



India Meteorological Department
FDP STORM Bulletin No.58(02-05-2017)

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

SYNOPTIC FEATURES:

The trough at mean sea level from north Rajasthan to Gangetic West Bengal, now runs from northwest Rajasthan to southeast Uttar Pradesh across southwest Uttar Pradesh.

The upper air cyclonic circulation over south Rajasthan & neighbourhood, now lies over West Rajasthan & neighbourhood and extends upto 2.1 Km above mean sea level.

The upper air cyclonic circulation over East Uttar Pradesh & neighbourhood, now lies over east Bihar & neighbourhood and extends upto 0.9 Km above mean sea level, however the trough from East Uttar Pradesh to west Vidarbha has become less marked.

The wind discontinuity from north Telangana to Maldives area, now runs from Comorin area to South Interior Karnataka across interior Tamilnadu and extends upto 0.9 Km above mean sea level.

The upper air cyclonic circulation over east Assam & neighbourhood extending upto 0.9 km above mean sea level persists.

An upper air cyclonic circulation lies over south Madhya Pradesh & adjoining Vidarbha and extends upto 1.5 Km above mean sea level. A trough runs from this system to North Interior Karnataka across Marathwada and extends upto 1.5 Km above mean sea level.

The feeble Western Disturbance as a trough in mid-tropospheric westerlies, now roughly runs along longitude 64.0 °E and north of latitude 32.0 °N.

A trough runs from interior Odisha to Lakshadweep area across Coastal Andhra Pradesh, Telangana and South Interior Karnataka at 5.8 km above mean sea level.

The upper air cyclonic circulation over northwest Uttar Pradesh & neighbourhood between 1.5 & 3.1 Km above mean sea level has become less marked.

The trough in mid tropospheric westerlies from East Madhya Pradesh to Maldives area across Telangana, South Interior Karnataka and Kerala has become less marked

SATELLITE OBSERVATIONS during past 24hrs and current observation:

Current Observation (based on 0300UTC imagery of INSAT 3D):

Convective Activity and cloud description:

Scattered low/medium clouds seen over Jammu & Kashmir, North Himachal Pradesh, Chhattisgarh, Odisha, Jharkhand, Gangetic West Bengal, Sikkim, Nagaland, Manipur, Rajasthan, Northeast Gujarat, East Vidarbha, Telangana, Andhra Pradesh, South interior Karnataka, Kerala, Tamilnadu and Bay Islands.

Scattered medium/high clouds seen Punjab, Haryana adjoining Northwest Uttar Pradesh, Delhi

Scattered low/medium clouds with embedded isolate weak to moderate convection seen over Arunachal Pradesh, Northeast Assam,

Arabian Sea:

No Significant clouds over the 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 Odisha Bihar Jharkhand West Bengal North East States South Chhattisgarh Coastal Andhra Pradesh Telangana South Interior Karnataka Kerala Tamilnadu.

OLR: - Upto 230 w m^{-2} was observed over J&K Himachal Pradesh Uttarakhand Sikkim Arunachal Pradesh West Bengal.

Upto 250 w m^{-2} was observed over Meghalaya Bihar Jharkhand Odisha South Chhattisgarh, Coastal Andhra Pradesh South Interior Karnataka South Kerala & North West Tamilnadu.

Westerly Trough & Jet-Stream: No Trough & Jet stream observed over India.

Dynamic Features: Positive shear tendency is observed over India.

Medium to high wind shear is observed over India.

A positive Vorticity field is observed over West Rajasthan Marathwada North Interior Karnataka Jharkhand.

Positive Low Level Convergence is observed over South parts of India and Negative low level convergence observed over North & Central parts of India.

Precipitation:

IMR: Rainfall upto 20 mm was observed over Extreme South Karnataka.

Rainfall upto 10 mm was observed over South East Bihar, West Bengal, Sikkim, Meghalaya, Extreme North East Arunachal Pradesh, South Interior Karnataka, South Kerala, North West Tamilnadu.

HEM: Rainfall upto 07 mm was observed over Jharkhand adjoining Bihar, West Bengal, Odisha, North Coastal Andhra Pradesh, South Interior Karnataka, Kerala, North West Tamilnadu Central Assam, East Arunachal Pradesh, Manipur.

RADAR and RAPID observation:

No significant convection was observed in Radar Composite of 1150UTC and RAPID RGB Satellite imagery of 1130hrs IST.

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

Dust concentration was observed over northern Africa and some parts of eastern Asia. Dust concentration is expected to increase over western and northern India for next five days.

High PM10 concentration was observed over northern-western and northern India. PM10 concentration is expected decrease over northern India for next five days.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems: 12UTC Charts of Day-0 to Day-2 show feeble trough in MSLP 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 & WB 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 Day0-1. A CYCIR over Punjab and adjoining Pakistan in Day-0-1 at 850 hPa

At 500 hPa trough over west of J & K in Day-1. Strong east-west ridge over peninsula is prominent in Day-1 to Day-3

2. Location of jet and jet core at 500hPa:-500hPa Jet core (>60kt): Weaker core winds at 12 UTC on all days over India. Core winds of about 40-50 kt is seen over the SHWB and adjoining Assam region Day-2-Day-4

3. Convergence at 850 hPa: At 12UTC Day-0&1: At some isolated locations over Odisha, Jharkhand, Chhattisgarh and Rajasthan apart from over western Ghats over Maharashtra.

At 12UTC Day-2&3: Prominent high values at isolated locations over Assam Jharkhand and Chhattisgarh.

4. Low level Vorticity:-Positive Vorticity (>15 x 10⁻⁵/s): At 12UTC on Days 1: over Assam-Arunachal and over NW India mainly over Punjab, Haryana and adjoining Rajasthan and west UP.

At 12UTC day2 : Prominent strong values over west UP. Relatively lower values over Bihar and Assam.

At 12UTC on Day-3: Over SHWB and adjoining Bihar. Over NE mainly over Assam.

At 12UTC on Day-4: Prominent high values over SHWB and adjoining Bihar

At 00UTC : very high values along the line of low level confluence and strong convergence.

5. Showalter Index: Day-wise Sub-divisions with Showalter index <-4: At 12UTC on Days 1 : over Assam-Arunachal and over NW India mainly over Punjab, Haryana and adjoining Rajasthan and west UP.

At 12UTC day2 : Prominent strong values over west UP. Relatively lower values over Bihar and Assam.

At 12UTC on Day-3: Over SHWB and adjoining Bihar. Over NE mainly over Assam.

At 12UTC on Day-4: Prominent high values over SHWB and adjoining Bihar

At 00UTC: very high values along the line of low level confluence and strong convergence.

6. K-Index: Daywise Sub-divisions with K-index >40: Day0: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Jharkhand, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Vidarbha, Chhattisgarh, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, 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, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

Day4: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Jammu Kashmir, Odisha, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka

7. Spatial distribution of TTI: Daywise Sub-divisions with TTI >52: Day0: Arunachal Pradesh, NE NMMT, Gangetic WB, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, SI Karnataka, Kerala,
 Day1: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Hry Chd Delhi, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, NI Karnataka,
 Day2: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Saurashtra Kutch, Madhya Maharashtra, Chhattisgarh,
 Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Coastal Karnataka, NI Karnataka,
 Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Coastal Karnataka, NI Karnataka

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

Day1: Arunachal Pradesh, Assam Meghalaya, Jammu Kashmir, TN Puducherry,
 Day2: Assam Meghalaya, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir,
 Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Himachal Pradesh,
 Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB,
 Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Kerala,

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

1. Weather Systems: The model analysis shows that in the lower tropospheric levels, a northeast-southwest trough from Bihar to Vidarbha and Madhya Maharashtra is seen embedded with a CYCIR over Madhya Pradesh and adjoining areas and towards peninsular India the orientation of the trough becomes north-south up to Interior Karnataka. The trough persists over the region till day 3 with a little eastward shifting of the north-eastern end on day 4 with an embedded CYCIR over SHWB and adjoining areas which moves westward over Bihar and adjoining east Uttar Pradesh on day 5. The north-south trough over peninsular India persists till day 5. The wind at 500 hPa shows a trough in westerlies over east India moving eastward crosses over NE states on day 1. Another feeble trough in westerlies at 500 hPa approach over northern part of NW India during day 2.

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 except a zone strong wind over SHWB and parts of north-eastern states.

3. Low level Vorticity:-Positive Vorticity 850hPa (>12 x 10⁻¹/s): Mostly along the foot hill of Himalaya over NW and NE India. Prominent vorticity zones are found along troughs over east, central and south peninsular India during next 5 days and sometimes over Rajasthan orienting northwest-southeast direction during morning hours.

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 during next 5 days. The values between 3-3.5 mostly along east coast, eastern part of the country, along west coast and over Gujarat during the same period.

Lifted Index (< -2): Less than threshold value mostly along east coast, and also over Gangetic West Bengal, Jharkhand and parts of Bihar, east UP, north eastern states and along west coast and Gujarat during next 5 days.

Total Total Index (> 50): Above threshold value over the most parts of northwest and central India and reaching over eastern parts of India during afternoon hours.

Sweat Index (> 300): Mostly along east coast, along west coast, GWB, Bihar and adjoining areas eastern part of India and north eastern states during next 5 days.

CAPE (> 1000): Has nearly similar features of sweat index.

CINE (50-150): Mostly 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 over SHWB and NE states during day 1 to 5.

10-40 mm rainfall over J&K and HP on day1 and day2.

10-40 mm rainfall over parts of costal Andhra Pradesh and adjoining Orissa during day 1-2 and 4-5.

10-40 mm rainfall over Kerala and adjoining interior Karnataka, Konkan & Goa and Tamilnadu during next 5 days.

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

Model Reflectivity: 15-35 dBZ over some parts south GWB during next 24 hours.

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

15-30 dBZ over J&K, Himachal Pradesh and adjoining Uttarakhand during day 2.

15-30 dBZ Over parts interior Karnataka and adjoining Tamilnadu during day 1.

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 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.

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

Rainfall Activity:

10-40 mm over SHWB and North-eastern states during next 3 days.

10-40 mm rainfall over Kerala and adjoining interior Karnataka and Tamilnadu during day 1. Spatial coverage and intensity decreases thereafter in next 2 days.

10-40 mm over J & K and Himachal Pradesh during day 2.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Presently, a trough runs from interior Odisha to Lakshadweep area across Coastal Andhra Pradesh, Telangana and South Interior Karnataka at 5.8 km above mean sea level. Due to this system, South Karnataka and interior Tamilnadu and adjoining Kerala may experience the rainfall activity on Day-1. Thunder squall with gusty wind is also possible. The North coastal Andhra Pradesh and Telangana may experiences the thunderstorm with hail on Day-1. Similar activity may prevail for Day-2 also over the same area.

Due to the upper air cyclonic circulation over east Assam & neighbourhood extending upto 0.9 km above mean sea level , the South Assam, Meghalaya and Tripura may experience some rainfall activity on Day-1.

An upper air cyclonic circulation lies over south Madhya Pradesh & adjoining Vidarbha and extends upto 1.5 Km above mean sea level, this will give rise to Thunder squall with gusty wind over south Chhattisgarh, Vidarbha and Orissa on Day-1.

24 hour Advisory for IOP:

Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura
Kerala, Interior Karnataka, Interior Tamilnadu, Telangana, Rayalaseema Coastal Andhra Pradesh,
GWB, Orissa, Jharkhand
South Chhattisgarh and Vidarbha

48 hour Advisory for IOP:

Jammu and Kashmir, Himachal Pradesh, Uttrakhand, Punjab, Haryana, Delhi, North Rajasthan
Arunachal Pradesh Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura
Kerala, Interior Karnataka, Telangana, Rayalaseema Coastal Andhra Pradesh
GWB

For NCMRWF NWP products:(<http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php>)

For IMD NWP products:(http://nwp.imd.gov.in/diagpro_new.php)

For Synoptic plotted data and charts

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

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

For RAPID tool:

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

Low Level Winds

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

Upper level winds

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

Past24hourHEMandIMRrainfall(upto03UTCoftoday)

IMR: http://satellite.imd.gov.in/img/3Ddaily_imr.jpg

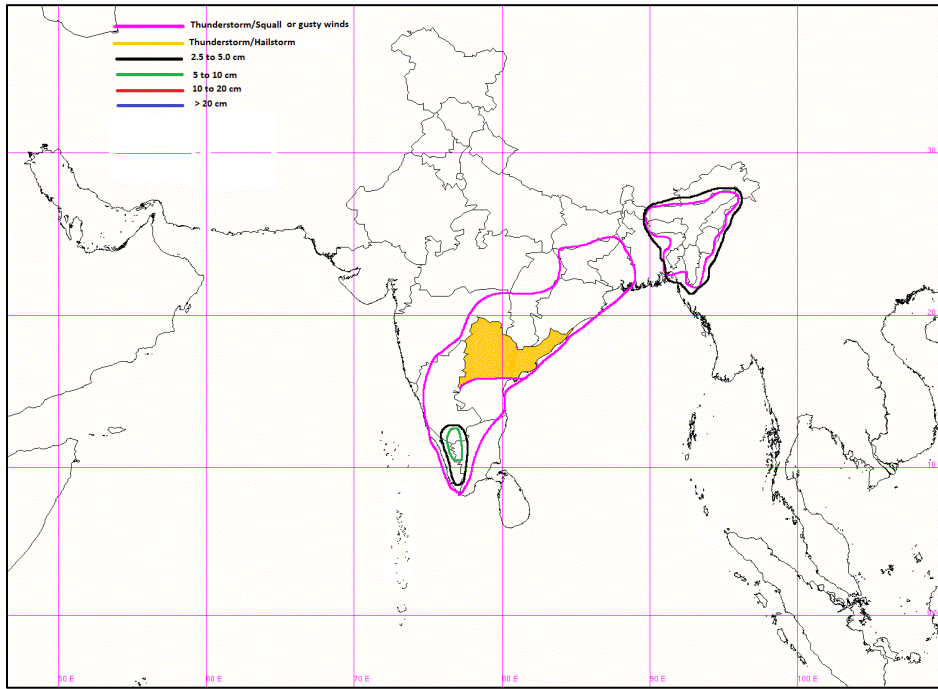
HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg

ForRadarimagesofthepast24hoursincludingmosaicofimages:

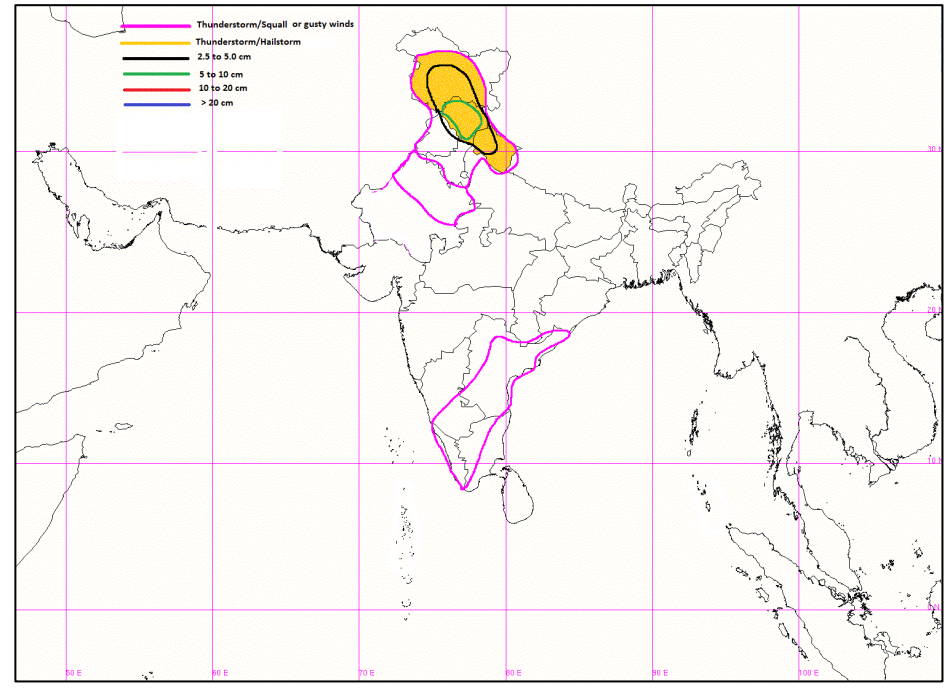
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Satellite sounder based T- Phigram

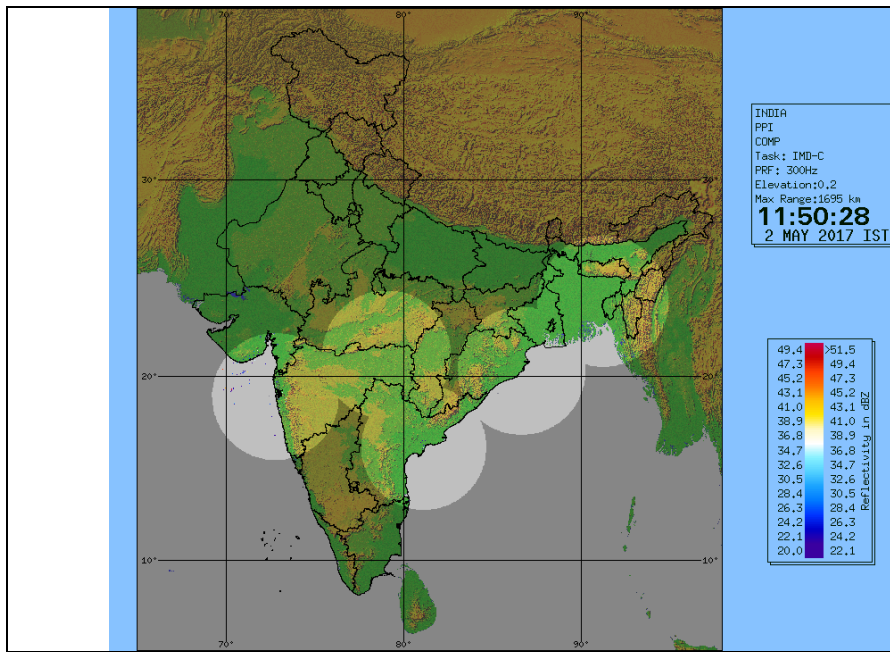
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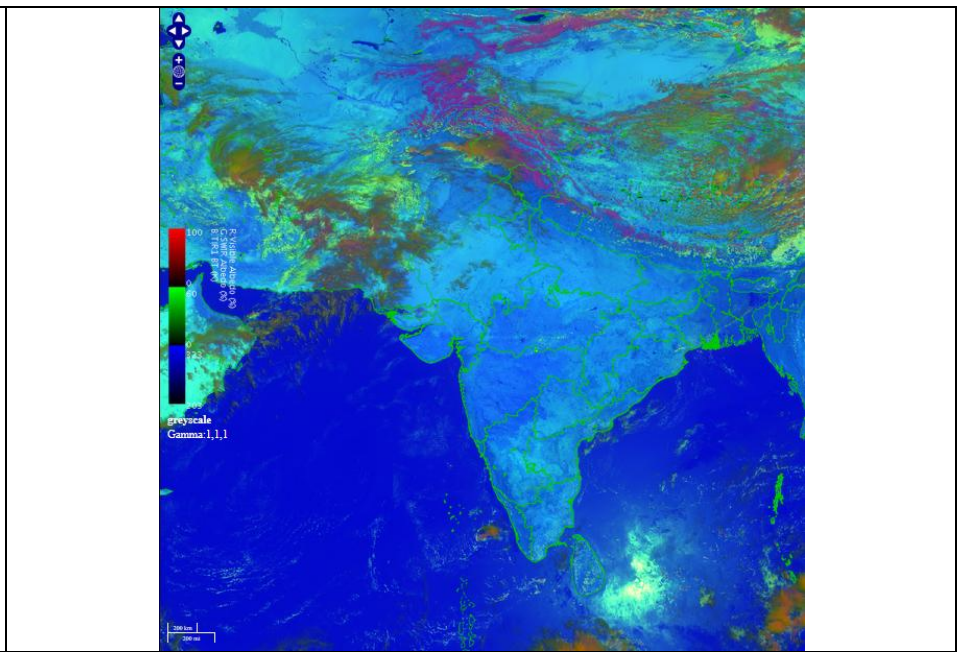
IOP Advisory for 24 hours



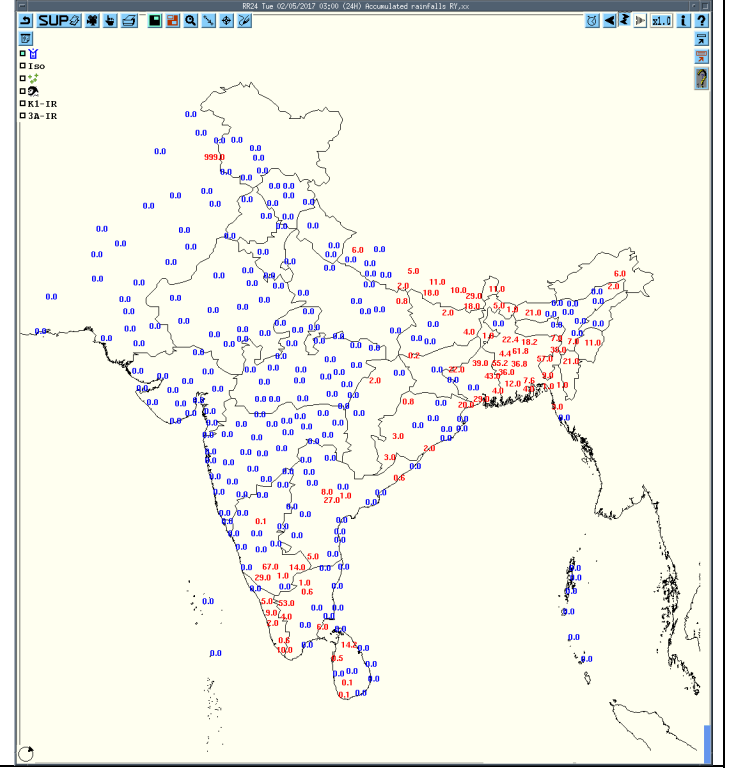
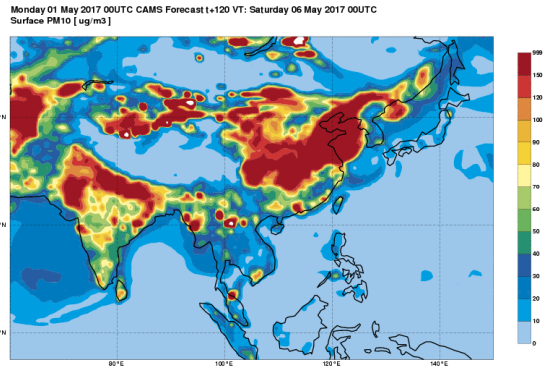
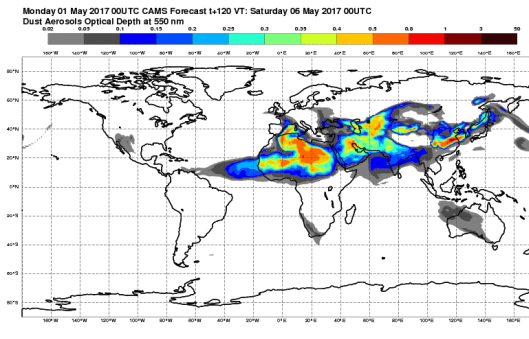
IOP Advisory for 48 hours



DWR Composite at 1150hrs IST of today



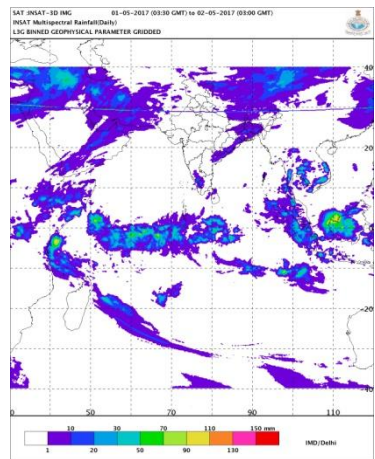
RAPID RGB Image of INSAT 3D at 1130 hrs IST of today



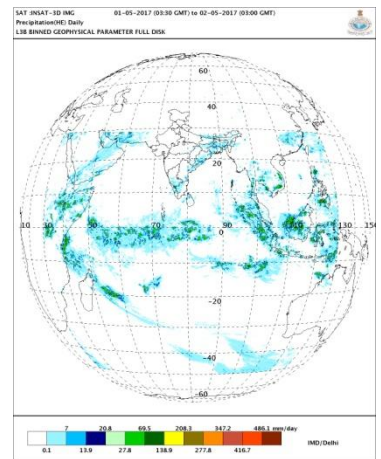
Forecast Dust Concentration for 00UTC of 6th May

PM10 Forecast for 00UTC of 6th May

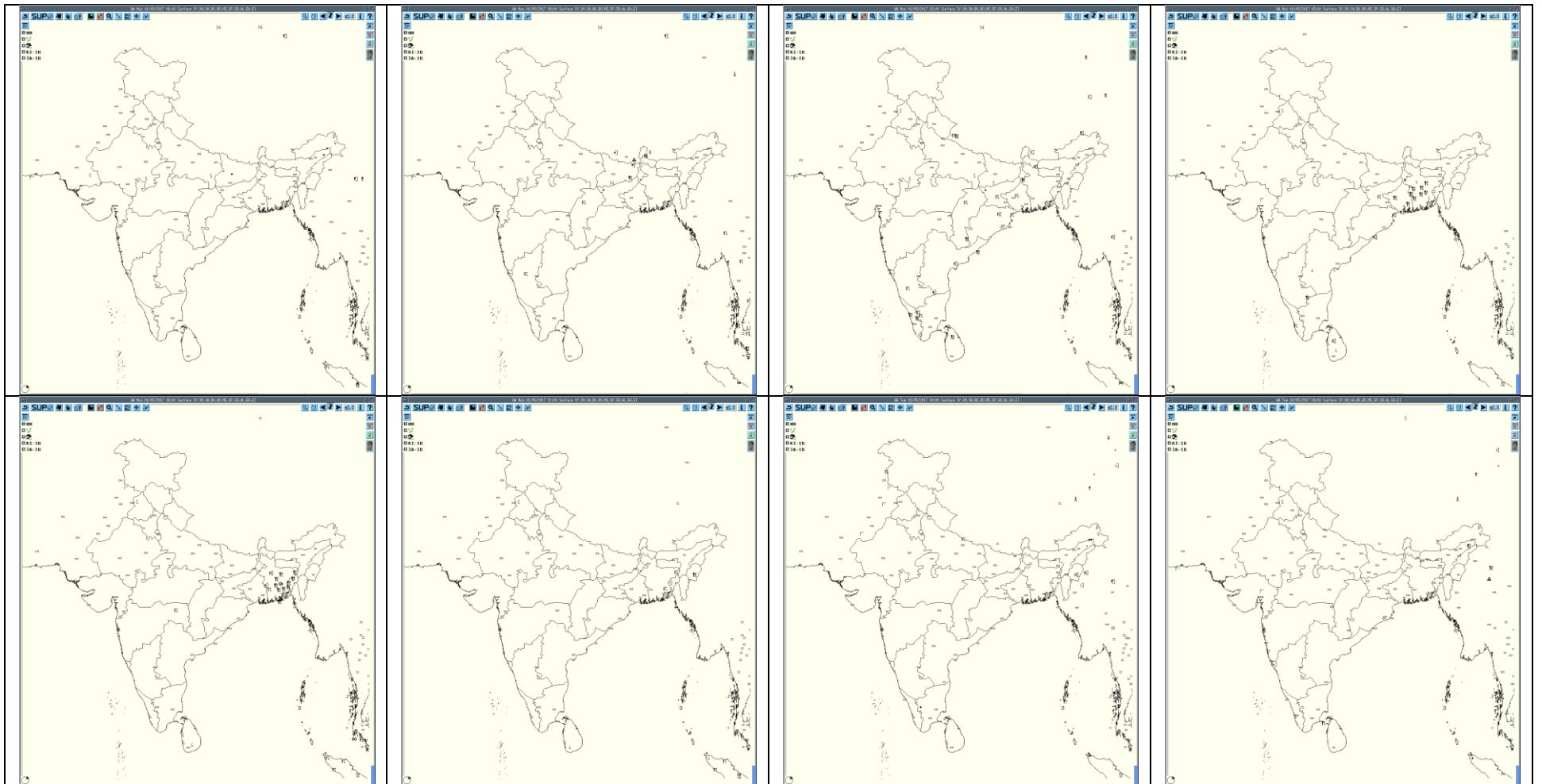
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



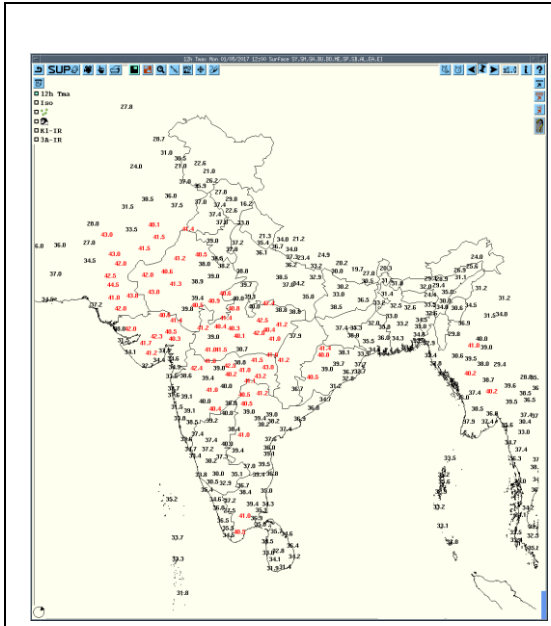
IMR Rainfall



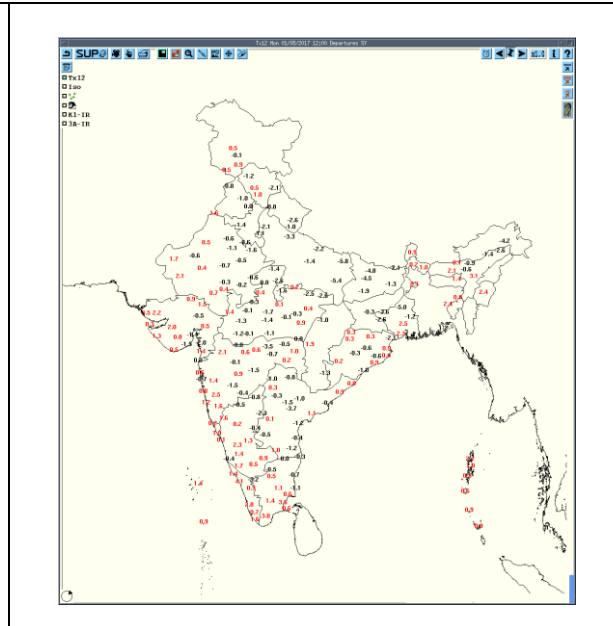
HEM Rainfall



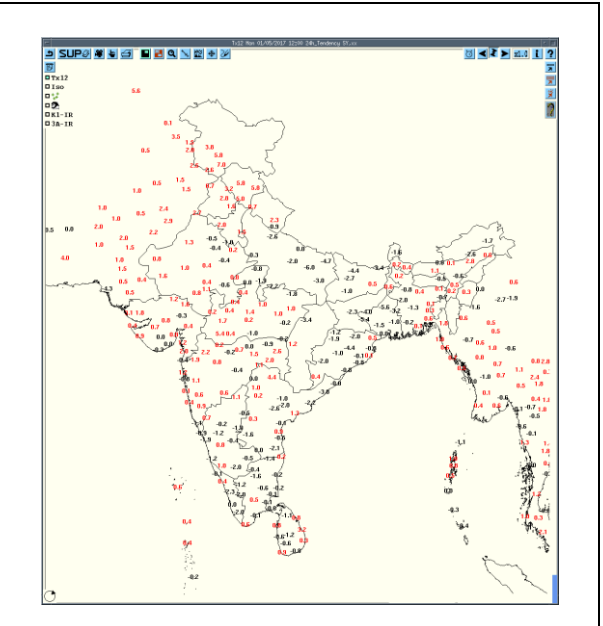
3hourly Past weather at 06, 09,12,15,18, 21UTC of yesterday and 00 & 03hrs UTC of today



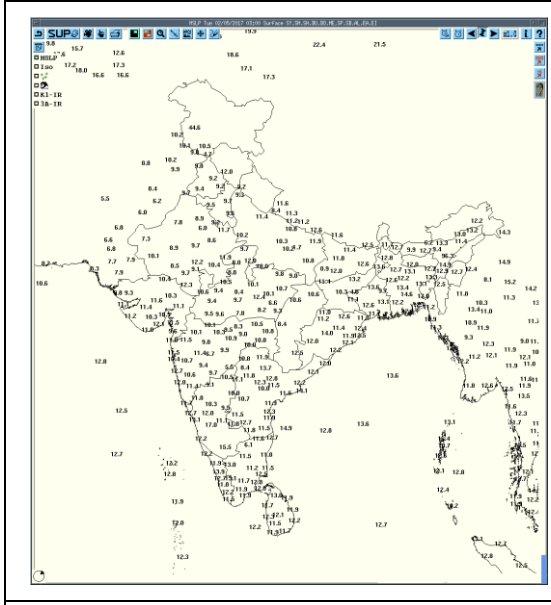
Tmax



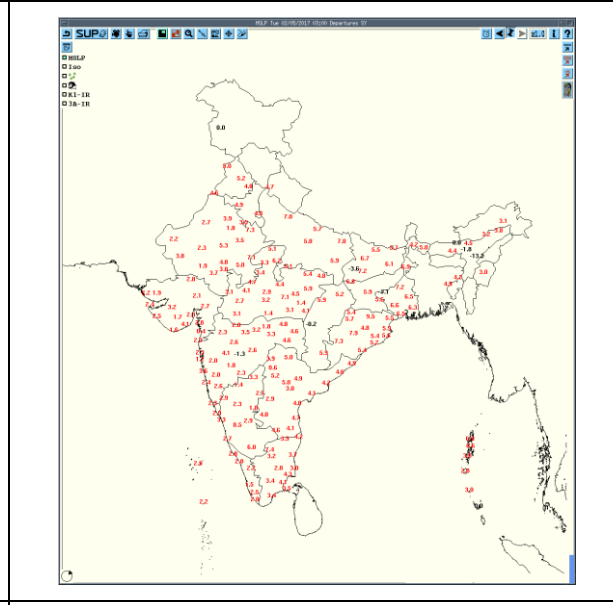
Departure Tmax



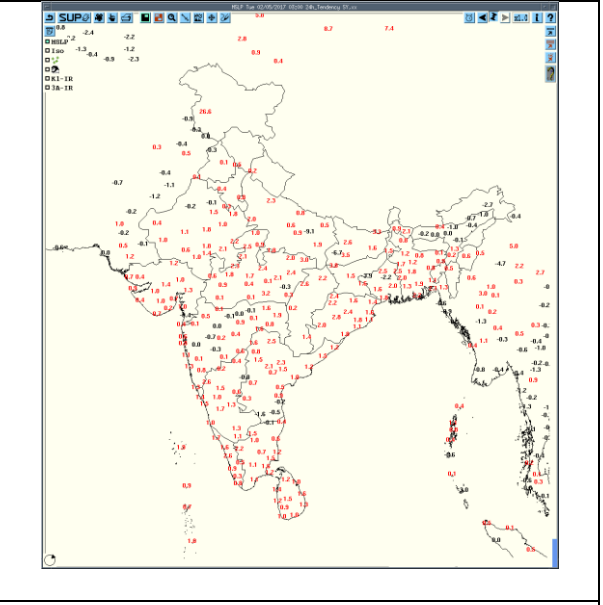
Tendency Tmax



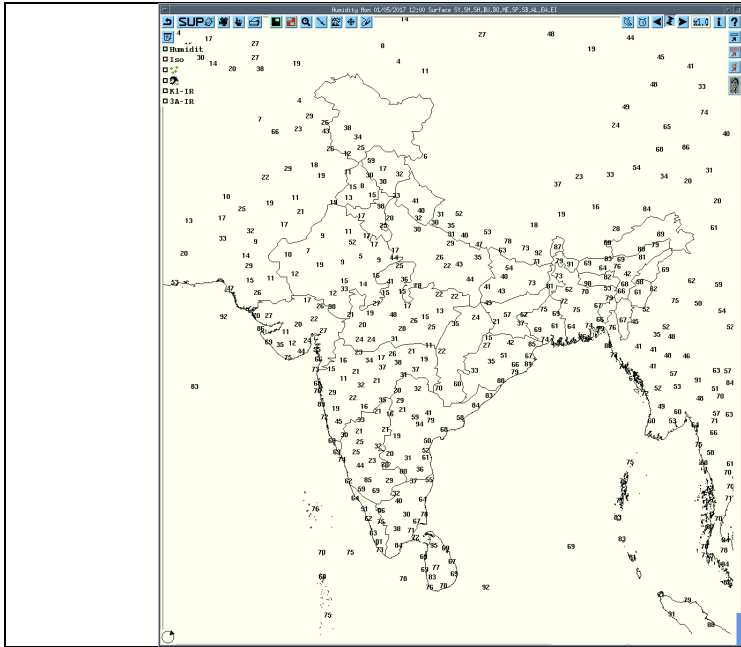
MSLP



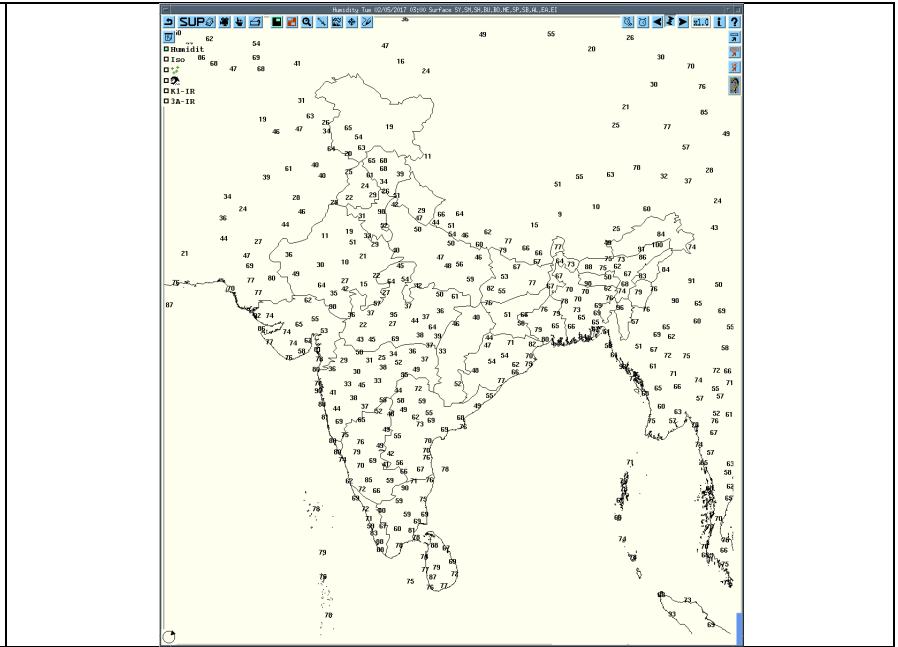
Departure MSLP



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
01-05-17	0600 UTC	Nil	Nil	Nil	Nil
01-05-17	0900 UTC	Bhagalpur	East India	Bihar	Thunderstorm
		Gangtok	East India	Sikkim	Thunderstorm
		Pendra Road	Central India	Chhattisgarh	Thunderstorm
		Gadag	South India	Karnataka	Thunderstorm
01-05-17 01-05-17 01-05-17 01-05-17 01-05-17 01-05-17	1200 UTC	Cooch Behar, Malda	East India	WB(SHWB)	Thunderstorm
		Panagarh	East India	West Bengal	Thunderstorm
		Ranchi	East India	Jharkhand	Thunderstorm
		Keonjhar	East India	Odisha	Thunderstorm
		Pendra Road, Jagdalpur	Central India	Chhattisgarh	Thunderstorm
		Vishakhapatnam, Vijayawada	South India	Andhra Pradesh	Thunderstorm
		Shimoga	South India	Karnataka	Thunderstorm
		Karipur, Palakkad	South India	Kerala	Thunderstorm
Coonoor, Coimbatore	South India	Tamilnadu	Thunderstorm		
01-05-17 01-05-17 01-05-17	1500 UTC	Ranchi	East India	Jharkhand	Thunderstorm
		New Delhi	Northwest India	Delhi	Thunderstorm
		Bankura, Dumdum	East India	West Bengal	Thunderstorm
		Balasore, Gopalpur	East India	Odisha	Thunderstorm
		Bangalore	South India	Andhra Pradesh	Thunderstorm
01-05-17	1800 UTC	Cochin	South India	Kerala	Thunderstorm
01-05-17	2100 UTC	Nagpur	Central India	Vidarbha	Thunderstorm
01-05-17	2100 UTC	Imphal	Northeast India	Manipur	Thunderstorm
02-05-17	0000 UTC	Imphal	Northeast India	Manipur	Thunderstorm
02-05-17	0300 UTC	Dibrugarh	Northeast India	Assam	Thunderstorm

Past 24 hours DWR Report:










Radar Station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
DWR Machilipatnam	03Z of 01/05/17 to 03Z of 02/05/17	0431 to 1131 UTC	Convective region with average height of 8.5 km with maximum reflectivity of 65.5 dBZ	N(141KM) and moving NE ly direction with average speed of 15kmph	Cells started forming at 0431UTC at WNW (89.1km) from radar. Maximum reflectivity during 0431 to1121 and died down at 1131UTC	Possibility of Thunder storm with Hail and strong winds.	Krishna,East Godavari,West Godavari and Visakhapatnam Districts
	03Z of 01/05/17 to 03Z of 02/05/17	0711 to 1541UTC	Isolated Multiple cells average height of 8.2km with maximum reflectivity of 65.5dBZ	W(105KM) and moving SE ly direction with average speed of 25 kmph	Cell started forming at 0711UTC at NW (159km) from radar. Maximum reflectivity during 0741 to 1201 and died down at 1541 UTC	Possibility of Thunder storm with hail and moderate winds.	Nalgonda, Guntur and Prakasam Districts
	03Z of 01/05/17 to 03Z of 02/05/17	0721 to 1301UTC	Isolated Multiple cells average height of 6.1 km with maximum reflectivity of 62 dBZ	NW(237KM) and moving SE ly direction with average speed of 10 kmph	Cells started forming at 0721UTC at NW (227km) from radar. Maximum reflectivity during 0801 to 0821, 0911 to1211 died down at 1301 UTC	Possibility of Thunder storm with Hail and moderate winds.	Warangal District

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
DWR Paradeep	1/05/17	0300-2300 UTC	Isolated Single cells with average heights of 11 km and maximum heights exceeding 14 kms. and average reflectivity of 35 dBZ with some areas having reflectivity values of the order of 57 dBZ.	Position: Western sector of RADAR (180-350 degrees) Range:80-250 kms from the RADAR. Movement: Westerly	Cells started developing at 0700 UTC and dissipated by 1400 UTC.	TS with Rain. Hailstorms expected around 1642 IST in Dhenkanal district .	Mayurbhanj, Keonjhar, Kandhamal, Ganjam, Dhenkanal, Puri, Ganjam, Mayurbhanj, Bhadrak, Jajpur, Baleshwar, Cuttack, and Nayagarh.

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
DWR KOLKATA	02-05-2017	01/0301-0731 UTC	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
		01/0741 - 1522 UTC	1.Single cell converted to extended multi cell system with maximum reflectivity of 68.0 dBz at 0851 UTC and maximum height of 15.5 Km at 0901 UTC	1.WSW (213 km) Moving in E-ly direction with a speed of 30 kmph	1. Formation started at 0741 UTC in WSW at a distance of 213 km from Radar. Matured and dissipated at 1512 UTC in at a distance of 070.2 km from Radar	Hailstorm /Thunderstorm /Squall / Rain	N/A
		01/1021-1321 UTC	2. Single cell converted to extended multi cell system with maximum reflectivity of 67.5 dBz at 1051 UTC and maximum height of 14.6 Km at 1132 UTC.	2. NNW (245 km) Moving in E-ly direction with a speed of 58.5 kmph	2. Formation started at 1021 UTC in NNW at a distance of 245 km from Radar. Matured and dissipated at 1321 UTC in NNE at a distance of 247.1 km from Radar	Hailstorm /Thunderstorm /Squall / Rain	N/A
		01/1031 – 1731 UTC	3. Single cell with maximum reflectivity of 67.0 dBz at 1101 UTC and maximum height of 12.1 Km at 1112 UTC .	3. NW (246 km) Moving in SE-ly direction with a speed of 56.6 kmph	3. First observed at 1031 UTC in NW at a distance of 246 km from Radar. Matured and merged with cell no. 4 at 1211 UTC in NNW at a distance of 144.3 km from Radar	Hailstorm /Thunderstorm /Squall / Rain	N/A

Radar Station Name	Date	Time Interval Of Observation (UTC)	Organisation 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
PATNA	02/05 /2017	010300 - 010330	Single Cell. Maximum Reflectivity : 45 dBZ Echo Top : 9 KM	Range : 154 KM from DWR Patna in North-North West. Movement- Easterly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	EAST CHAMPARAN
		010330 - 010530	NIL	NIL	N/A	N/A	N/A
		010530 - 010830	Single Cell. Maximum Reflectivity : 44.5 dBZ Echo Top : 6 KM	Range : 93 KM from DWR Patna in North-North East. Movement-Easterly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	MUZAFFARPUR, DARBHANGA, SITAMARHI, MADHUBANI
		010830 - 010840	NIL	NIL	N/A	N/A	N/A
		010840 - 011140	Multiple Cell. Maximum Reflectivity : 53.5 dBZ Echo Top : 15 KM	Range : 206 KM from DWR Patna in East-South- East. Movement- South-Easterly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	JAMUI, BHAGALPUR, BANKA, LAKHISARAI, MUNGER
		011140 - 020300	NIL	NIL	N/A	N/A	N/A

∞	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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