



India Meteorological Department
FDP STORM Bulletin No.60(04-05-2017)

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

SYNOPTIC FEATURES:

The upper air cyclonic circulation over Haryana & neighbourhood now lies over Haryana & adjoining West Uttar Pradesh and extends upto 1.5 km above mean sea level.

The trough from this system to Comorin area now runs across East Rajasthan, Madhya Maharashtra, Interior Karnataka and interior Tamilnadu with an embedded upper air cyclonic circulation over south Rajasthan & neighbourhood extending upto 0.9 km above mean sea level.

The feeble Western Disturbance as a trough in mid-tropospheric westerlies now seen as an upper air cyclonic circulation over north Pakistan & neighbourhood at 3.1 km above mean sea level with a trough aloft roughly along longitude 72.0°E and north of latitude 32.0°N.

An upper air cyclonic circulation lies over Bihar & neighbourhood and extends upto 0.9 km above mean sea level.

A trough in mid-tropospheric westerlies runs roughly along longitude 80.0°E and north of latitude 15.0°N.

A feeble Western Disturbance likely to affect Western Himalayan region from 7th onwards.

The trough at mean sea level from northwest Rajasthan to southeast Uttar Pradesh across southwest Uttar Pradesh has become less marked.

The trough in easterlies from Maldives-Lakshadweep area to southwest Madhya Pradesh across north Kerala, Interior Karnataka, Marathwada and Madhya Maharashtra between 1.5 km and 2.1 km above mean sea level has become less marked.

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

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 (UTC)	Area/Location	CTBT (-°C)	Movement	Remarks If any
1	04/0800 0900	NE JHRKND NE JRKND ADJ N GWB	48 50		Developing
2	04/0800 0900	NE SHWB ADJ BHUTAN W ASSAM ADJ BHUTAN	67 65		Developing
3	04/0900	S M MAHA	54		Developing
4	04/0900	SE UTRKND	54		Developing

Scattered low/medium clouds seen over Jammu & Kashmir, Uttarakhand, East Uttar Pradesh, Chhattisgarh, Odisha, Sub Himalayan West Bengal, Jharkhand, South Bihar, Andhra Pradesh, Karnataka, Kerala, Tamilnadu and Nicobar Islands.

Scattered low/medium clouds with embedded isolate moderate to intense convection seen over West Assam,

Scattered low/medium clouds with embedded isolate weak to moderate convection seen over Sikkim, Nagaland, North Manipur, South Rajasthan, Maharashtra, Madhya Pradesh,

Arabian Sea:

No significant clouds seen over this region.

Bay of Bengal & Andaman Sea:

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

Past Weather:

Convection: Moderate to Intense convection was observed over Madhya Maharashtra Vidarbha Chhattisgarh Odisha West Bengal North East States Karnataka Kerala Tamilnadu. Weak to Moderate convection associated with Western Disturbance was observed over J&K Himachal Pradesh Rajasthan Punjab Haryana Delhi West Uttar Pradesh.

OLR: - Upto 200 w m^{-2} was observed over J&K, Himachal Pradesh, North Uttarakhand

Upto 230 w m^{-2} was observed over Punjab, Rest Uttarakhand, West Uttar Pradesh, South Interior Karnataka..

Upto 250 w m^{-2} was observed over Haryana, Delhi, South Chhattisgarh, South Madhya Maharashtra, Sikkim, Meghalaya, Assam, Arunachal Pradesh, Kerala & South Tamilnadu.

Westerly Trough & Jet-Stream: Trough in Westerlies runs roughly along Longitude 85.0E North of Latitude 25.0N.

Dynamic Features: Positive shear tendency is observed over India.

Low wind shear is observed over South India Low to Medium shear is observed over rest India.

A positive Vorticity field is observed over North India East Madhya Pradesh Vidarbha Coastal Odisha.

Positive Low Level Convergence is observed over West Uttar Pradesh, West Maharashtra, Coastal Odisha, Tamilnadu, North East States and Negative low level convergence observed over rest parts of India.

Precipitation:

Rainfall upto 30 mm was observed over Extreme North West J&K, North Himachal Pradesh, South Konkan, North East Odisha.

Rainfall upto 20 mm was observed over Rest North West J&K Central Coastal Tamilnadu.

Rainfall upto 10 mm was observed over Rest J&K, Rest Himachal Pradesh, Uttarakhand, West Uttar Pradesh adjoining North Madhya Pradesh, North Rajasthan, Vidarbha adjoining East Madhya Pradesh, South Chhattisgarh, Coastal Odisha, South Gangetic West Bengal, Karnataka, Kerala.

HEM:.

Rainfall upto 70 mm was observed over West J&K North Himachal Pradesh, South Konkan, South Interior Karnataka.

Rainfall upto 07 mm was observed over Punjab, Haryana, Delhi, West Uttar Pradesh, Vidarbha, South Chhattisgarh, Odisha, South Gangetic West Bengal, Meghalaya, Assam, Arunachal Pradesh, Kerala, Extreme South Tamilnadu.

RADAR and RAPID observation:

Scattered significant convection was observed over South Maharashtra, Northeast Jharkhand and North Andhra Pradesh in Radar Composite of 1710IST and in RAPID RGB Satellite imagery of 1630hrs IST including South Odisha.

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

Not received

2. NWP MODEL GUIDANCE:

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

1. Weather Systems: 12UTC Charts of Day-0, 3 and 4 feeble trough in MSLP is seen over J & K.

12UTC charts on all days from Day0-4 show two zones of wind discontinuity at 925 hPa due to persistent anticyclonic flow over Arabian Sea :(i) SW-NE extending from northern Karnataka-Telangana region to Odisha region. (ii) S-N extending from southern parts of TN to northern parts of Telangana-AP region.

Trough at 850 hPa: over GWB and SHWB in Day0-3.

At 500 hPa: trough over west of J & K in Day-0. Strong east-west ridge over peninsula is prominent in Day-1 to Day-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: Day0: Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, East RJ, Odisha, East MP, Madhya Maharashtra, Marathwada, Chhattisgarh, SI Karnataka,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Gangetic WB, Jharkhand, Odisha, East MP, Madhya Maharashtra, Vidarbha, Chhattisgarh,

Day2: Assam Meghalaya, Sub Himalayan WB, Jharkhand, Jammu Kashmir, Odisha, East MP, Madhya Maharashtra, Vidarbha, Chhattisgarh, SI Karnataka,

Day3: Gangetic WB, Jharkhand, Chhattisgarh,

Day4: Jharkhand, East UP, Odisha, East MP, Madhya Maharashtra,

4. Low level Vorticity:-Positive Vorticity (>15 x 10⁻⁵/s): Day0: Sub Himalayan WB, West UP, Uttarakhand,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, TN Puducherry,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Gangetic WB, Bihar, East UP, Uttarakhand, Himachal Pradesh,

Day3: Assam Meghalaya, NE NMMT, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Odisha,

Day4: Assam Meghalaya, Bihar, East UP, West UP, Himachal Pradesh, Odisha,

5. Showalter Index: Day-wise Sub-divisions with Showalter index <-4: Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, 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, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

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

6. K-Index: Daywise Sub-divisions with K-index >40: Day0: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Bihar, Uttarakhand, Jammu Kashmir, Odisha, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, NE NMMT, Gangetic WB, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI Karnataka,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

7. Spatial distribution of TTI: Daywise Sub-divisions with TTI >52: Day0: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra,

Day1: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Madhya Maharashtra, Vidarbha, Chhattisgarh,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Guj Reg, Saurashtra Kutch, Vidarbha, Chhattisgarh, Telangana, Rayalaseema, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, West MP, East MP, Guj Reg, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana, NI Karnataka, SI Karnataka,

Day4: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana, Rayalseema, NI Karnataka, SI Karnataka,

8. Rainfall: Daywise Sub-divisions with Precipitation>2cm:

Day1: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Himachal Pradesh,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Odisha, SI Karnataka, Kerala,

Day4: Assam Meghalaya, NE NMMT,

Day5: Assam Meghalaya, Sub Himalayan WB, Uttarakhand,

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

1. Weather Systems: The model analysis shows that in the lower tropospheric levels, a north-south oriented trough from Uttarakhand extending up to interior Karnataka. Another north-south trough from SHWB to Jharkhand and adjoining Orissa is seen in the analysis. In the forecasts, a northeast-southwest trough forms extending from SHWB up to Vidarbha and adjoining areas which remains over the region till day 3. The east-west trough over Northern Gangetic plains extending up to NE states is seen on day 3 which persists over the region till day 5. The north-south trough over peninsular India from Vidarbha and adjoining Telangana to interior Karnataka also persists till day 5 with an embedded CYCIR developing over Rayalaseema on day 4. The wind analysis at 500 hPa shows a weak trough in westerlies over HP and adjoining areas moving eastward reaches over northern parts of NE states on day 1.

2. Location of jet and jet core at 500 hPa:-500 hPa Jet core (>60kt): No presence of jet core over the Indian region. Strong westerly is seen over foothills of Himalaya during day 1 and 2.

3. Low level Vorticity:-Positive Vorticity 850hPa (>12 x 10⁻¹/s): Mostly along the foot hill of Himalaya. Prominent vorticity zones are found in the morning hours along troughs over east, central and south peninsular India during 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): Less than threshold value all over the country. The values between 3-3.5 mostly along east coast, eastern part of the country covering Bihar, SHWB,GWB, parts of Jharkhand and Andhra Pradesh also along west coast and over Gujarat during next 5 days prominently during morning hours.

Lifted Index (< -2): Less than threshold value mostly reiterates the coverage like T-storm index during next 5 days.

Total Total Index (> 50) : Above threshold value over the most parts of central India and spreading over NW India and west parts of east India and during afternoon hours.

Sweat Index (> 300): Along east coast, along west coast, GWB, Bihar and adjoining areas in east India and parts of NE states; along west coast and coastal Gujarat prominently during morning hours.

CAPE (> 1000): Similar spatial coverage like sweat index during next 5 days.

CINE (>150): Along east coast, west coast, Gujarat and adjoining areas, parts of north eastern states, over eastern India during morning hours for next 5 days.

5. Rainfall and Rainfall activity:

10-70 mm rainfall along foothills of Himalaya and NE states on day 1 and over NE states during next 3 days with decreasing trend.

10-40 mm rainfall: over parts of costal Andhra Pradesh and adjoining areas during day 3 and 4.

10-20 mm rainfall: over Kerala and adjoining interior Karnataka during next 5 days with increasing trend.

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

Model Reflectivity: 15-30 dBZ over Himachal Pradesh and adjoining Uttarakhand during next 24 hours.

15-35 dBZ over parts of over parts of SHWB and NE states during next 24 hours and confines over NE States during next 2 days.

Spatial distribution of Total Total Index, K-Index, CAPE and CINE:

Total Total Index (> 50) : Above threshold value over most parts of the country except extreme south peninsula, J&K and northern parts of NE states during next 72 hour.

CAPE (> 1000): Mostly along east coast of India, over eastern parts of India, parts of NE states, west coast and coastal Gujarat during next 3 days.

CIN (50-150): Higher values over coastal regions of India except southern parts of peninsula. Some parts of eastern India, Gujarat during morning hours of next three days.

Rainfall Activity: 10-70 mm: over SHWB and North-eastern states during next 24 hours and then over NE states during next 2 days with decreasing trend.

10-20 mm: rainfall over Kerala and adjoining Konkan-Goa and interior Karnataka during next 3 days.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Presently, the upper air cyclonic circulation over Assam & neighbourhood will give rise to heavy rainfall over Arunachal Pradesh on Day-1. There is also possibility of thunderstorm with gusty wind over Assam, Meghalaya, NMMT on Day-1. On Day-2, the Assam & neighbourhood may have similar activities of thunderstorms and gusty wind.

A trough runs across East Rajasthan, Madhya Maharashtra, Interior Karnataka and interior Tamilnadu with an embedded upper air cyclonic circulation over south Rajasthan & neighbourhood extending upto 0.9 km above mean sea level. This system will give rise to thunder storm with gusty wind over Kerala, interior Karnataka, Marathwada and South Madhya Maharashtra to Kerala.

Due to an upper air cyclonic circulation over Bihar & neighbourhood, the SHWB and Sikkim may experience thunderstorm with hail on Day-1. Bihar and Orissa may experience to thunder storm with gusty wind on Day-1.

24 hour Advisory for IOP:

Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura
Kerala, South and North Interior Karnataka, Interior Tamilnadu, Telangana, Coastal Andhra Pradesh,
GWB, Orissa, Bihar, Sub Himalayan West Bengal and Sikkim
South Chhattisgarh and South Madhya Maharashtra, Marathwada

48 hour Advisory for IOP:

Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura
Kerala, Interior Karnataka, Interior Tamilnadu
GWB
Sub Himalayan West Bengal and Sikkim
South Madhya Maharashtra, Marathwada

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

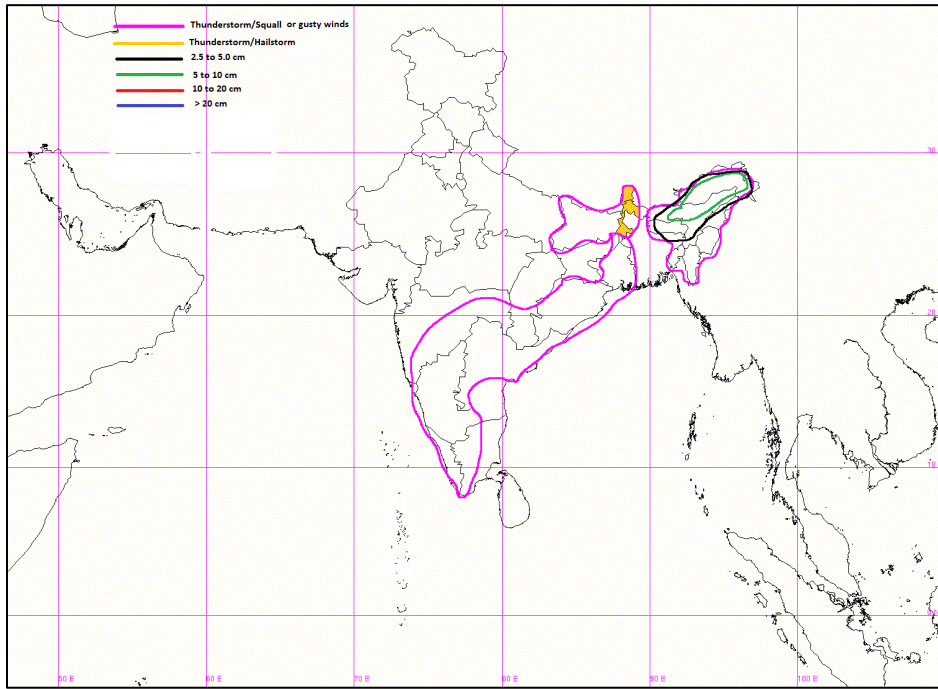
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ForRadarimagesofthepast24hoursincludingmosaicofimages:

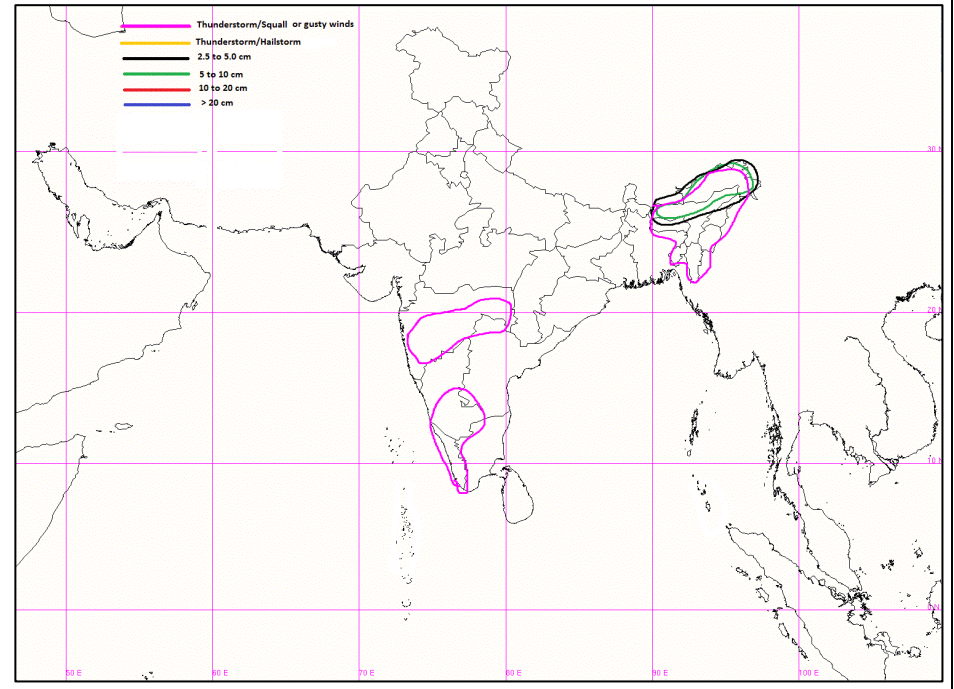
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Satellite sounder based T- Phigram

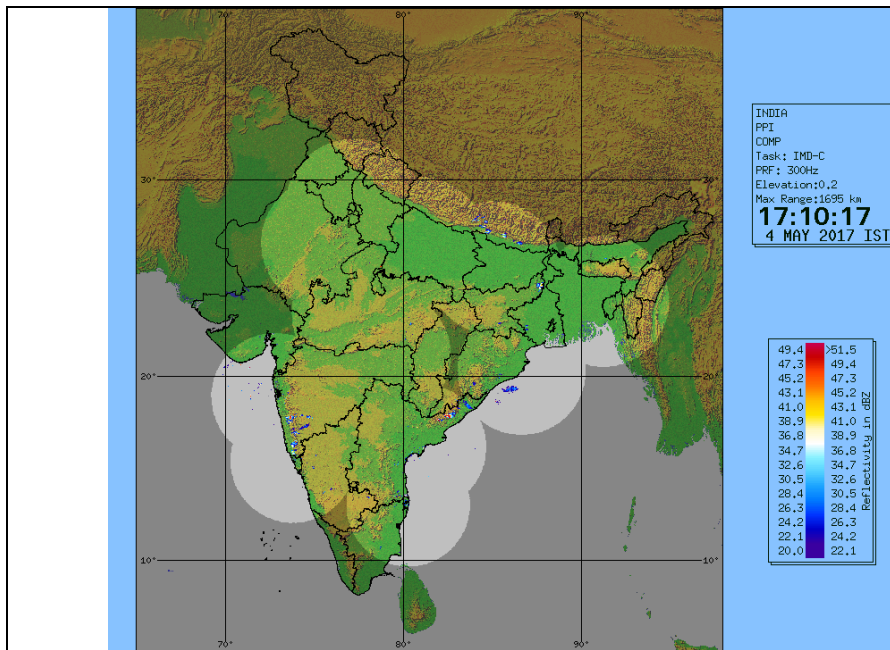
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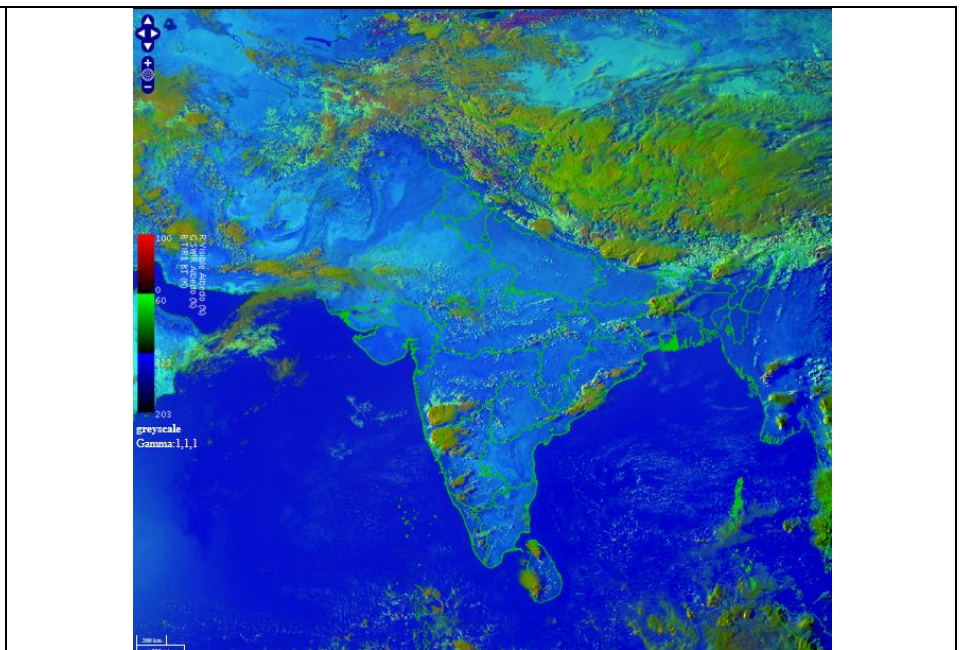
IOP Advisory for 24 hours



IOP Advisory for 48 hours



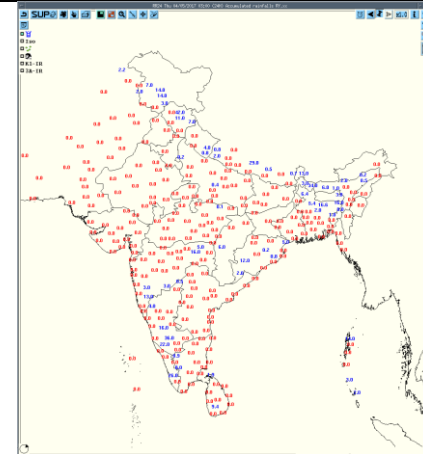
DWR Composite at 1710hrs IST of today



RAPID RGB Image of INSAT 3D at 1630 hrs IST of today

Not received

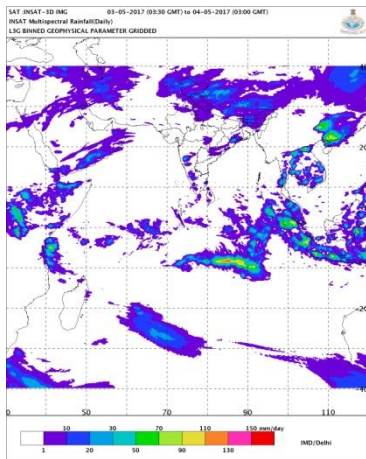
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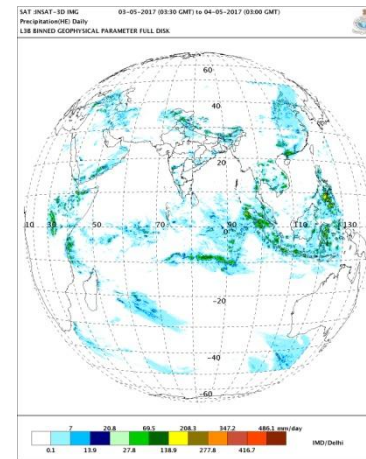
Forecast Dust Concentration

PM10 Forecast

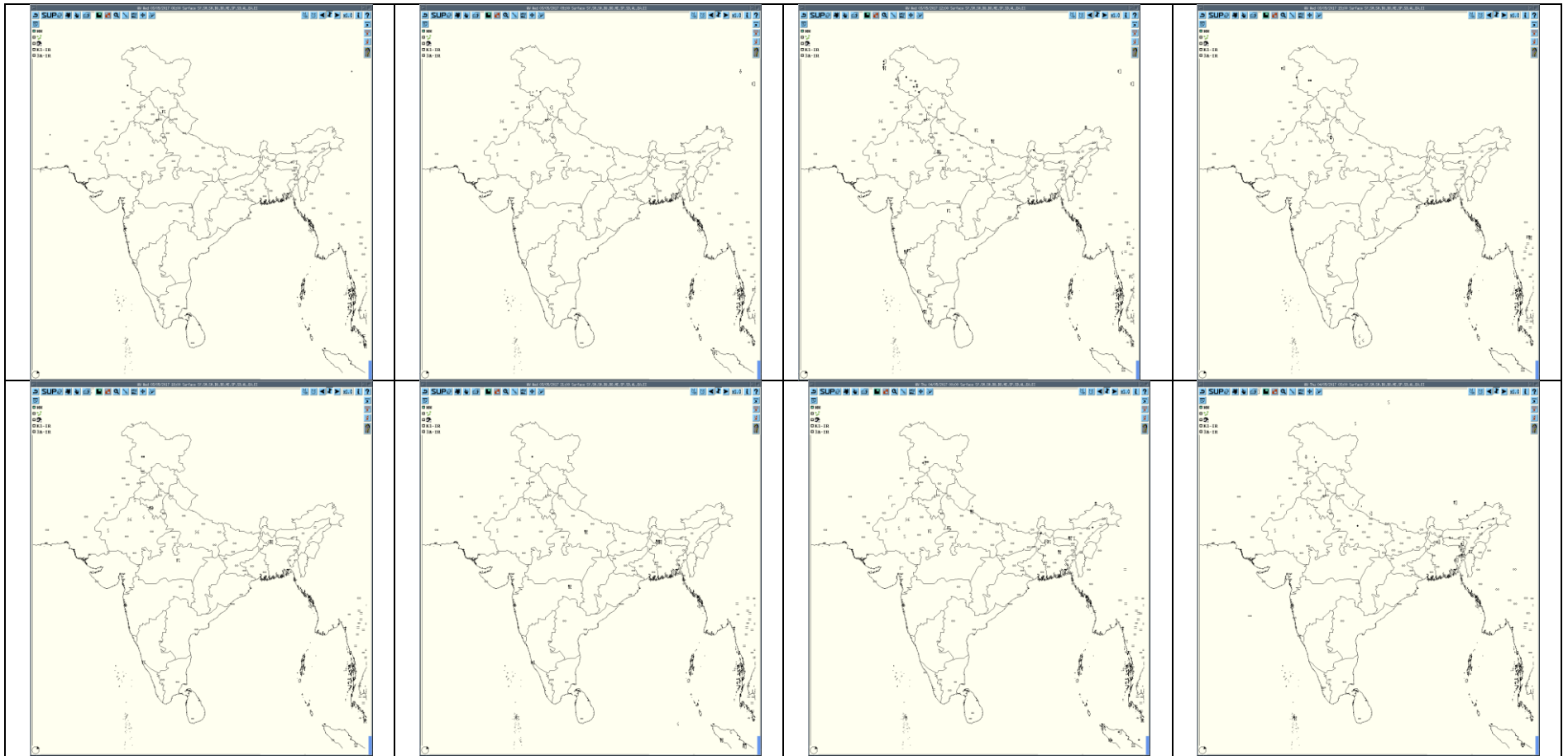
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



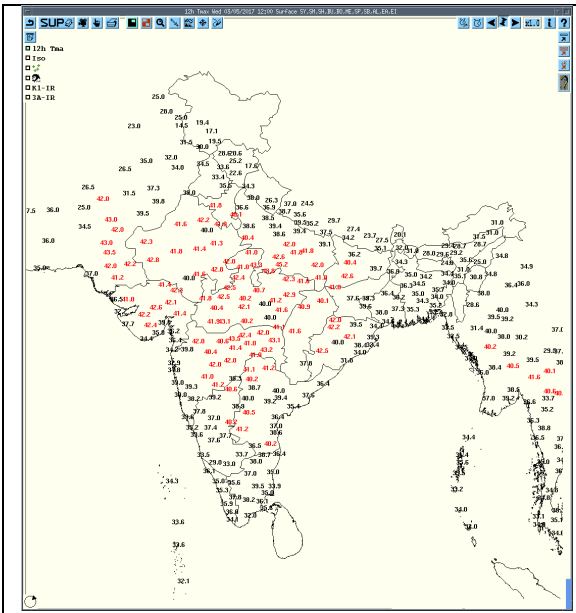
IMR Rainfall



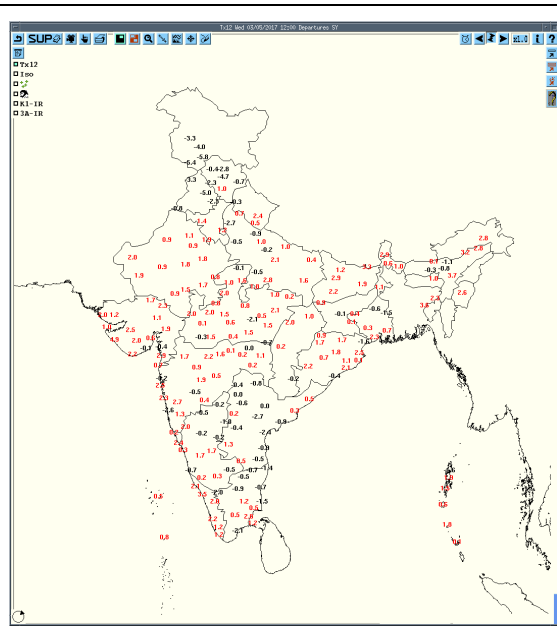
HEM Rainfall



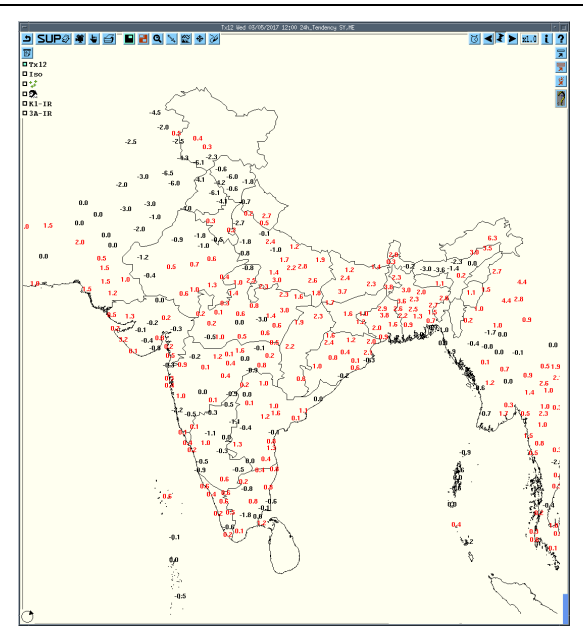
3hourly Past weather at 06, 09,12,15,18, 21UTC of yesterday and 00 & 03hrs UTC of today



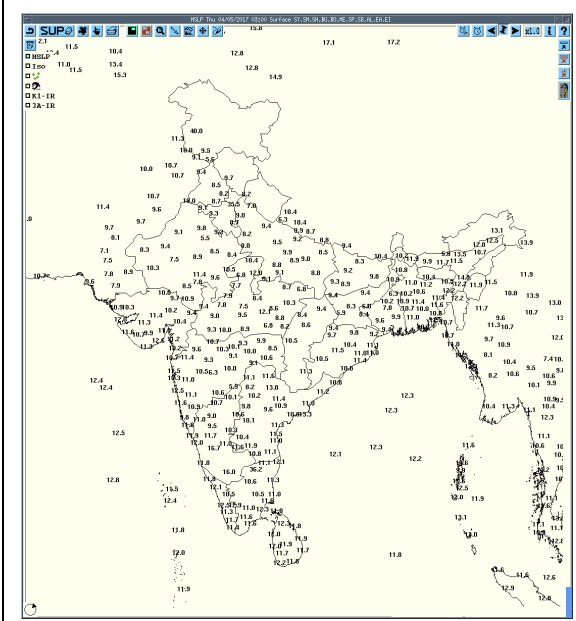
Tmax



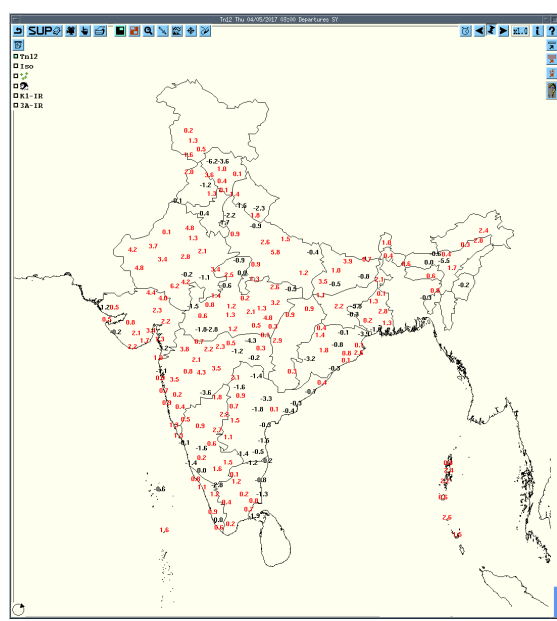
Departure Tmax



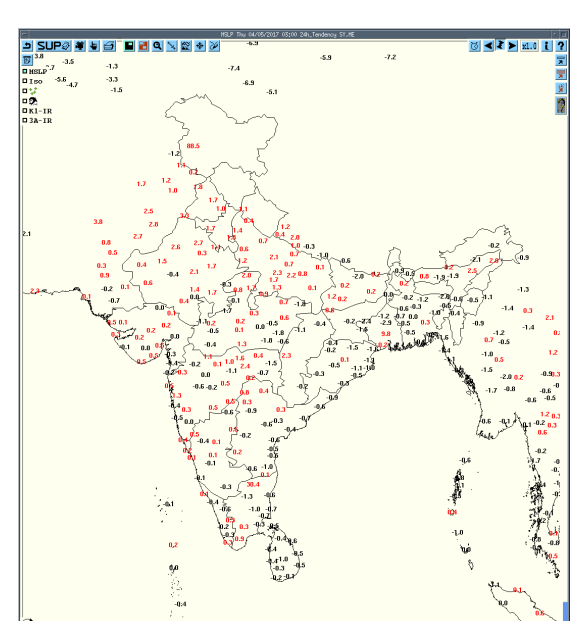
Tendency Tmax



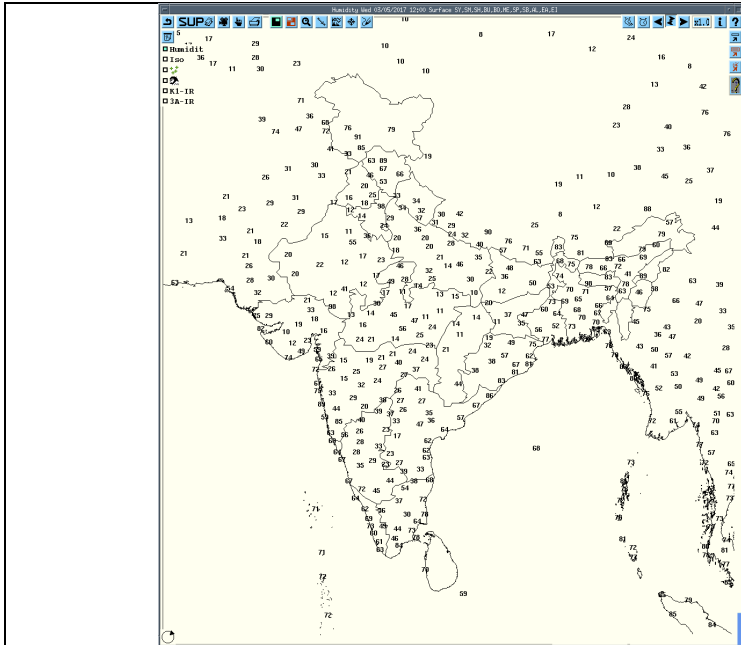
MSLP



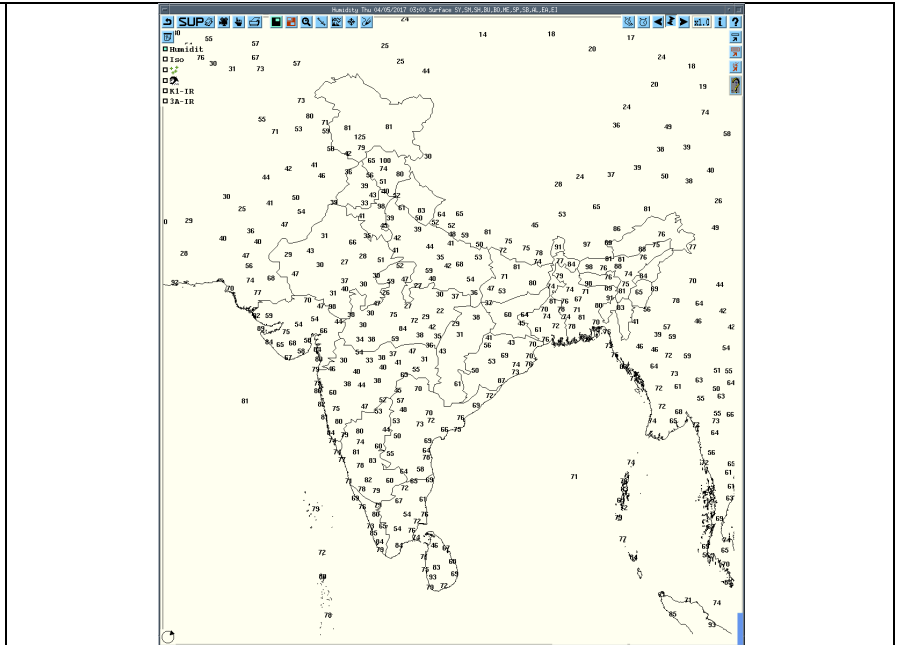
Departure MSLP



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
03-05-17	0600 UTC	Shimla	Northwest India	Himachal Pradesh	Thunderstorm
03-05-17	0900 UTC	Nil	Nil	Nil	Nil
03-05-17	1200 UTC	Agra	Northwest India	Uttar Pradesh	Thunderstorm
		Kolhapur, Sangali	Central India	Maharashtra	Thunderstorm
		Madikeri, Chamarajanagar	South India	Karnataka	Thunderstorm
		Cochin, Thiruvanthapuram	South India	Kerala	Thunderstorm
03-05-17	1500 UTC	Nil	Nil	Nil	Nil
03-05-17	1800 UTC	Sagar	Central India	Madhya Pradesh	Thunderstorm
03-05-17		Baje	South India	Karnataka	Thunderstorm
03-05-17	2100 UTC	Lucknow	Northwest India	Uttar Pradesh	Thunderstorm
		Nagpur	Central India	Maharashtra	Thunderstorm
		Baje	South India	Karnataka	Thunderstorm
04-05-17	0000 UTC	Agra	Northwest India	Uttar Pradesh	Thunderstorm
		Jaipur	Northwest India	Rajasthan	Thunderstorm
		Guwahati	Northeast India	Assam	Thunderstorm
04-05-17	0300 UTC	Nil	Nil	Nil	Nil

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)
Yelahanka IAF	South India	Karnataka	Thunderstorm	03-05-17	1500 1845	1630 1900
Bengaluru KIAL	South India	Karnataka	Thunderstorm	03-05-17	0855	1445
AMS Bajpe	South India	Karnataka	Thunderstorm	03-05-17	2235	2400
AMS Bajpe	South India	Karnataka	Thunderstorm	04-05-17	0000	0150
Kodaikanal	South India	Tamilnadu	Thunderstorm	03-05-17	1830	1930
Kodaikanal	South India	Tamilnadu	Thunderstorm	04-05-17	0000	0200

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)
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	03-05-17	1515	1525
Hissar	Northwest India	Haryana	Thunderstorm	03-05-17	1455	1515
Karnal	Northwest India	Haryana	Thunderstorm	03-05-17	Afternoon	
Lucknow	Northwest India	Uttar Pradesh	Thunderstorm	03-05-17	1517 1930	1729 2129
Lucknow	Northwest India	Uttar Pradesh	Squall (Direction-W, Max. speed 86kmph)	03-05-17	2110	2115
Kanpur (IAF)	Northwest India	Uttar Pradesh	Thunderstorm	03-05-17	2130	2200
Kanpur (IAF)	Northwest India	Uttar Pradesh	Thunderstorm	04-05-17	0000 0500	0230 0700
Kanpur City	Northwest India	Uttar Pradesh	Thunderstorm	03-05-17	2330	0030
Bareilly	Northwest India	Uttar Pradesh	Thunderstorm	04-05-17	0545	0610
Shahjahanpur	Northwest India	Uttar Pradesh	Thunderstorm	04-05-17	0600	0700
Orai	Northwest India	Uttar Pradesh	Thunderstorm	03-05-17	2030	2115
Agra	Northwest India	Uttar Pradesh	Thunderstorm	03-05-17	1730	1740
Muzaffarnagar	Northwest India	Uttar Pradesh	Thunderstorm	04-05-17	0000	0100
Aligarh	Northwest India	Uttar Pradesh	Thunderstorm	03-05-17	2000	2030
Shimla	Northwest India	Himachal Pradesh	Thunderstorm	03-05-17	1125	1130
MO Pantnagar	Northwest India	Uttarakhand	Thunderstorm	04-05-17	0300	0400
Jaipur	Northwest India	Rajasthan	Thunderstorm	03-05-17	0441	0540
Bramhapuri	Central India	Vidarbha	Thunderstorm	04-05-17	0430	0530
Gondia	Central India	Vidarbha	Thunderstorm	03-05-17	1800	2100
Satna	Central India	Madhya Pradesh	Thunderstorm	04-05-17	0345	0420
Sagar	Central India	Madhya Pradesh	Thunderstorm	03-05-17	2310	2345
Gangtok	East India	Sikkim	Thunderstorm	03-05-17	2100	2140
Digha	East India	West Bengal	Thunderstorm	03-05-17	1810	1910
Guwahati	Northeast India	Assam	Thunderstorm	04-05-17	0240 0505	0310 0645
Dhubri	Northeast India	Assam	Thunderstorm	04-05-17	0210	0230
Silchar	Northeast India	Assam	Thunderstorm	04-05-17	0030	0830
Shillong	Northeast India	Meghalaya	Thunderstorm	04-05-17	0400	0415
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	04-05-17	0630	0740
Agartala	Northeast India	Tripura	Thunderstorm	04-05-17	0630	0750
Agartala	Northeast India	Tripura	Squall (Direction-WNW, Max. speed 77kmph)	04-05-17	0625	0626

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	Associated Severe Weather if any	Districts affected
KOLKATA	03-05-2017	0311- 0741	NIL	NIL	NO ECHO	NIL	NIL
		0751 - 0852	Isolated Single cell with maximum reflectivity of 60.0 dBz and maximum height of 11.65 Km at 0832 UTC	WSW (207.9 km) with no movement (stationery)	Formation started at 0751 UTC in WSW at a distance of 207.9 km from Radar. Matured and dissipated at 0852 UTC in WSW at a distance of 203.4 km from Radar	Thunderstorm / Rain	N/A
		0802 - 1011	Isolated Single cell with maximum reflectivity of 54.0 dBz at 0912 UTC and maximum height of 13.70 Km at 0902 UTC	NW (184.4 km) Moving in S-ly direction with a speed of 10 kmph	Formation started at 0802 UTC in NW at a distance of 184.4 km from Radar. Matured and dissipated at 1011 UTC in NW at a distance of 163.2 km from Radar	Thunderstorm / Rain	N/A
		0852	Isolated Single cell extended into multi cell system with maximum reflectivity of 67.0 dBz at 1051 UTC and maximum height of 17.55 Km at 1011 UTC	WSW (247.2 km) Moving in SE-ly direction with a speed of 34 kmph	Formation started at 0852 UTC in WSW at a distance of 247.2 km from Radar. Matured and dissipated at 1251 UTC in SW at a distance of 116.9 km from Radar	Thunderstorm Hail/ Rain	N/A
		0951 - 1101	Isolated Single cell with maximum reflectivity of 62.5 dBz and maximum height of 13.26 Km at 1011 UTC	NNW (230.1 km) Moving in S-ly direction with a speed of 12 kmph	Formation started at 0951 UTC in NNW at a distance of 230.1 km from Radar. Matured and dissipated at 1101 UTC in NNW at a distance of 217.7 km from Radar	Thunderstorm / Rain	N/A
		DWR KOLKATA	03-05-2017	1111 - 1231 UTC	Isolated Single cell with maximum reflectivity of 64.0 dBz at 1151 UTC and maximum height of 16.05 Km at 1141 UTC	W (215.0 km) Moving in NE-ly direction with a speed of 30 kmph	Formation started at 1111 UTC in W at a distance of 215.0 km from Radar. Matured and dissipated at 1231 UTC in WNW at a distance of 184.4 km from Radar
	04-05-2017	0001- 0301 UTC	NIL	NIL	NO ECHO	NIL	NIL

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
AGAR TALA	04/05/17	030300 - 030910	Multiple Cells with Maximum Height 12 km and maximum reflectivity 45 dBZ (at 0410 UTC of 03.05.17 over West Meghalaya)	Formed 250 km NNW of DWR AGT at 0300 UTC of 03.05.17 and moved ESE-wards at around 40 kmph	The cells dissipated at 0910 UTC of 03.05.17 over East Meghalaya	N/A	N/A
		030750 - 031220	Multiple Cells with Maximum Height 11 km and maximum reflectivity 35 dBZ (at 0900 UTC of 03.05.17 over East Meghalaya)	Formed 180 km NNE of DWR AGT at 0750 UTC of 03.05.17 and moved ENE-wards at around 20 kmph	The cells dissipated at 1220 UTC of 03.05.17 over South Assam	N/A	N/A
		030800 - 031320	Multiple Cells with Maximum Height 14 km and maximum reflectivity 40 dBZ (at 1220 UTC of 03.05.17 over Bangladesh-230 km NW of DWR AGT)	Formed 300 km NW of DWR AGT at 0800 UTC of 03.05.17 and moved ESE-wards at around 25 kmph	The cells dissipated at 1320 UTC of 03.05.17 over Bangladesh-200 km NW of DWR AGT	N/A	N/A
		031400 - 040010	Multiple Cells developed into a squall line with Maximum Height 14 km and maximum reflectivity 51 dBZ (at 1900 UTC of 03.05.17 over West Meghalaya-220 km NNW of DWR AGT)	Formed 400 km NNW of DWR AGT at 1400 UTC of 03.05.17 and initially moved ESE-wards and later Eastwards at around 45 kmph	The cells dissipated at 0010 UTC of 04.05.17 over East Meghalaya & South Assam	N/A	N/A
		031700 - 040300	Multiple Cells developed into a squall line with Maximum Height 14 km and maximum reflectivity 45 dBZ (at 0010 UTC of 04.05.17 over Bangladesh-90 km NNW of DWR AGT)	Formed 450 km NW of DWR AGT at 1700 UTC of 03.05.17 and moved ESE-wards at around 60 kmph	At 0300 UTC of 04.05.17, cells still persist over North Tripura, South Assam & adj Mizoram with max intensity 44 dBZ and height 13km	1.TS with light rain and Squall at Agartala Airport 2.TS with light rain at other places	West, Dhalai, North, Unakoti districts of Tripura, East Khasi hills district of Meghalaya
		032250 - 040300	Multiple Cells with Maximum Height 12 km and maximum reflectivity 48 dBZ (at 0200 UTC of 04.05.17 over north Bangladesh-260 km NW of DWR AGT)	Formed 350 km NW of DWR AGT at 2250 UTC of 03.05.17 and moved SE-wards at around 35 kmph	At 0300 UTC of 04.05.17, cells still persist over east Meghalaya with max intensity 40 dBZ and height 11km	N/A	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
NAGPUR	03/05/17	0642-2112	Single	160 km NNW, at 0652 becomes multiple, moving SE	max(Z)=27 & ht. of cloud= 3 to 5.5 km, at 1112 Clouds becomes line with maxZ= 37 & ht. of cloud= 1.4 to 9.6 km & width of line is 105 km. at 1152 maxZ= 42, ht. of cloud =1.4 to 4.3 km for maxZ & with maxZ > 30 the ht. of cloud=1 to 10 km. at 1312 for maxZ > 35 the ht. of cloud =1 to 9.6 km at 1732 maxZ > 35 & ht. of cloud 1 to 9.6 km with maxZ=39 The ht. of cloud=1 to 4 km maxZ=32 & ht. of cloud=4.5 to 9.6 km maxZ=34 & ht. of cloud=5.5 to 8.2 km	Thunderstorm warning at 1142 & 1212	80 km away from Radar in NE direction
		0752-1252	Single	245 km SE, becomes dense, moving SW	at 1732 maxZ > 35 & ht. of cloud 1 to 9.6 km with maxZ=39 The ht. of cloud=1 to 4 km	Out of Radar range	
		0842-1402	Single	200 km ESE ,moving S	maxZ=32 & ht. of cloud=4.5 to 9.6 km maxZ=34 & ht. of cloud=5.5 to 8.2 km		
		1632-2352	Multiple	100 km in WNW, moving SE	maxZ=31 & ht. of cloud=1.4 to 8.2 km at 1712 2 nd cell developed with maxZ41 & ht. of cloud=1.4 to 9.6 km at 1932 becomes line of width 150 km from N to W direction 20 km away from radar maxZ=40 & ht. of cloud=1 to 11 km for maxZ> 35 at 2012 line is in "<" this form & width is 167 km, maxZ=45 & ht. of cloud= 1 to 9.6 km for maxZ> 35 at 2352 becomes very thin line of length 260 km in S to E direction, maxZ =36 & ht. of cloud =2 to 6.8 km for maxZ >30	Continuous...	
04/05/17	0002-0332	From previous	Finished at 140 km away in S direction				

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
Paradeep	3/05/17	0300-2300 UTC	Isolated Single cells with av. heights of 11 km and maximum heights exceeding 14 km and corresponding reflectivity values of 35 and 60 dBZ respectively. Cells merging in later stage to form a squall line.	Position: Scattered in the NW sector of the RADAR. Movement: NWly	Squall line observed at 1712 IST having a length of 125 km and width of 25 km approx.	TS with Rain. Hail also expected.	Khurda, Nayagarh, Cuttack, Mayurbhanj, Baleswar, Bhadrak, Jajpur, Keonjhar, Dhenkanal, and Angul.
Srinagar	04/05/2017	03 MAY 03Z to 04 May 03Z(24hrs)	A single cell developed in the NW of DWR Srinagar at around 1210 UTC with max. reflectivity 45 DBZ and average height 7km Multiple cells developed in SSE direction and moved northwards with max reflectivity 50 dBZ and average height 7 kms	Developed at SW of Radar and finally dissipated at around 1350 UTC with SE direction Multiple cells developed SSE of and moved NE direction and dissipated at 1610 UTC.	Thunder observed at Batote	Light to moderate rain at all stations	Rain has occurred in all districts of Kashmir and Jammu
Patiala	04/05/2017	03/ 0302 - 0602	Nil	Nil	No Echoes	Nil	Nil
		03/0602-0902	Isolated echos Max dbz=39.0 Ht 9-10 km	NW,SW sectors movement towards east dir			Mohindergarh, near Dalhousie
		03/0902-1202	Multiple cells Max dbz=51.0 Ht11-13 km	NW,SW sectors movement towards east dir			Moga, Ludhiana, Modinagar, Bhiwani Shamli
		03/0902-1202	Multiple cells Max dbz=47.0 Ht12-15km	NW,SW,NE sectors movement towards east dir			Rohtak, Bhiwani, Jhajar,
		03/1502-1802	Multiple cells Max dbz=42.5 Ht7-8 km	SE sectors movement towards SE direction			Maham, Jind
		03/1802-2102	Multiple cells ,max dbz=32.5 , Ht 7-8 km	SE direction movement towards east direction			Panipat
		03/2102-04/ 0252	NO ECHOS	NIL	NIL	NIL	NIL

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
Lucknow	03-05-2017	1242-1542	Isolated Cells with average height of 8km with maximum reflectivity of 38dbZ	Westward(240km) moving in E'ly direction at speed of 43.2kmph	Cells started forming at 1242 UTC at W(240km) from Radar. Max reflectivity during 1452UTC to 1500UTC.	Squally winds at speed of 25 knot reported at Lucknow, Fursatganj, Kannauj, Faizabad	--
	03-05-2017	1543-2126			Radar un operational (shutdown) because of Power failure.		
	03-05-2017	1927-2124	Multiple Cells with average height of 9.5 km with max reflectivity of 41.5dbZ	Westward (140km) moving in E' ly direction at speed of 64.8kmph	Cells started forming at 1927 UTC at W(140km) from Radar. Max reflectivity during 1942UTC TO1952 UTC	Squally winds of speed 30 knot reported at Lucknow, Faizabad, Fursatganj.	
	03-05-2017	2125-2321			Radar un operational(shutdown) because of Power failure		

∞	haze
☁	smoke
☄	dust or sand storm
☁	fog
☂	drizzle
•	rain
✪	snow
▽	showers
△	hail
⚡	thunderstorm
Weather Symbols	



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