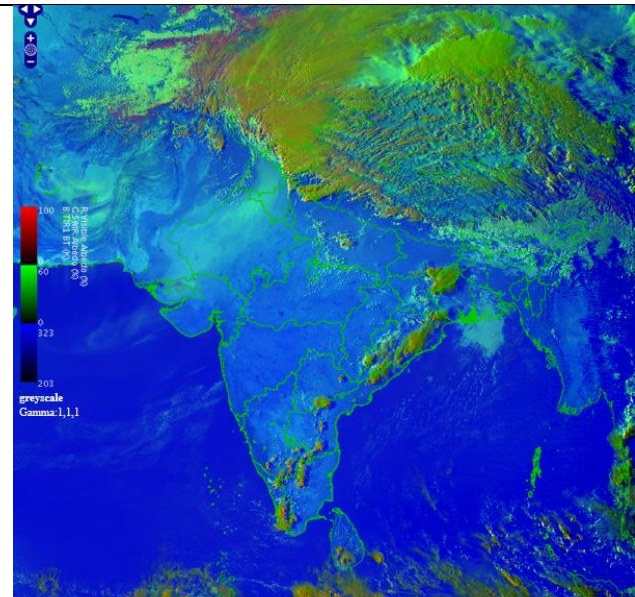
IOP Advisory for 24 hours



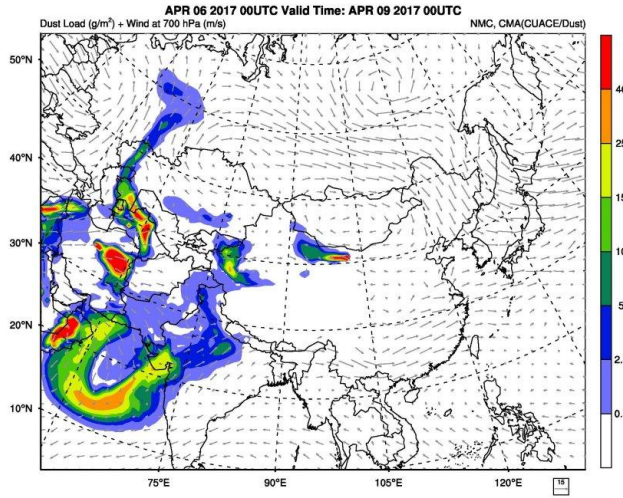
IOP Advisory for 48 hours



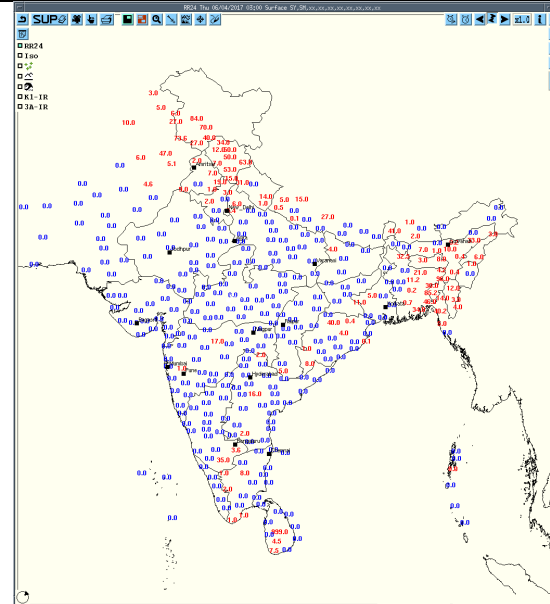
DWR Composite at 1650 hrs IST



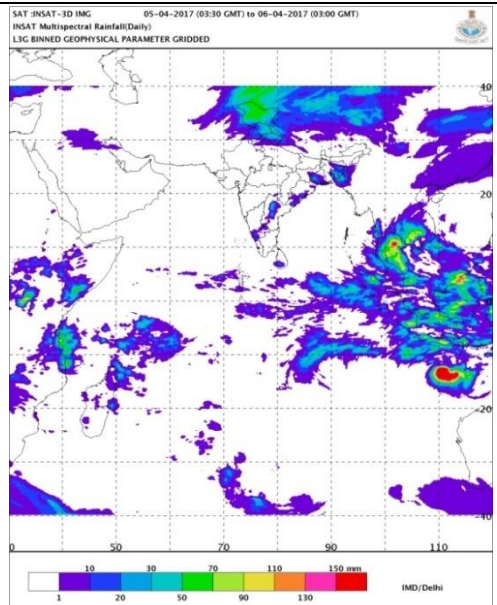
RAPID RGB Image of INSAT 3D at 1630 hrs IST



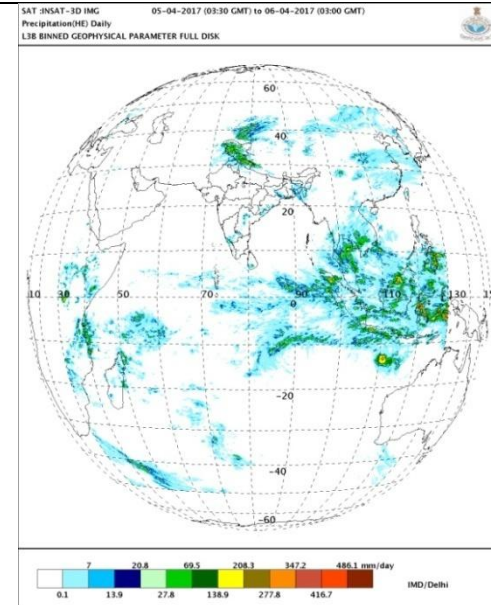
Forecast Dust Concentration for 00UTC of 9th April



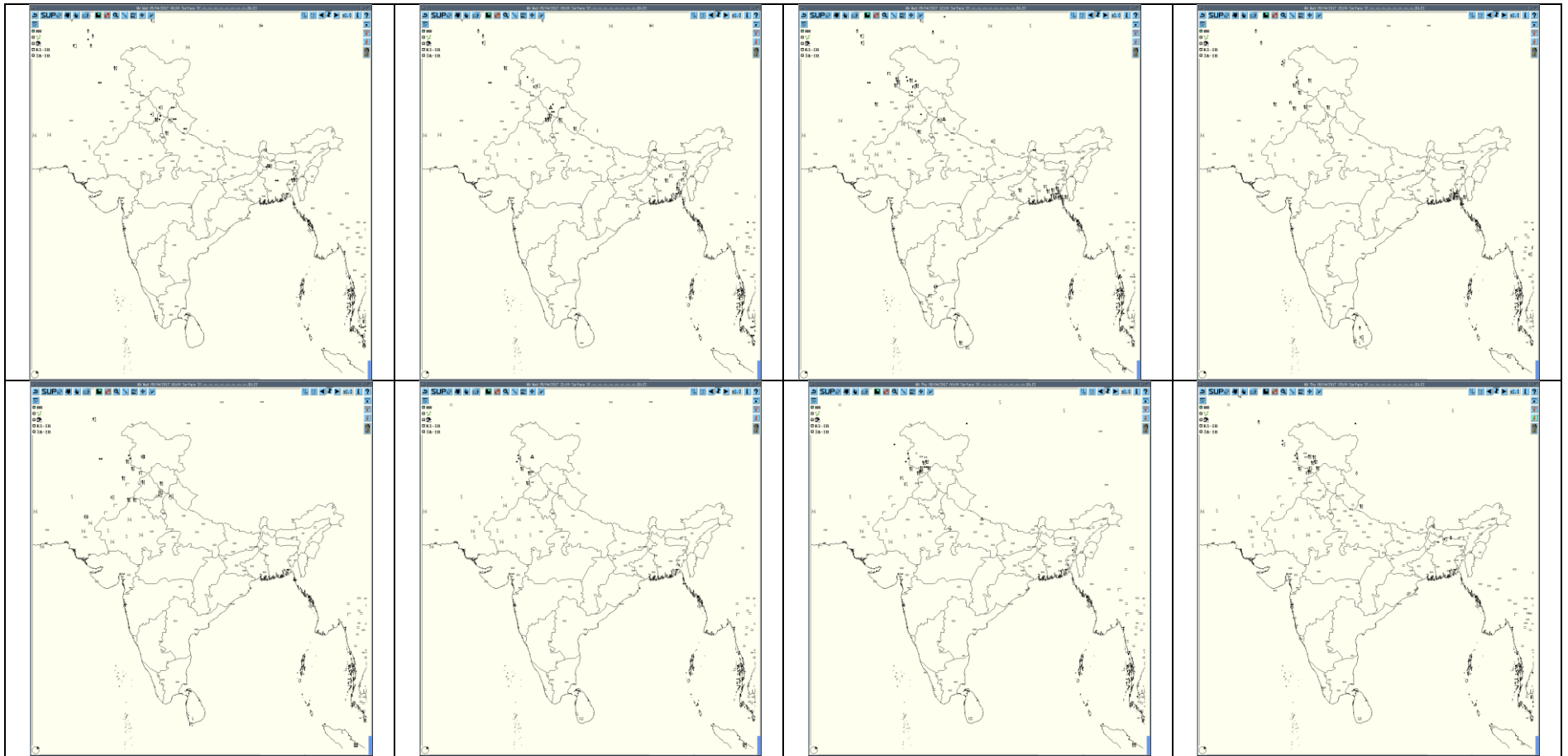
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



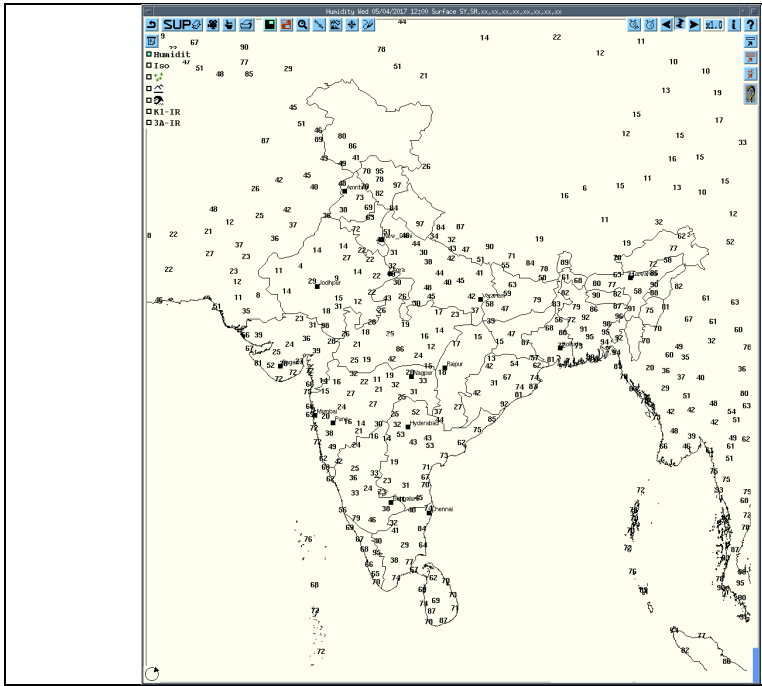
IMR Rainfall



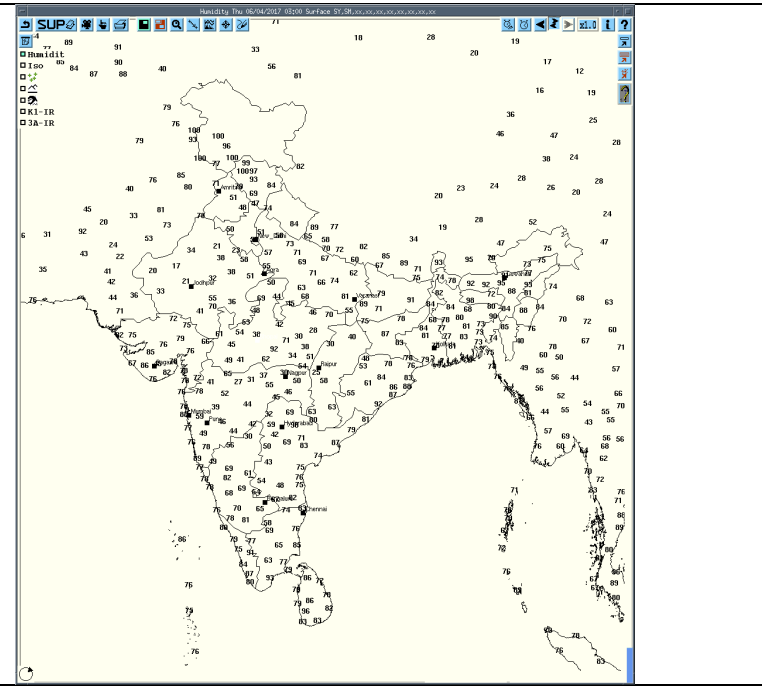
HEM Rainfall



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



RH at 12UTC yesterday



RH at 03UTC today

Realized weather past 24 hours					
Date	Time of Reporting	Name of Station Reporting	Region	STATE	Weather Event
05-04-17	0600 UTC	Shimla	Northwest India	Himachal Pradesh	Thunderstorm
		Patiala	Northwest India	Punjab	Thunderstorm
		Dehradun	Northwest India	Uttarakhand	Thunderstorm
		Meerut	Northwest India	Uttar Pradesh	Thunderstorm
		Kailasahar	Northeast India	Tripura	Thunderstorm
		Alappuzha	South India	Kerala	Thunderstorm
05-04-17	0900 UTC	Kukernag, Banihal	Northwest India	J & K	Thunderstorm
		Patiala	Northwest India	Punjab	Thunderstorm
		Chandigarh	Northwest India	Chandigarh	Thunderstorm
		Ambala	Northwest India	Haryana	Thunderstorm
		Dehradun, Mukteshwar	Northwest India	Uttarakhand	Thunderstorm
		Keonjhar	East India	Odisha	Thunderstorm
		Agartala	Northeast India	Tripura	Thunderstorm
05-04-17	1200 UTC	Srinagar, Kukernag, Banihal	Northwest India	J & K	Thunderstorm
		Hissar	Northwest India	Haryana	Thunderstorm
		Dehradun	Northwest India	Uttarakhand	Thunderstorm
		Jamshedpur	East India	Jharkhand	Thunderstorm
		Bankura	East India	West Bengal	Thunderstorm
		Karipur, Kozhikode	South India	Kerala	Thunderstorm
		Bengaluru, Chamarajanagar	South India	Karnataka	Thunderstorm
05-04-17	1500 UTC	Srinagar	Northwest India	J & K	Thunderstorm
		Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm
		Chandigarh	Northwest India	?Chandigarh	Lightening
05-04-17	1800 UTC	Srinagar,	Northwest India	J & K	Thunderstorm
		Amritsar	Northwest India	Punjab	Thunderstorm
		Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm
		Ganganagar	Northwest India	Rajasthan	Thunderstorm
		Chandigarh	Northwest India	Chandigarh	Thunderstorm
		Ambala	Northwest India	Haryana	Thunderstorm
		Dehradun	Northwest India	Uttarakhand	Thunderstorm
05-04-17	2100 UTC	Jammu	Northwest India	J & K	Thunderstorm
06-04-17	0000 UTC	Qazigund, Banihal, Kukernag, Katra, Bhaderwah, Jammu	Northwest India	J & K	Thunderstorm
06-04-17	0300 UTC	Srinagar, Pahalgam, Kukernag, Banihal, Qazigund, Katra, Jammu, Bhaderwah	Northwest India	J & K	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)
MC Dehradun	Northwest India	Uttarakhand	Thunderstorm	05-04-17	0830 1207 2125 0405	1100 1705 2235 0415
MO Pantnagar	Northwest India	Uttarakhand	Thunderstorm	05-04-17	0910	1045
MO Mukteshwar	Northwest India	Uttarakhand	Thunderstorm	05-04-17	0840 1045 1350 1845	0850 1245 1450 2000
M.O Tehri	Northwest India	Uttarakhand	Thunderstorm	05-04-17	0832 1230 1900	1000 1600 2100
MO Shimla	Northwest India	Himachal Pradesh	Thunderstorm	05-04-17	0945 1900	0955 2300
MO Shimla	Northwest India	Himachal Pradesh	Hailstorm (Diameter-xx cm)	05-04-17	2000	2015
Safdarjung	Northwest India	Delhi	Thunderstorm	05-04-17	1245	1320
Pilani	Northwest India	Rajasthan	Thunderstorm	05-04-17	1600	1700
Ganganagar	Northwest India	Rajasthan	Thunderstorm	05-04-17	1755 2230 2310	1850 2310 2400
Ambala	Northwest India	Haryana	Thunderstorm	05-04-17	0415 1205 2115	0830 1255 2300
Patiala	Northwest India	Punjab	Thunderstorm	05-04-17	1110 2050	1140 2145
Hissar	Northwest India	Haryana	Thunderstorm	05-04-17	1532	1730
Amritsar	Northwest India	Punjab	Thunderstorm	05-04-17	2040	0020
Ludhiana	Northwest India	Punjab	Thunderstorm	05-04-17	0830 1240 2115	0845 1310 2310
Karnal	Northwest India	Haryana	Thunderstorm	05-04-17	0900	1010

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)
Jorhat	Northeast India	Assam	Thunderstorm	05-04-17	05/2200	06/0100
Silchar	Northeast India	Assam	Thunderstorm	05-04-17	05/1210	05/1730
Shillong	Northeast India	Meghalaya	Thunderstorm	05-04-17	05/1040	05/1115
Lengpui	Northeast India	Mizoram	Thunderstorm	05-04-17	05/0931	05/1510
Kailasahar	Northeast India	Tripura	Thunderstorm	05-04-17	05/0830	05/1550
Agartala	Northeast India	Tripura	Thunderstorm	05-04-17	05/1230	05/1645
Keonjhar	East India	Odisha	Thunderstorm	05-04-17	1330	1615
Srinagar	Northwest India	J & K	Thunderstorm	05-04-17	1650	2200
Srinagar	Northwest India	J & K	Hailstorm (Diameter-0.3 cm)	05-04-17	1707	1709
Srinagar	Northwest India	J & K	Thunderstorm	06-04-17	0700	0830
Qazigund	Northwest India	J & K	Thunderstorm	05-04-17	1800	0830
Pahalgam	Northwest India	J & K	Thunderstorm	05-04-17	1537 1915	1605 2005
Pahalgam	Northwest India	J & K	Thunderstorm	06-04-17	0705	0830
Kupwara	Northwest India	J & K	Thunderstorm	05-04-17	1400 1610	1415 1617
Kukernag	Northwest India	J & K	Thunderstorm	05-04-17	0935 1320	1005 0830
Kukernag			Hailstorm (Diameter-0.5 cm)	05-04-17	1406 0807	1407 0810
Jammu	Northwest India	J & K	Thunderstorm	05-04-17	2115	0830
Banihal	Northwest India	J & K	Thunderstorm	05-04-17	0900 1305 1600	0930 1400 0830
Batote	Northwest India	J & K	Thunderstorm	05-04-17	1500 1850	1610 0210
Batote	Northwest India	J & K	Hailstorm (Diameter-1.0 cm)	05-04-17	1850	1851
Katra	Northwest India	J & K	Thunderstorm	05-04-17	1735 2130	1840 0650
Bhaderwah	Northwest India	J & K	Thunderstorm	05-04-17	0830 1830 2100	0850 1930 0830
Bareilly	Northwest India	Uttar Pradesh	Thunderstorm	05-04-17	0831	00845
Salem	South India	Tamilnadu	Thunderstorm	05-04-17	1650	1655

Past 24 hours DWR Report:










Radar Station Name	Date	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	Associate d Severe Weather if any	Districts affected
Nagpur	05/04/17	0302-0822	Nil	Nil	No Echoes	Nil	Nil
		0832-1222 1332-2352	Single Second cell develop Third cell develop Nil	167 km south..moving south 120 km SE at 0942 UTC and disappear at 1032 UTC 143 km SE moving SE and disappear at 1332UTC Nil	Approx 41 dBZ, Ht of cloud more than 12 km Near 20dBZ Near 20 dBZ No echoes	----- ----- -----	East to Adilabad ----- -----
	06/4/17	0002-03022	Nil	Nil	No Echoes	Nil	Nil
Srinagar	06/04/17	050300-060300	Multiple cells developed at scattered places from SW and NW directions of DWR Srinagar at 0710 UTC and moved SE to NE direction as strong cyclonic circulation persist over DWR Srinagar and n-hood.	Developed from NW and SW directions of DWR site Srinagar and moved towards DWR Srinagar. A strong cyclonic circulation persists over Srinagar	Thunderstorm observed/reported at Srinagar, Kupwara, Gulmarg, Kupwara, Pahalgam , Qazigund and Kukernag dist.	Thunderstorm accompanied by rain/snow reported from all stations	Moderate to heavy rain/snow over entire districts of state.
		0300-0700	Isolated cell with max. reflectivity value of 44 dBZ and height of 12km approx.	Lat: 20.76 N Lon:87.81 E Range: 13 km approx. Movement: NWly	NIL	TS with rain	NIL
Paradeep	06/04/17	0700- 0300	Isolated cells observed forming after 1200 IST with av. Heights of 9kms. and maximum height exceeding 14 kms. reflectivity values reaching upto 47dBZ .	Isolated cells observed forming between 250-350 degrees and in the range of 170-250 kms. from RADAR. Movement: NWly	Cells started developing after 1200 IST and dissipated by 1900 IST.	TS with Rain	Nayagarh, Khorda, Puri, Jajpur, Bhadrak, Baleshwar, Cuttack, Jagatsinghpur, Kendrapada, Mayurbhanj

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	Associated severe weather if any	Districts affected
Patiala	06/04/17	0300-0600	multiple cells maximum 52.5 DBZ, HT 8 KM.	SSE SECTOR. Direction of movement : E		TS/RAIN	KARNAL, PANIPATH
		0600-0900	multiple cells maximum 62.5 DBZ, HT 12 KMS	SW SECTOR Direction of movement :ESE		HAIL/TS/ RA	CHANCES OF HAIL NABHA SANGRURU AND TS/ RA YAMUNANAGAR, PATIALA
		0900-1200	multiple cells 58.0 DBZ 10.3 KM	OVERHEAD Direction of movement :ESE		RA/TS	PATIALA, KURUKSHETRA, YAMUNANAGAR,AMB ALA
		1200-1500	multiple cells 61.5 DBZ 12 KM	NNW SECTORS AND WEST SECTORS Direction of movement :E		HAIL/TS/ RA	
		1500-1800	multiple cells 49.5 DBZ 9-12 KM	WEST AND NW SECTORS Direction of movement :NW		RA/TS	Chances Of Hail Phillour, Nawashahar and TS/RA Rupnagar, Moga, Nalagarh, Jagar Nkodar Kothgaru Ludhiana,Khanna,Nabha, Baranala, Patiala. Rupnagar Jalandhar, Adampur
		1800-2100	multiple cells 51.0 DBZ 9-11 KM	NW SECTORS Direction of movement :NW		RA/TS	
		05/2100-06/0302	NO ECHO	NIL		NIL	NIL
Lucknow	05/04/17	0332 - 0402	Single Cell with average height of 8 km with maximum reflectivity of 36dbZ	NNW(110km) moving in SE'ly direction at speed of 22km/hr	Cell started dissipating from 0402UTC and died down at 0542 UTC	NIL	NIL
Patna	06/04/17	NIL	NIL	NIL	NIL	NIL	NIL
Jaipur	06/04/17	NIL	NIL	NIL	NIL	NIL	NIL

Radars Station Name	Date	Time Interval of Observation (UTC)	Organisation of cells (Isolated single cells /multiple cells/ convective regions /squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated Severe Weather if any	Districts affected
Agartala	06/04/17	050300 UTC – 050600 UTC	Multiple Cells with Maximum Height 13 km and maximum reflectivity 43 dBZ (at 0320 UTC over Dhalai District of Tripura and adjoining Bangladesh)	NNW (150 KM) from DWR Agartala at 2220 UTC of 04.04.17 moving SE-wards at 40 kmph	Cell dissipated at 0600 UTC of 05.04.17 over Mizoram	TS with Rain	Unakoti & North Districts of Tripura
		050330 UTC – 051530 UTC	Multiple Cells continuously forming over North Bangladesh with Maximum Height of 15km and maximum reflectivity 50 dBZ (at 0540 UTC over Bangladesh)	NW (300 KM) from DWR Agartala initially moving SE-wards later Southwards at around 45 kmph	Cell dissipated at 1530 UTC of 05.04.17 over South Bangladesh and adjoining BoB	1. Squall reported at Agartala Airport at 0935-0940 UTC 2. Heavy Rain at 5 rainfall stations in Tripura	All Districts of Tripura
Kolkata	06/04/17	0312-0741	NIL	NIL	NO ECHO	NIL	NIL
		0751-1412	Multi cell system with maximum height of 17.55 Km at 0931 UTC and maximum reflectivity of 66.0 dBz at 0931 UTC	NNE (242.5 km) moving in SE-ly direction at a speed of 47.0 kmph	Cell started forming at 0751 UTC at NNE (242.5 Km) from radar. Matured. Multi cell system. Moved towards SEly	Thunderstorm/ Hailstorm	N/A
		0952-1311	Multi cell system with maximum height of 17.91 Km at 1021 UTC and maximum reflectivity of 69.5 dBz at 1021 UTC	WNW (245 km) moving in SE-ly direction at a speed of 57.0 kmph	Cell started forming before 0952 UTC at WNW (245 Km) from radar. Matured. Multi cell system. Dissipated at 1231 UTC at W, 93.8 km from Radar.	Thunderstorm/ Hailstorm	N/A
		1131-1241	Isolated Single cell with maximum height of 16.75 Km at 1131 UTC and maximum reflectivity of 60.0 dBz at 1131 UTC	W (221 km) moving in SE-ly direction at a speed of 14.0 kmph	Cell started forming at 1131 UTC at W (221 Km) from radar. Matured, dissipated at 1241 UTC at WSW, 198 km from Radar.	Thunderstorm	N/A

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	Associated severe weather if any	Districts affected
Machilipatnam	05/04/17	0631-0941	Isolated cells with average height of 10 km with maximum reflectivity of 65 dBZ	E(218KM) moving in W'ly direction.	Cells started forming at 0631 UTC at W(218 km) from radar. Maximum reflectivity during 0801 to 0831 and died down at 0941 UTC	Possibility of hail with high wind.	Achampet
	05/04/17	0931-1041	Isolated cells with average height of 09 km with maximum reflectivity of 62 dBZ	ENE(200KM) stationary.	Cells started forming at 0941 UTC at ENE (200 km) from radar. Maximum reflectivity during 0941 to 0951 and died down at 1031 UTC	Possibility of rain with moderate wind.	Gurazala
	05/04/17	0901-1141	Isolated cells with average height of 11 km with maximum reflectivity of 63 dBZ	NE (227KM) moving in WSW'ly direction with average speed of 11kmph.	Cells started forming at 0931 UTC at NE (227 km) from radar. Maximum reflectivity during 1021 to 1041 and died down at 1141 UTC	Possibility of rain with moderate wind.	Chintapalli
	05/04/17	1011-1131	Isolated cells with average height of 6.72 km with maximum reflectivity of 63 dBZ	WNW (246KM) moving in NE'ly direction with average speed of 3 kmph.	Cells started forming at 1011 UTC at WNW (246 km) from radar. Maximum reflectivity during 1051 to 1100 and died down at 1131 UTC	Possibility of rain with moderate wind.	Nalgonda
	05/04/17	1021-1141	Isolated cells with average height of 4 km with maximum reflectivity of 57 dBZ	SW (235KM) moving in SW'ly direction with average speed of 4 kmph.	Cells started forming at 1021 UTC at SW (235 km) from radar. Maximum reflectivity during 1101 to 1111 and died down at 1141 UTC	Possibility of rain with moderate wind.	Kanigiri
	05/04/17	1141-1311	Isolated cells with average height of 8 km with maximum reflectivity of 63 dBZ	NW (242KM) moving in NE'ly direction with average speed of 6 kmph.	Cells started forming at 1141 UTC at NW (242 km) from radar. Maximum reflectivity during 1241 to 1251 and died down at 1311 UTC	Possibility of rain with moderate wind.	Jangaon
	05/04/17	1301-1441	Isolated cells with average height of 8 km with maximum reflectivity of 66 dBZ	NW (187KM) moving in ENE'ly direction with average speed of 15 kmph.	Cells started forming at 1301 UTC at NW (187 km) from radar. Maximum reflectivity during 1331 to 1351 and died down at 1441 UTC	Possibility of HAIL with heavy wind.	Khamman

∞	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

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