



India Meteorological Department
FDP STORM Bulletin No.45 (19-04-2017)

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

SYNOPTIC FEATURES:

The upper air cyclonic circulation over North Interior Karnataka & neighbourhood extending upto 0.9 km above mean sea level persists, however, the trough from this system to Lakshadweep area has become less marked.

The upper air cyclonic circulation over north Haryana & neighbourhood extending upto 0.9 km above mean sea level has become less marked. The trough now runs from Uttarakhand to Vidarbha across East Madhya Pradesh extending upto 0.9 km above mean sea level however, the embedded upper air cyclonic circulation over Vidarbha has become less marked.

A trough runs from north Coastal Andhra Pradesh to Coastal Karnataka across Telangana and Interior Karnataka at 1.5 km above mean sea level.

A trough runs from South Interior Karnataka to Comorin area and extends up to 0.9 km above mean sea level.

The upper air cyclonic circulation over south Pakistan & adjoining southwest Rajasthan and Saurashtra & Kutch, now lies over south Pakistan & neighbourhood between 1.5 km and 3.1 km above mean sea level.

A trough runs from West Uttar Pradesh to east Assam across Bihar and extends up to 0.9 km above mean sea level with an embedded upper air cyclonic circulation over Assam at 0.9 above mean sea level.

A north-south trough runs from east Bihar to north Odisha and extends up to 3.1 km above mean sea level with an embedded upper air cyclonic circulation over east Bihar & neighbourhood at 1.5 above mean sea level.

A fresh feeble western disturbance as an upper air cyclonic circulation lies over north Pakistan & adjoining Jammu & Kashmir at 3.1 km above mean sea level.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

Current Observation (based on 0900UTC imagery of INSAT 3D):

Convective Activity and cloud description:

Cell No.	Date/Time	Area/Location	CTBT (minus °C)	Movement	Remarks
1	19/0000	Bangladesh	69	---	Dissipating
2	19/0300	East Uttarakhand adjoining Nepal	52	---	Developing
	0400	Extreme Uttarakhand adjoining Nepal	49		
	0500	do	39	---	Dissipating
	0600	do	---	---	Dissipated
3	19/0300	Sub-Himalayan West Bengal adjoining Bangladesh	70	---	Developing
	0400	do	60	---	
	0500	do	70	---	merged with cell no. 4
4	19/0600	West Assam, Meghalaya, Arunachal Pradesh	74	---	Developing
	0700	Assam, Meghalaya, Manipur, N Bangladesh	80		
	0800	Assam, Meghalaya, Manipur, N Mizoram,	83		
	0900	do	90	E-wards	Expanding

5	19/0800	N Bangladesh NW Bihar adjoining NE Uttar Pradesh, adjoining C Nepal	60	---	Developing
6	0900	NW Bihar adjoining Nepal	78	E-wards	Developing
	19/0800	Uttarakhand	50		
	0900	do	60		

Scattered multi-layered clouds seen over north J & K in association with western disturbance over the area.

Broken low/medium clouds with embedded intense to very intense convection were seen over northwest Bihar, Meghalaya, Assam, Manipur, north Mizoram and Tripura. Scattered low/medium clouds with embedded moderate to intense convection were seen over Uttarakhand and rest north eastern states. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Himachal Pradesh, extreme northeast Uttar Pradesh, north Chhattisgarh, west-central Odisha, Jharkhand, Sub-Himalayan West Bengal and Sikkim, South Interior Karnataka, south Telangana, northeast Rayalaseema, south coastal Andhra Pradesh and Nicobar Islands. Scattered low/medium clouds were seen over rest J & K, rest Uttar Pradesh, rest parts of East India, east Madhya Pradesh, Maharashtra, North Interior Karnataka, rest Andhra Pradesh, Kerala and Tamilnadu.

Arabian Sea:

No significant clouds over the region.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over south Andaman Sea adjoining southeast Bay.

Past Weather:

Convection:

Moderate to Intense convection was observed over J&K, E Uttarakhand adjoining Nepal, Sub-Himalayan West Bengal, Sikkim, Assam, Arunachal Pradesh, Coastal Orissa adj north Andhra Pradesh and south interior Karnataka

OLR:-

Up to 280 Wm^{-2} was over J&K, North HP, Uttarakhand, East Bihar, North East States, coastal Orissa, South Interior Karnataka & Kerala.

Up to 310 Wm^{-2} was over Tamilnadu.

Up to 340 Wm^{-2} was over rest parts of India.

Up to 370 Wm^{-2} was over west Rajasthan..

Jet Stream:

No Jet stream and trough observed over India.

Dynamic Features:

Positive shear tendency observed over central & north India and negative shear tendency observed over rest parts of India.

A low wind shear is observed over west adjoining central India and extreme south India while high wind shear is observed over rest parts of India .

A positive Vorticity field is seen over South Interior Karnataka, north Gujarat, east Uttarakhand, north west J&K and Gangetic West Bengal

Negative low level convergence observed over north Madhya Maharashtra, Gujarat and west J&K.

Positive Low Level Convergence observed over central & south parts of India

Precipitation:

IMR: Rainfall upto 30 extreme south Orissa and extreme south interior Karnataka Rainfall upto 10mm was observed over north J&K, extreme east Uttarakhand, east Bihar, Sub-Himalayan West Bengal, Assam, north Mani &, South Interior Karnataka.

HEM:. Rainfall upto 70mm was observed over extreme J&K and extreme east Uttarakhand.

Rainfall upto 14 mm was observed over Sub-Himalayan West Bengal & Sikkim, Assam, north Mani, south Tripura, south coastal Orissa and South Interior Karnataka

RADAR and RAPID observation:

DWR Composite at 1630hrs IST indicated strong convection over Andhra Pradesh and Odisha. Isolated/multiple moderate to strong echoes were seen in DWR Machilipatnam (dBZ around 55 and height 15km), DWR Kolkata (dBZ around 55 & height 10km), DWR Vishakhapatnam (DBZ around 55 and height 10km), DWR Chennai (dBZ around 50 & height 8-14km), DWR Paradeep (dBZ around 55 & height 15km), DWR Agartala (dBZ around 40-45 & height 8-15km) DWR Hyderabad (dBZ around 50 & height 12km) and DWR Patna (dBZ around 45 & height 12km) at around 1115 UTC (1645 hrs IST).

RAPID RGB Satellite imagery of 1600IST indicated convective cells over north-eastern states, Himachal Pradesh, Uttarakhand, North Bihar, Chhattisgarh, Jharkhand, West Bengal, Sikkim, Karnataka, Tamilnadu, Andhra Pradesh, adjoining Telangana and Nicobar Islands.

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

Dust concentration was observed over Arabian Peninsula. Dust concentration is expected to increase over west and north India for next five days.

High PM10 concentration was observed over north India. PM10 concentration is expected increase over north India for next five days.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

12UTC Charts of all the days from day-1 to Day-4 show feeble trough over J & K.

12UTC Charts of all the days show Heat Low over Rajasthan and adjoining Pakistan and its extension over IG plains is prominent.

The MSLP values are well below 994 hPa over a large area from Day 0 to Day-4.

12UTC charts on all days from Day0-4 show two zones of wind discontinuity at 925 hPa: (i) SW-NE extending from northern Karnataka-Telangana region to Odisha-WB region. (ii) Day-3 onwards S-N extending from southern parts of TN to northern parts of Karnataka-Telangana region.

00UTC of Day1-4 show a trough over southern peninsula extending from Maharashtra, Karnataka to Tamilnadu..

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

Weaker core winds at 12 UTC on all days over India. On Day-4 over western Pakistan and Iran, due to influence of WD

3. Convergence at 850 hPa:

At 12UTC Day-0 Along the west coast prominently over Maharashtra. Day-1-2, Chhattisgarh. Day-3-4 over isolated locations of Assam and Meghalaya.

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

At 12UTC on Day-0-2 Isolated locations over NE, WB, Bihar, Jharkhand and parts of eastern UP. Day-3-4 Enhanced values over Assam, Bihar and adjoining UP and WB.

At 00UTC on all days: Strong structure over land extending N-S over peninsula and along IG plains and over Assam

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

At 12UTC: Day 0-1: Coastal Karnataka, Maharashtra, parts of J & K, parts of Bihar and adjoining UP, Jharkhand and WB, Odisha and adjoining Chhattisgarh and AP, over NE mainly over Meghalaya, Tripura and Mizoram.

At 12UTC: Day 2: Coastal Kerala, parts of J & K, isolated locations of Bihar and adjoining UP, WB, Odisha and adjoining Chhattisgarh and AP, large parts of Bangladesh and over NE mainly over Meghalaya, Tripura and Mizoram.

At 12UTC: Day 3-4: Coastal Kerala and AP, parts of J & K, parts of Bihar and adjoining UP, Jharkhand and WB, large parts of Bangladesh over NE mainly over Meghalaya, Tripura and Mizoram.

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

At 12UTC: Day 0: Coastal Karnataka, Kerala and TN along with interior parts, parts of J & K, parts of Bihar and adjoining UP, Jharkhand and WB, Odisha and adjoining Chhattisgarh and AP, over NE mainly over Meghalaya, Tripura and Mizoram, parts of Arunachal and Nagaland.

At 12UTC: Day 1-2: Kerala TN, parts of J & K, isolated locations of UP, Odisha and adjoining Chhattisgarh and AP, large parts of Bangladesh and over NE mainly over Meghalaya, Tripura and Mizoram.

At 12UTC: Day 3-4: Coastal Kerala and AP, parts of J & K, parts of Bihar and adjoining UP, Jharkhand and WB, large parts of Bangladesh over NE mainly over Assam, Arunachal, Meghalaya, Tripura and Mizoram

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

At 12UTC : Day0: Coastal Maharashtra, Bihar and adjoining UP, Jharkhand and WB and coastal Odisha, AP.

At 12UTC : Day1: mainly over J & K in North and over Odisha and adjoining states.

At 12UTC :Day-2: J & K region, parts of Rajasthan and Pakistan, Odisha and Chhattisgarh WB, parts of MP and UP.

Day-3&4: Increased values over J & K IG plains Bihar, WB Odisha and Bangladesh.

8. Rainfall and thunder storm activity:

>8 cm/day in Day-1 over Assam, Meghalaya and adjoining Bangladesh, Day-4 & 5 over Assam, Meghalaya and Nagaland.

>16cm/day in Day 2-5 over Meghalaya and adjoining Bangladesh.

>2cm in Day 4 & 5 over J&K

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

1. Weather Systems:

00 UTC analyses shows a low level trough starting from west UP and adjoining regions to Gangetic West Bengal (GWB) regions and this trough of will persist for the next 2 -3 days.

Another north-south oriented low level trough starting from Jharkhand and adjoining GWB regions to Marathwada and adjoining north Karnataka region and this trough of low will persist for the next 2 -3 days.

Analyses also shows a low level CYCIR over NE India and this CYCIR will persist for the next 2 days.

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 low level positive vorticity mainly over the foothills of Himalaya, along the west coast of India, east UP, Bihar, SHWB, Jharkhand, GWB and isolated pockets of NE states.

Forecast shows vorticity core zones mainly along the foothills of Himalaya, west coast of India, and isolated pockets of GWB and NE states, Marathwada, interior parts of Karnataka and few pockets along the east coast bordering Odisha and SHWB along with few regions of the north eastern states for the next 3 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 threshold values are noticed over Jharkhand, GWB, along the east of India and few pockets in NE India and along the west coast of India. Forecast shows significantly high threshold values over west coast of India, GWB and eastern coast for the next 3 days.

Lifted Index (< -2): The areas with index less than -2 lies along east coast regions, GWB, Odisha, coastal AP, and along the west coast of India and Kerala coast with gradually the above threshold value mainly extended towards southern coastal regions.

Sweat Index (> 400): 00UTC shows significant values over major parts along with the east coast extending up to coastal TN and also over west coast of India and few isolated pockets in the NE states. The significant zones are confined along east coast of India over GWB, Odisha, Bangladesh and adjoining regions and high value of SI observed over GWB and south AP coastal regions and NE region for next 5 days and also over few pockets in the south west region.

Total Total Index (> 50): Analysis shows significant values over few pockets in Gujarat, MP and adjoining areas. Above threshold value in most regions of central and western India and adjoining northern parts of India along with areas bordering north west India for the next 2-3 days.

CAPE (> 1000): Mostly along east coast of India over GWB, Odisha and adjoining AP regions along with parts in south peninsular region and coastal Kerala and Karnataka during the 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 along the west coast of India for the next 2-3 days.

5. Rainfall and thunderstorm activity:

10-40 mm rainfall is forecasted tomorrow over some parts of the NE states, J&K and also some parts of HP, Orissa and adjoining north AP, and Kerala regions. Rainfall activity over J&K and NE states will increase from day-1 onwards and light to moderate rainfall will continue over coastal Orissa, Kerala for the next 2-3 days.

3. IOP ADVISORY FOR 24 and 48 Hrs:

Summary and Conclusions:

Day 1 & Day 2:

Presently, a trough runs from West Uttar Pradesh to east Assam across Bihar and extends up to 0.9 km above mean sea level with an embedded upper air cyclonic circulation over Assam at 0.9 above mean sea level which will give rise to heavy rainfall over Assam and Meghalaya on Day-1 and very heavy rainfall on Day-2. Thunder squall with hail possibilities are there for Day-1 and Day-2 also.

A north-south trough runs from east Bihar to north Orissa and extends up to 3.1 km above mean sea level with an embedded upper air cyclonic circulation over east Bihar & neighbourhood at 1.5 above mean sea level. Due to this system, Orissa, Bihar, SHWB will experience Thunder squall with hail on Day-1. Area such as Bihar and SHWB the activities may continue on Day-2 also.

Thunderstorm with gusty winds possibility on Day-1 is over Coastal Andhra Pradesh to Coastal Karnataka and eastern parts of Telangana due to the trough runs from north Coastal Andhra Pradesh to Coastal Karnataka across Telangana and Interior Karnataka at 1.5 km above mean sea level.

24 hour Advisory for IOP:

Assam, Meghalaya
Nagaland, Manipur, Mizoram and Tripura
Kerala and Interior Tamilnadu, Eastern Parts of Telangana
Orissa, Bihar
South and North Interior Karnataka
Sub Himalayan West Bengal, Sikkim
Coastal Andhra Pradesh

48 hour Advisory for IOP:

Assam, Meghalaya
Nagaland, Manipur, Mizoram and Tripura
Sub Himalayan West Bengal, Sikkim
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

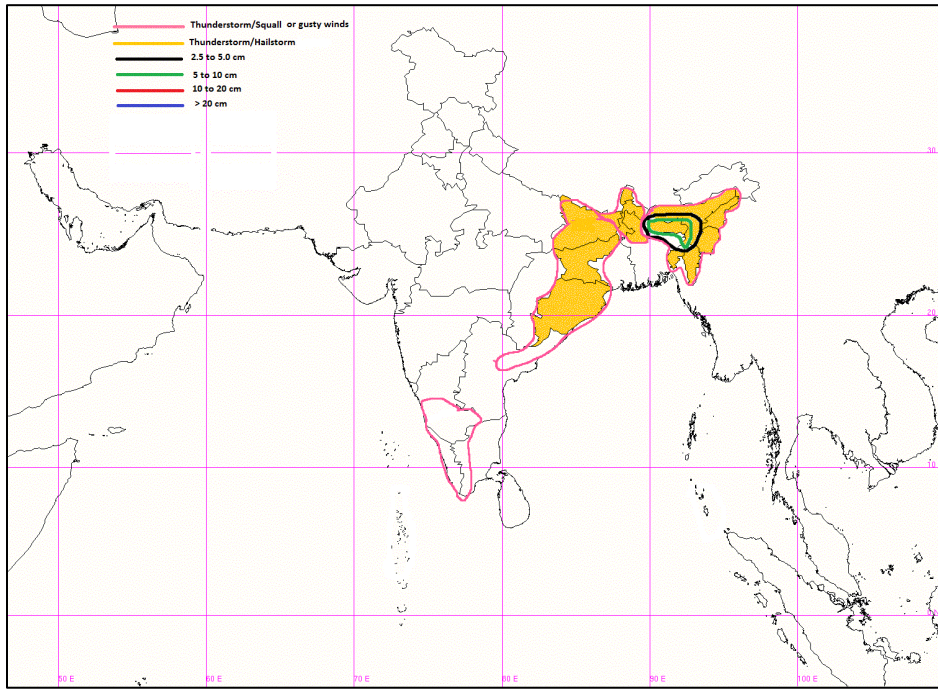
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ForRadarimagesofthepast24hoursincludingmosaicofimages:

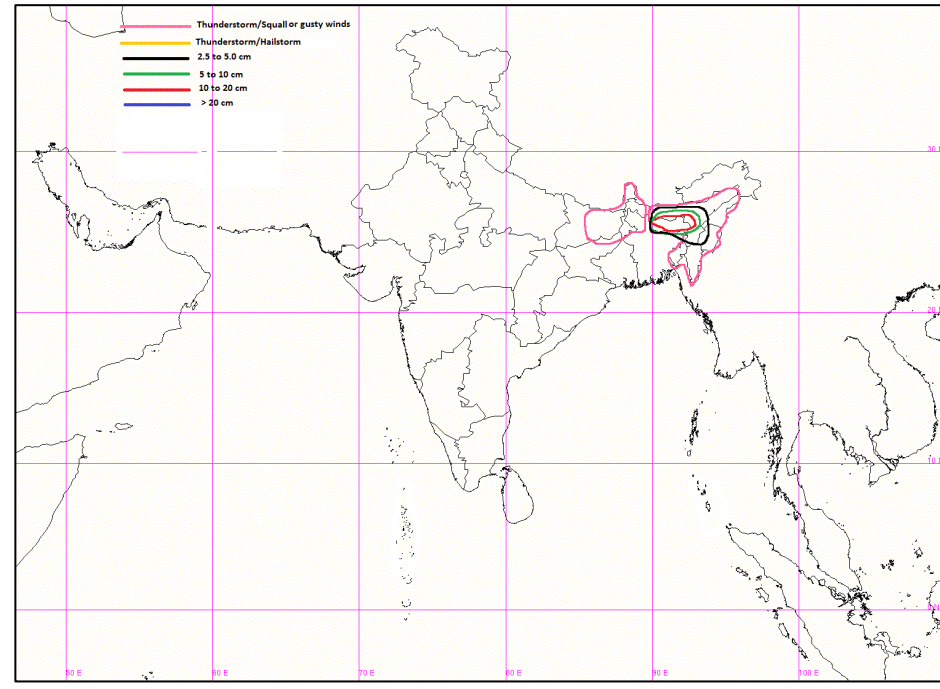
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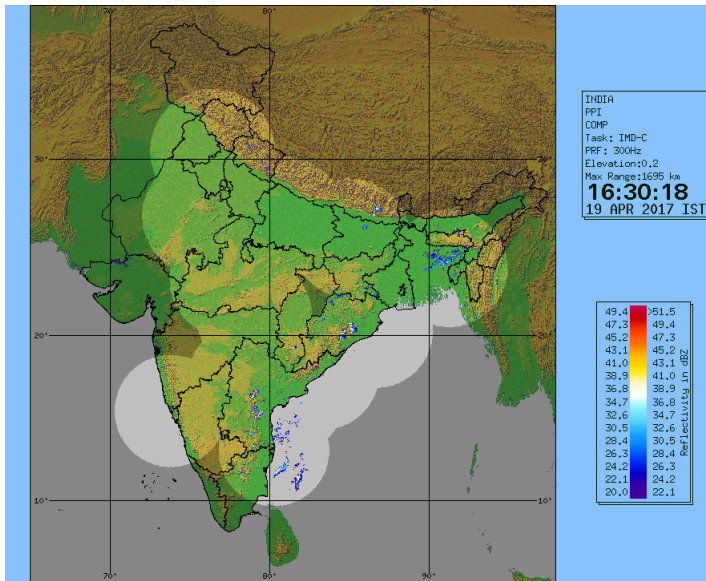
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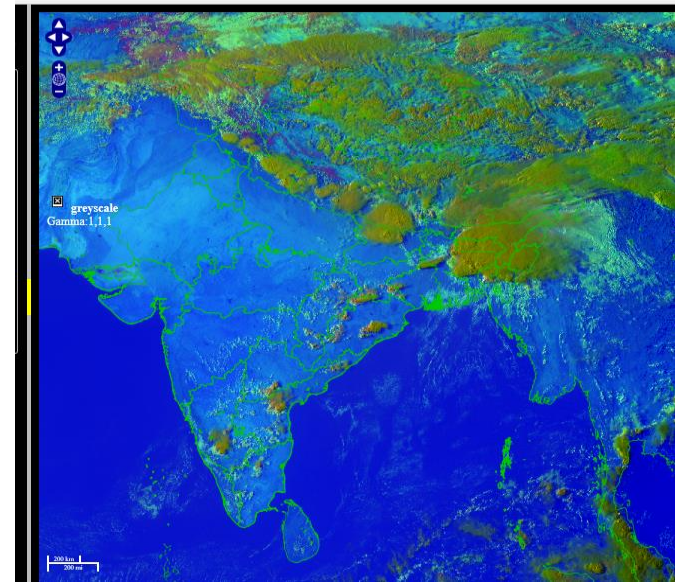
IOP Advisory for 24hours



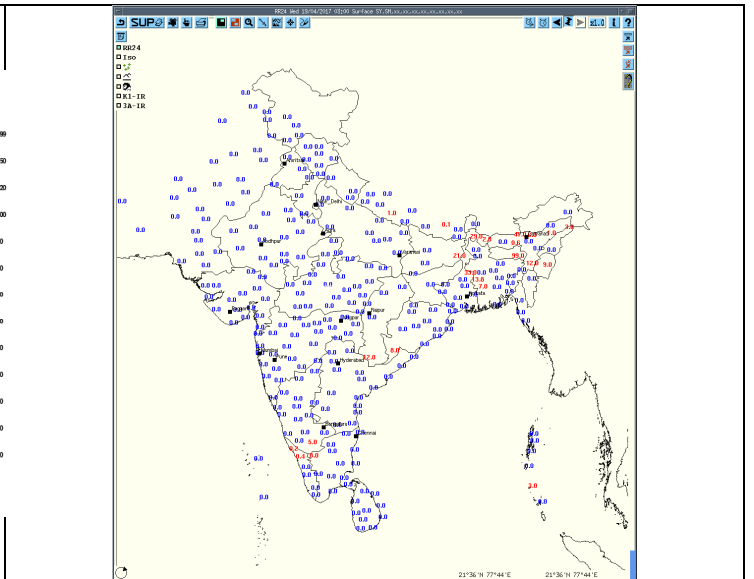
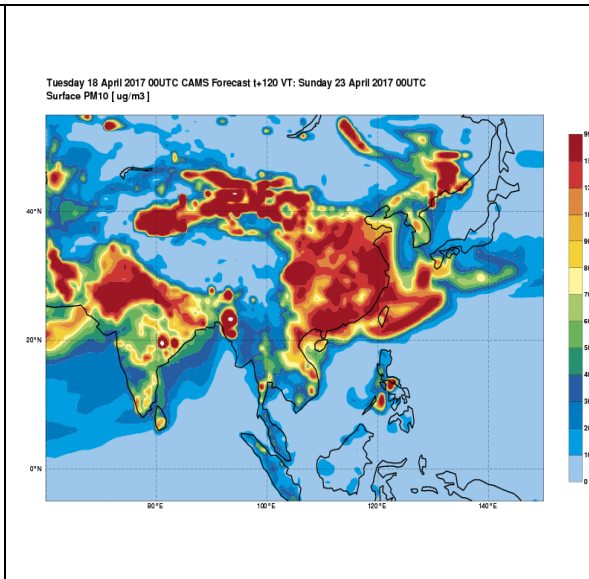
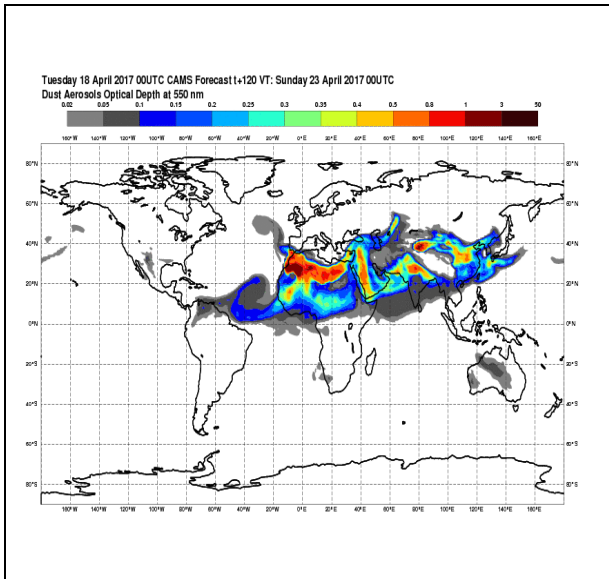
IOP Advisory for 48hours



DWR Composite at 1630 hrs IST of today



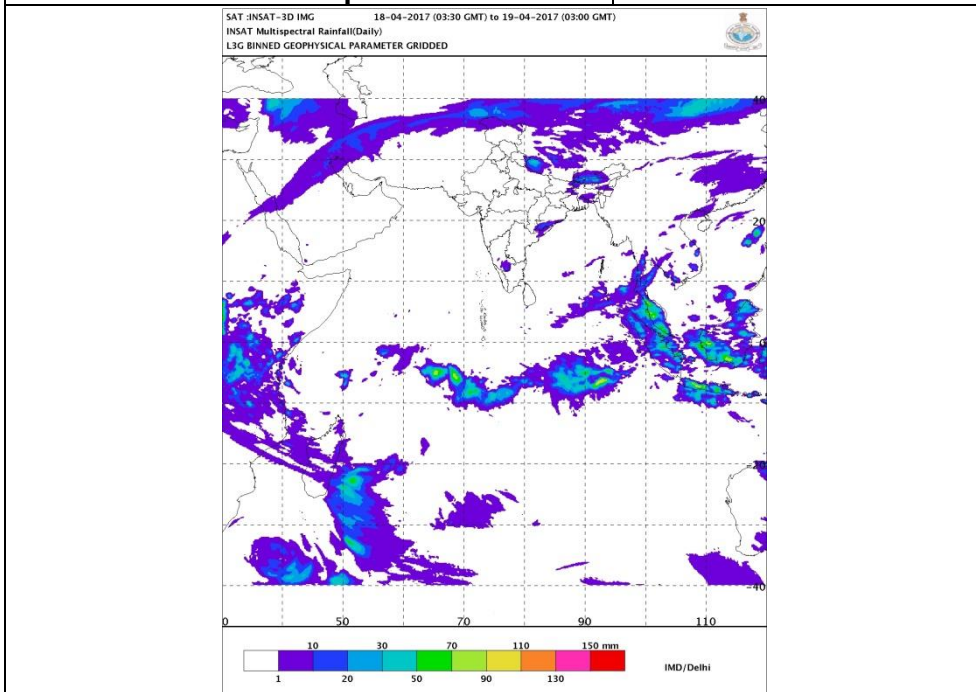
RAPID RGB Image of INSAT 3D at 1600 hrs IST of today



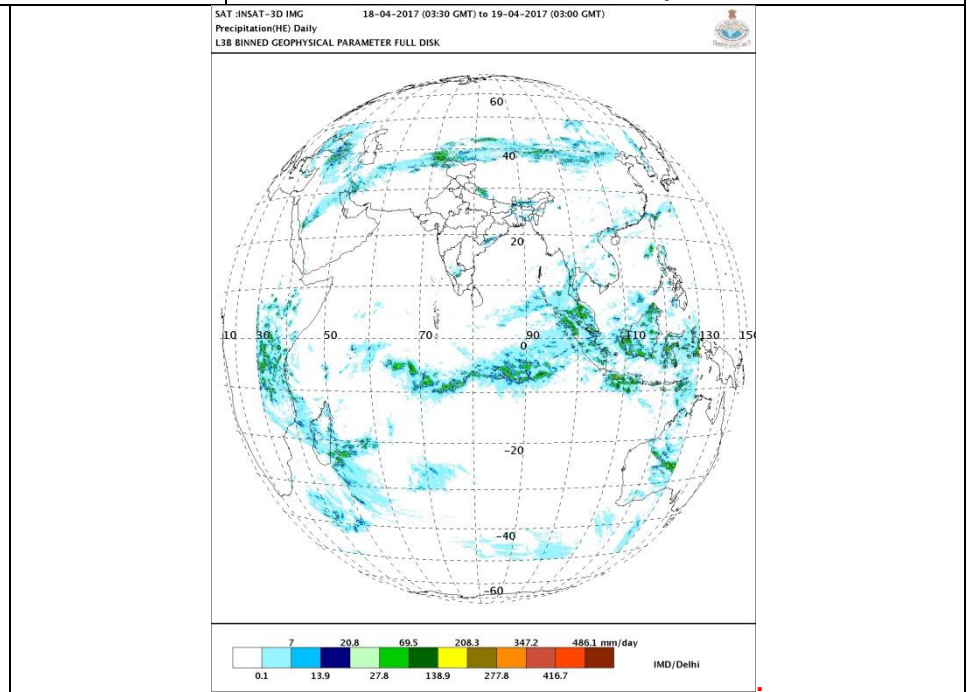
Forecast Dust Concentration for 00UTC of 23rd April

PM10 Forecast for 00UTC of 23rd April

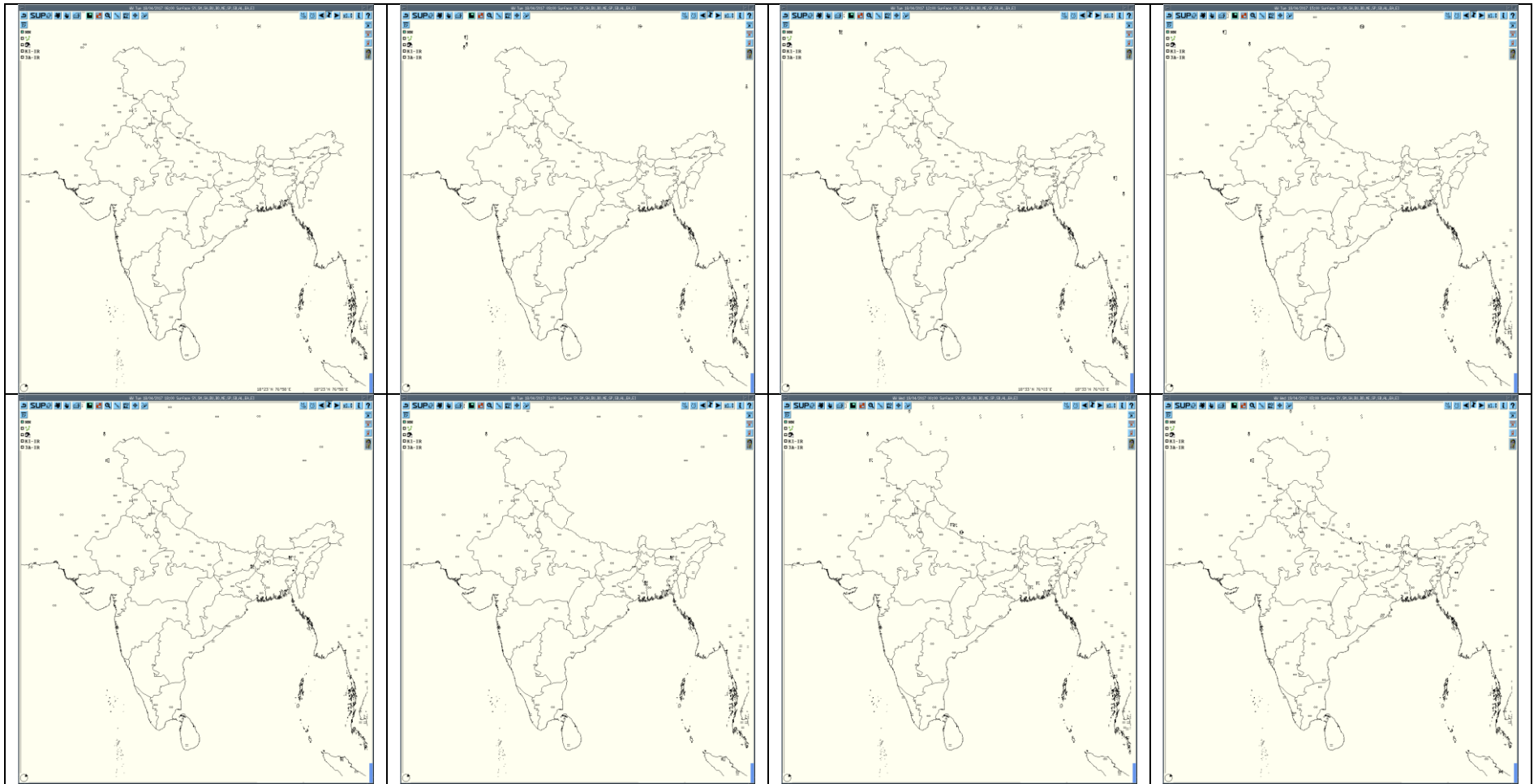
Accumulated 24 Hour rainfall (in red) recorded at 0300 UTC of today



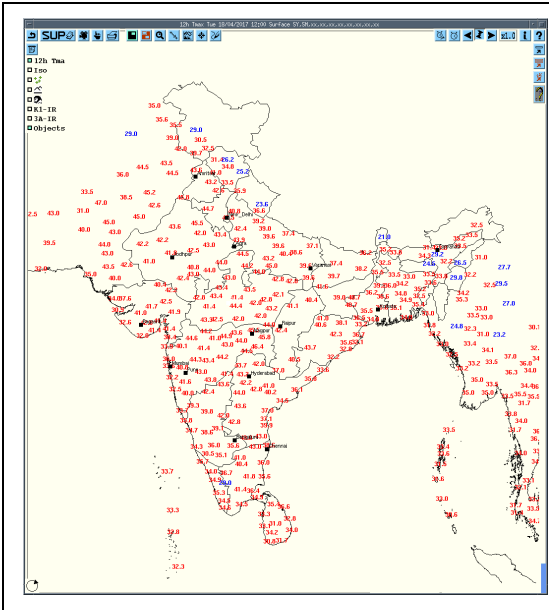
IMR Rainfall



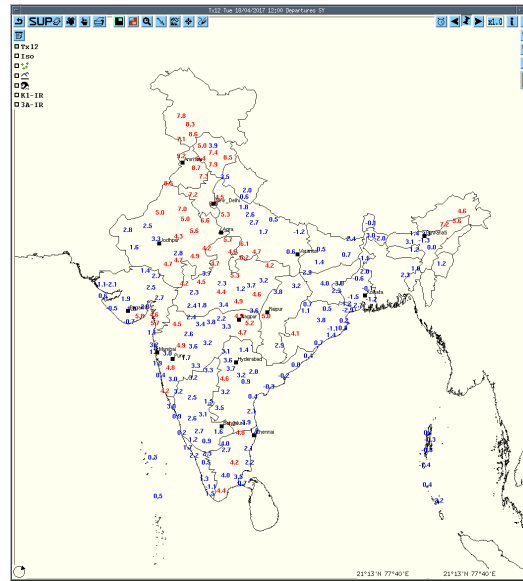
HEM Rainfall



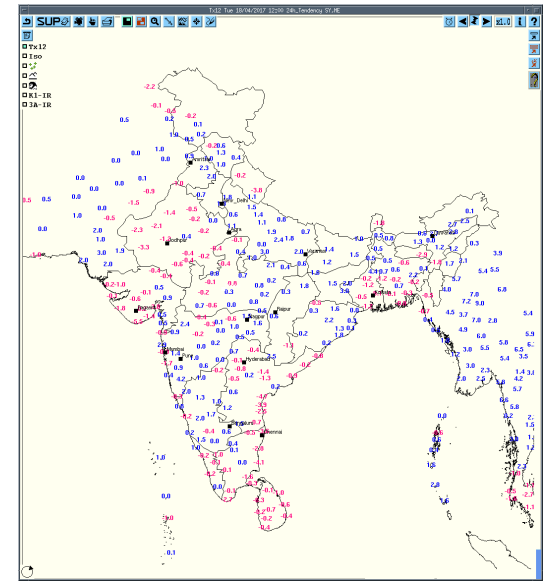
3 hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



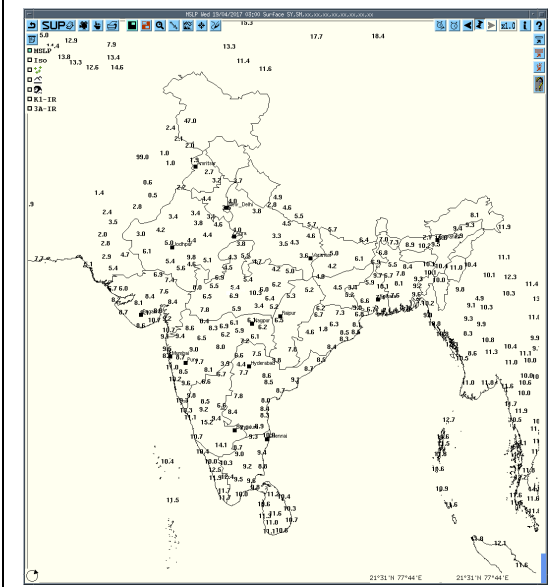
Tmax



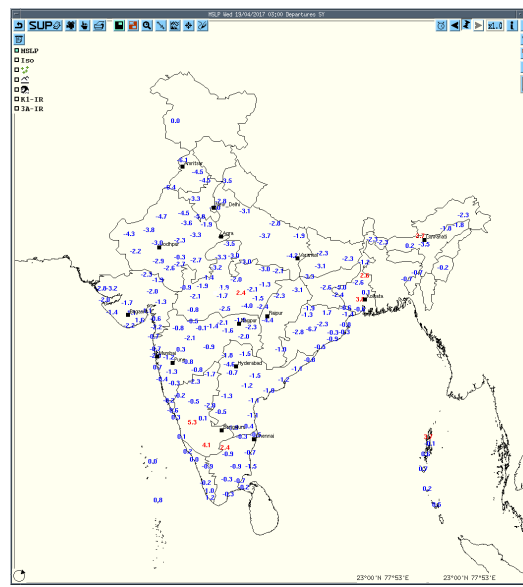
Departure Tmax



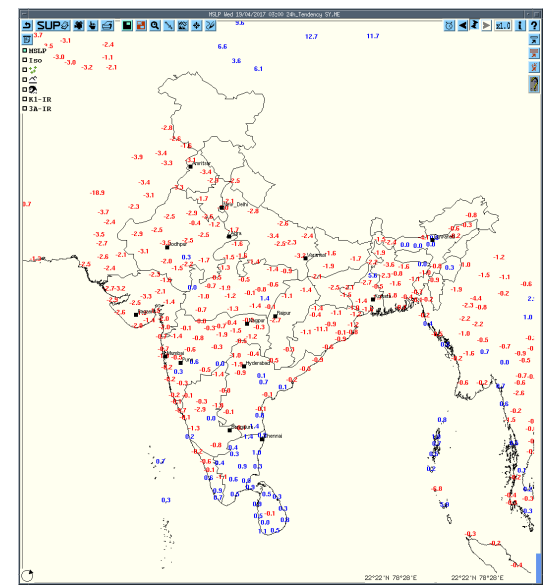
Tendency MSLP



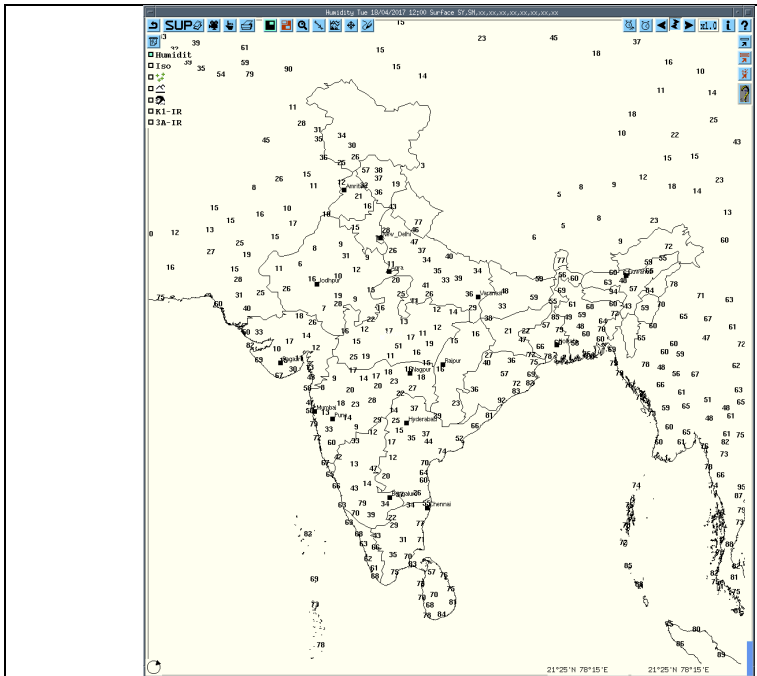
MSLP



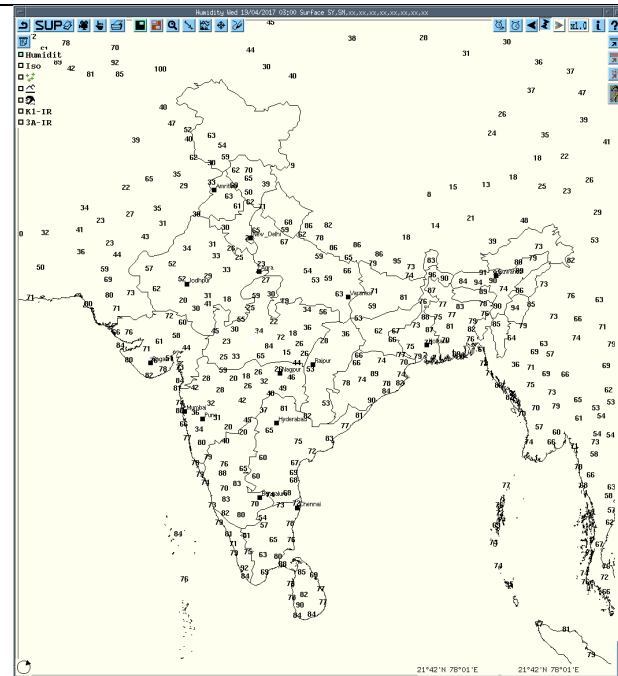
Departure MSLP



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
18-04-17	0600 UTC	Nil	Nil	Nil	Nil
18-04-17	0900 UTC	Nil	Nil	Nil	Nil
18-04-17	1200 UTC	Nil	Nil	Nil	Nil
18-04-17	1500 UTC	Bhagalpur	East India	Bihar	Lightening
18-04-17	1800 UTC	Purnea	East India	Bihar	Thunderstorm
		Guwahati	Northeast India	Assam	Thunderstorm
18-04-17	2100 UTC	Guwahati	Northeast India	Assam	Thunderstorm
19-04-17	0000 UTC	Purnea	East India	Bihar	Thunderstorm
19-04-17	0300 UTC	Bagdogra	East India	West Bengal (SHWB)	Thunderstorm

Realized 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)
Jalpaiguri	East India	West Bengal (SHWB)	Thunderstorm	19-04-17	0620	0745
Malda	East India	West Bengal (SHWB)	Lightening	19-04-17	0130	0430
Purnea	East India	Bihar	Thunderstorm	18-04-17	2150	2240
				19-04-17	0415	0525
Bhagalpur	East India	Bihar	Lightening	18-04-17	2000	2145
Silchar	Northeast India	Assam	Thunderstorm	19-04-17	0010	0100
Tezpur	Northeast India	Assam	Thunderstorm	19-04-17	0245	0310
Guwahati	Northeast India	Assam	Thunderstorm	18-04-17	2215	2305
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	18/19-04-17	18/2230	19/0830
Jagdalpur	Central India	Chhattisgarh	Lightening	18-04-17	1855	2030

Past 24 hours DWR Report:

Radars 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
Jaipur	19-04-17	180300-190300	Nil	Nil	Nil	Nil	Nil
Patiala	19-04-17	180302-190252	Nil	Nil	Nil	Nil	Nil
Agartala		170300-180300	Nil	Nil	Nil	Nil	Nil
Nagpur	19-04-17	1022-1102 1122-1142 1132-1142 1132-1142 1152-1312	Single Single Single Single Single	200 km NEE 230 km NEE 210 km NEE 80 km NE 220 km NEE, moving E'ly	< 10 dBZ < 15 dBZ < 10 dBZ < 10 dBZ < 10 dBZ Moved out of radar range	---	---
		0002-0302	Nil				0002-0302
Lucknow	19/04/20 17	182132-182352	Multiple cells formed over 230 Km. NNE, Maximum height of the cell 14 Km (20 dBZ echo top) & Maximum reflectivity of the core observed to be 50 dBZ around 2242 UTC at 230 Km NNE	System moved SE ly with avg. speed 54 Km/h and weakened at 2352 UTC to location 200 Km NNE	NIL	NIL	NIL
		190012-190300	Multiple cells became stronger at 0012 UTC over 200 Km NNE, Height of the cell	System moved SE ly with avg. speed 45 Km/h to 200 Km ENE(over Balrampur, UP)	NIL	NIL	NIL

			observed to be 15 Km. & Maximum core reflectivity reached 50 dBZ around 0122 UTC	Presently persistent at the same location but got weakened			
Paradeep	19-04-17	180300-181800	Isolated single cells seen to develop having maximum reflectivity of 40 dBZ and av. Heights of 9 kms.	Position: NW sector of RADAR. Movement is NWly.	NIL	TS	Sundergarh, Debagarh, Angul, Sundergarh, Kandhamal, Nayagarh, Keonjhar, Ganjam, Puri .
Patna	19-04-17	180300-181330	NIL	NIL	N/A	N/A	N/A
		181330-181600	Multiple Cell. Maximum Reflectivity : 39.5 dBZ Echo Top : 10.0 KM	Range : 186 KM from DWR Patna in South-East Movement-STATIONARY	NIL	THUNDER-STORM WITH RAIN	JAMUI, BANKA,LAKHISARAI, M UNGER,BHAGALPUR, KHAGADIA AND KATIHAR.
		181600-181645	NIL	NIL	N/A	N/A	N/A
		181645-181845	SINGLE Cell. Maximum Reflectivity : 37 dBZ Echo Top : 7.0 KM	Range : 216 KM from DWR Patna in EAST Movement-East	NIL	THUNDER-STORM WITH RAIN	PURNIA,KATIHAR,ARA RIA,KISHANGANJ AND BHAGALPUR.
		181845-181900	NIL	NIL	N/A	N/A	N/A
		181900-182100	Multiple Cell. Maximum Reflectivity : 30 dBZ Echo Top : 7.0 KM	Range : 180 KM from DWR Patna in EAST Movement-East	NIL	THUNDER-STORM WITH RAIN	BHAGALPUR,KHAGAR IA, MADHEPURA,PURNIA AND KATIHAR.
		182100-182200	NIL	NIL	N/A	N/A	N/A
		182200-190100	SINGLE Cell. Maximum Reflectivity : 40 dBZ	Range : 237 KM from DWR Patna in EAST Movement-EasT.	NIL	THUNDER-STORM WITH RAIN	KATIHAR, PURNIA, KISHANGANJ AND BHAGALPUR.

			Echo Top : 10.0 KM				
		190100-190300	NIL	NIL	N/A	N/A	N/A
Srinagar	19-04-17	180300-190300	Nil				
Kolkata	19-04-17	180311-181331	NIL	NIL	NO ECHO	NIL	NIL
		181341-190251	<p>Single cell with maximum height of 10.39 Km at 1401 UTC and maximum reflectivity of 48.5 dBz at 1341 UTC</p> <p>Single cell with maximum height of 14.51 Km at 1501 UTC and maximum reflectivity of 58.5 dBz at 1501 UTC</p> <p>Multi celled system with maximum height of 17.3 Km at 1911 UTC and maximum reflectivity of 65.0 dBz at 1921 UTC</p>	<p>NNW (248.7 km) with almost no movement</p> <p>NW (248.0 km) with almost no movement</p>	<p>Cells started coming at 1341 UTC from NNW (248.7 km) from radar. Not matured, dissipated at 1442 UTC in NNW at a distance of 114.9 km from Radar</p> <p>Cells started forming at 1452 UTC at NW (248.0 km) from radar. Matured, dissipated at 1541 UTC in NW at a distance of 245.5 km from Radar</p> <p>Isolated cells started forming at 1541 UTC from NNW to N (188.0 km) from radar .Converted to multicelled system. Matured, dissipated at 0101UTC in ENE at a distance of 173 km from Radar.</p>	<p>Thunderstorm /Rain</p> <p>Thunderstorm /Rain</p> <p>Thunderstorm /Hail/Rain</p>	<p>N/A</p> <p>N/A</p> <p>N/A</p>
				190021 –19 021	<p>Single cell with maximum height of 8.0 Km at 0111 UTC and maximum reflectivity of 52.5 dBz at 0031</p>	<p>ENE (129 km) moving ENE-ly with a speed of 29.9 kmph.</p>	<p>Isolated single cell, started forming at 0021 UTC in ENE (129 km)) from radar. Did not matured, dissipated at</p>

		190021-190251	<p>UTC</p> <p>Single cell with maximum height of 9.9 Km and maximum reflectivity of 56.5 dBz at 0111 UTC</p> <p>Single cell with maximum height of 8.2 Km and maximum reflectivity of 54.5 dBz at 0131 UTC</p>	<p>ENE (171 km) moving ENE-ly with a speed of 31.3 kmph</p> <p>NNE (207 km) moving E-ly with a speed of 29.5 kmph</p>	<p>0131UTC in E at a distance of 155 km from Radar. Isolated single cell, started forming at 0051 UTC in ENE (171 km)) from radar. Did not matured, dissipated at 0231UTC in ENE at a distance of 193 km from Radar. Isolated single cell, started forming at 0131 UTC in NNE (207 km)) from radar. Did not matured, dissipated at 0251UTC in NNE at a distance of 194 km from Radar.</p>	<p>Thunderstorm /Rain</p> <p>Thunderstorm /Rain</p>	<p>N/A</p> <p>N/A</p>
		190251-190301	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
Vishakhapatnam		180300-180600	<p>Isolated single cell developing in WNW direction with average ht of 11kms and max reflectivity of 54 dBz.</p>	<p>WNWly about 92 kms from Radar.</p>	<p>Just started developing.</p>	-	■
		180600-180900	<p>Multiple well organized cells of max reflectivity 58dbz in the NW with average height 10kms at a distance of 90kms. Multiple cells in NE with max</p>	<p>Continued to be formed in the NW and NE and Direction is SW ly</p>	<p>Reflectivity has been reducing during the period of observation and dissipated.</p>	-	■

			reflectivity 45 DBZ at 240kms .				
		180900-181200	Multiple well organized cells towards NW and NE with max reflectivity 60 DBZ towards NNW and average height 12kms at 150kms from radar.	Continued to be formed and moving SW ly.	Cells formed at NNW with 60 dbz is being dissipated in a gradual decay in reflectivity after downpour.	-	
		181200-181500	Multiple well organized cells towards NNW and NW with max reflectivity 60 DBZ with average height 16kms at 170kms from radar.	Continued to be formed and moving Wly.	Cells formed at NNW with 60 dbz is being dissipated in a gradual decay in reflectivity after downpour.	-	
		181500-181800	Isolated cell towards W with max reflectivity 44 DBZ with average height 11kms at 214kms from radar.	Formed at 1621 UTC and moving NWly.	Cell formed towards W with maximum 44 dbz and dissipating from 1631 UTC.	-	
Agartala	19-04-17	181042-181602	--	--	Radar on standby AC Failure	--	--
		181602-190300	Multiple Cells with Maximum Height 14 km and maximum reflectivity 42 dBZ (at 2210 UTC over Eastern Meghalaya)	Cells Visible on DWR at 1602 UTC 100 KM NE of DWR Agartala moved NE wards at around 20 kmph	At 0300 UTC of 19-04-17, cells persists over over Eastern Meghalaya with height max 8km and reflectivity decreased to <30dBZ	TS with heavy rain at Cherrapunjee	East Khasi district of Meghalaya
		181620-190120	Multiple Cells with Maximum Height 14 km and maximum	Formed West (350 KM) from DWR Agartala, at 1620 UTC, moved SE-	Cells dissipated at 0120 UTC of 19.04.17 over South Bangladesh	N/A	N/A

			reflectivity 39 dBZ (at 2340 UTC over Bangladesh)	wards at around 30 kmph			
Hyderabad	19-04-17	180822 – 181212	Isolated cells with an average height of 9 Km with a max reflectivity of 49.5 dBZ	SSE (178 Kms) moving in Southerly Direction at a speed of 9 Kmph.	Cells started forming at 0822 UTC at SSE (178 Kms) from radar, Matured a bit in size. Max reflectivity was between 0932 and 0952 UTC and dissipated at 1032 UTC.	Moderate Thunderstorm with or without rain	Not known.
Machilipatnam	19-04-17	180701-18 1151	Isolated cell with average height of 13 km with maximum reflectivity of 62 dBZ	NE(248.5KM) , moving SW ly direction average speed of 33.8kmph	Cells started forming at 0701UTC at NE (248.5km) from radar. Maximum reflectivity during 0701 to 1131 and died down at 1151UTC	Possibility of Thunder storm and rain with moderate winds.	East Godavari (District) (82.006Lon/17.280Lat)
		181321-181631	Isolated cell with average height of 12.4km with maximum reflectivity of 62.5 dBZ	N (248.2KM) moving SW ly direction average speed of 26.9kmph	Cells started forming at 1321UTC at N (248.2km) from radar. Maximum reflectivity during 1351 to 1621 and died down at 1631 UTC	Possibility of Thunder storm and rain with moderate winds.	Dantewara District (81.528Lon/18.333Lat)

∞	haze
⌋	smoke
⌋	dust or sand storm
≡	fog
⌋	drizzle
•	rain
*	snow
▽	showers
△	hail
⌋	thunderstorm

Weather Symbols



+ thunderstorm



+ heavy thunderstorm



sandstorm or dust storm



squall



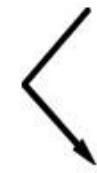
hail shower



tropical storm



+ tornado



+ lightning



+ hurricane

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