



India Meteorological Department
FDP STORM Bulletin No.56(30-04-2017)

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

SYNOPTIC FEATURES:

The Western Disturbance as an upper air cyclonic circulation over north Pakistan and adjoining Jammu & Kashmir now lies over Jammu & Kashmir and neighbourhood and extends upto 3.6 Km above mean sea level with a trough aloft at 5.8 km above mean sea level roughly along Long. 72.0°E and north of Lat. 30.0°N.

The upper air cyclonic circulation over central Pakistan & neighbourhood now lies over Haryana and neighbourhood and extends upto 3.1 Km above mean sea level.

The trough from east Bihar to south Chhattisgarh now runs from east Bihar to Telangana across Jharkhand and Chhattisgarh and extends upto 1.5 km above mean sea level with two embedded upper air cyclonic circulations one over Jharkhand and another over Coastal Andhra Pradesh both extending upto 0.9 km above mean sea level.

A trough at mean level runs from West Rajasthan to southern parts of Gangetic West Bengal across West Uttar Pradesh, Madhya Pradesh and Jharkhand. A trough in low level easterlies runs from Maldiva area to Coastal Karnataka at 1.5 km above mean sea level. The upper air cyclonic circulation over east Assam & neighbourhood extending upto 0.9 km above mean sea level has become less marked. The trough from south Konkan to Comorin area across Interior Karnataka & interior Tamilnadu extending upto 1.5 km above mean sea level has become less marked.

A fresh feeble Western Disturbance likely to affect Western Himalayan region from 02nd May onwards.

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	30/0900	NE Jharkhand adjoining Bihar	73		Developing
2	30/0900	SW Bihar adjoining Jharkhand	52		Developing
3	30/0900	NW Madhya Pradesh adjoining Rajasthan	44		Developing

Scattered low/medium clouds with embedded isolate weak to moderate convection seen over South Uttar Pradesh, South Jharkhand, West Madhya Pradesh, Northwest Maharashtra Telangana.

Scattered low/medium clouds seen over East Punjab, exterior adjoining Haryana, rest Uttar Pradesh, Chhattisgarh, South Odisha, North Sikkim, East Assam, Nagaland adjoining Manipur, rest Maharashtra and East Rajasthan.

Scattered low/medium clouds with embedded moderate to intense convection seen over Northeast Jharkhand adjoining Bihar, Southwest Bihar adjoining Jharkhand

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 Andaman Sea adjoining Southeast Bay.

Past Weather:

Convection: Moderate to Intense convection was observed over Rajasthan adjoining Haryana, Himachal Pradesh North West Uttar Pradesh Marathwada Karnataka Telangana, Andhra Pradesh Tamilnadu Kerala Coastal Odisha West Bengal and North East states..

OLR: - Upto 200 wm^{-2} was observed over J&K and East Himachal Pradesh, Upto 230 wm^{-2} was observed over rest Himachal Pradesh, Uttarakhand, South East Rajasthan Sikkim, Arunachal Pradesh North Coastal Andhra Pradesh, Sikkim, Arunachal Pradesh, Upto 250 wm^{-2} was observed over Kerala.

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

Dynamic Features: Positive shear tendency observed over India.

Low Wind Shear is observed over south & neighborhood and Medium to high wind shear over rest parts of India.

A positive Vorticity field is observed over East Rajasthan, Saurashtra, North Madhya Pradesh, Bihar, West Bengal and North Odisha.

Positive Low Level Convergence observed over Rajasthan, Coastal Odisha and Negative low level convergence is observed over rest parts of India.

Precipitation:

IMR: Rainfall upto 30 mm was observed over J&K, Rainfall upto 20 mm was observed over South East Uttar Pradesh and North West Uttarakhand. Rainfall upto 10 mm was observed over Rest Himachal Pradesh, Rest Uttarakhand, Haryana, Delhi, North-West Uttar Pradesh, East Rajasthan, East Punjab, Marathwada, Assam, West Bengal, South West Odisha, North Coastal Andhra Pradesh, Karnataka Kerala, West Tamilnadu.

HEM: Rainfall upto 70 mm was observed over South-West J&K, South Himachal Pradesh and Uttarakhand . Rainfall upto 07 mm was observed over East Punjab, Haryana, Delhi, Uttar Pradesh, East Rajasthan, North West Bengal, Assam, Coastal Odisha Andhra Pradesh, Telangana, Karnataka, Kerala and West Tamilnadu

RADAR and RAPID observation:

Scattered significant convection was observed over North Madhya Pradesh, Northwest Maharashtra, Jharkhand, South Odisha, Telangana, Andhra Pradesh and Tamilnadu in Radar Composite of 1620UTC and significant convection seen over Himachal Pradesh, Uttarakhand, Southwest Uttar Pradesh, Madhya Pradesh, Maharashtra, Vidarbha, Jharkhand, Chhattisgarh, Coastal Karnataka, Tamilnadu, Andhra Pradesh and Telangana RAPID RGB Satellite imagery of 1600hrs 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 north-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-3 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 and Bay of Bengal :(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 Day0-4. A CYCIR over Punjab and adjoining Pakistan in Day-1-3 at 850 hPa
At 500 hPa trough over NW India in Day-0.

Two prominent anti-cyclonic circulations at 850 hPa over Arabian Sea and Bay of Bengal from day-0 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: At 12UTC Day-0: At some isolated locations over Odisha, Jharkhand, Chhattisgarh. Additionally over one or two locations in MP and Maharashtra along the western Ghats.

At 12UTC Day-1: Prominent high values over Odisha, Chhattisgarh and Bihar.

At 12UTC on Day-2&3: All along the western ghats over Karnataka and Maharashtra. Over central India at several places over MP& Chhattisgarh with adjoining Rajasthan, UP and Jharkhand. Lower magnitude in Day-4

4. Low level Vorticity:-Positive Vorticity ($>15 \times 10^{-5}/s$): At 12UTC on on all Days 1-4 : over Assam-Arunachal region.

At 12UTC day1-2 : over isolated locations over Jharkhand-Chhattisgarh-Bihar and WB region.

At 12UTC on Day-3: Over SHWB and GWB. Punjab-Adjoining Pakistan Himachal and west UP.

At 12UTC on Day-4: Over SHWB and GWB.

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:

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Coastal AP, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Odisha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Odisha, Konkan Goa, Vidarbha, Chhattisgarh, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day4: 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, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

6. K-Index: Daywise Sub-divisions with K-index >40: Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, Guj Reg, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal 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, Vidarbha, Chhattisgarh, Telangana, TN Puducherry, Coastal Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, East MP, Konkan Goa, Madhya Maharashtra,

Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, NI Karnataka

7. Spatial distribution of TTI: Daywise Sub-divisions with TTI >52: Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Odisha, Madhya Maharashtra, 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, East UP, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

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

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

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Uttarakhand, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, East UP, Odisha, Telangana,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, SI Karnataka,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Himachal Pradesh, Jammu Kashmir,

Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB

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

1. Weather Systems: The CYCIR over Punjab and adjoining areas moves eastward and lies over west UP and adjoining areas on day1. Forecasts show a trough extending from east UP to south peninsula would persist during next 3 days. Forecasts also show the feeble CYCIR over extreme NE parts of India will persist for the next 5 days. Contour at 500 hPa shows a feeble WD would affect the northern parts of the India during next two 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 ($>12 \times 10^{-1}/s$): Mostly along the foot hill of Himalaya, northwest India, eastern parts of India and along trough over south peninsula 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. 3-3.5 mostly along east coast, eastern part of the country, along west coast and over Gujarat but less than threshold value all over the country during next 5 days.

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

Total Total Index (> 50): Above threshold value over the most parts of central, northwest and eastern parts of India at 06 UTC and 12 UTC during next 5 days.

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

CAPE (> 1000): Mostly along east coast, west coast, Gujarat over eastern part of India and parts of north eastern states during next 5 days.

CINE (50-150): Mostly along east coast, west coast, Gujarat and adjoining areas, parts of north eastern states, over Gangetic plain and eastern part of India during next 5 days.

5. Rainfall and Rainfall activity:

10-40 mm rainfall over NE states during next five days.

10-40 mm rainfall over HP and Uttarakhand during next 24 hours.

10-40 mm rainfall over J&K, HP and Uttarakhand on day3 and day4.

10-40 mm rainfall over sub-Himalayan West Bengal during next 48 hours.

10-40 mm rainfall over south peninsula during next two days.

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

Model Reflectivity: 15-35 dBZ Model reflectivity over some parts of J&K, HP, Delhi, Haryana and Uttarakhand during next 24 hours.

15-30 dBZ over parts of Andhra Pradesh, eastern parts of India and over parts of NE states during next 24 hours.

20-30 dBZ over parts of Andhra Pradesh and Odisha on Day2.

15-30 dBZ over northwest parts of India, J&K, Delhi and Haryana on day3.

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.

K-Index (> 35): Less than threshold value over the country during the next 72 hour.

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

CINE (50-150): Mostly less than threshold value over coastal regions, higher than over central parts of India and within threshold limit over parts of north eastern states and south peninsula at 12 UTC during next three days.

Rainfall Activity: 10-40 mm over south peninsula and NE states during next 3 days.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Presently, due to upper air cyclonic circulation over east Assam & neighborhood, the Assam, Meghalaya will experience heavy rainfall along with thunderstorm with gusty winds on Day-1 and Day-2. However, Arunachal Pradesh will receive heavy rainfall on Day-2.

The trough from east Bihar to south Chhattisgarh now runs from east Bihar to Telangana across Jharkhand and Chhattisgarh and extends upto 1.5 km above mean sea level with two embedded upper air cyclonic circulations one over Jharkhand and another over Coastal Andhra Pradesh both extending upto 0.9 km above mean sea level. This system will give rise to Thunderstorm with squall/gusty winds over Kerala, Interior Karnataka, Telangana, Rayalaseema Coastal Andhra Pradesh, GWB, Orissa, Bihar, and Jharkhand on Day-1. However, Telangana, Coastal Andhra Pradesh and Orissa may experience Thunderstorm with hail on Day-1.

The Western Disturbance as an upper air cyclonic circulation over Jammu & Kashmir and neighbourhood and a trough will give rise to Thunderstorm with hail possibility over Himachal Pradesh and Uttarakhand on Day-1

24 hour Advisory for IOP:

Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura and Arunachal Pradesh
Kerala, Interior Karnataka, Telangana, Rayalaseema Coastal Andhra Pradesh, Interior Tamilnadu
GWB, Orissa, Bihar, Jharkhand
Sub Himalayan West Bengal, Sikkim
J & K, Himachal Pradesh, Uttarakhand, Haryana, Punjab, Delhi, North Rajasthan, Uttar Pradesh
South Chhattisgarh, Madhya Maharashtra and Vidarbha

48 hour Advisory for IOP:

Arunachal Pradesh Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura
Kerala, Interior Karnataka, Telangana, Rayalaseema Coastal Andhra Pradesh
Orissa, Bihar, Jharkhand
Sub Himalayan West Bengal, Sikkim
Himachal Pradesh, Uttarakhand, Uttar Pradesh

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>

Past24hourHEMandIMRainfall(upto03UTCof today)

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

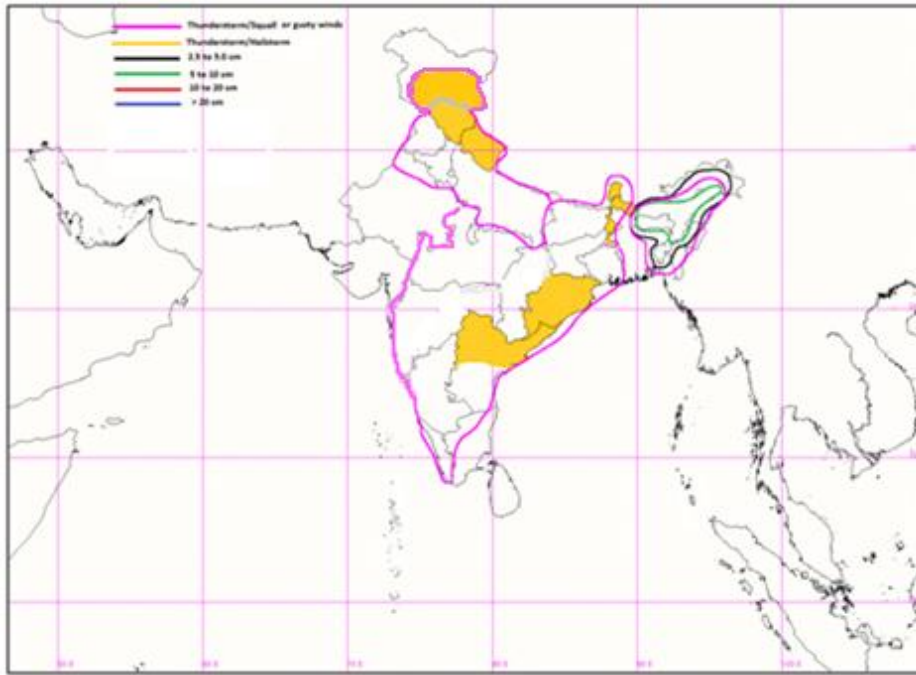
HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg

For Radar images of the past 24 hours including mosaic of images:

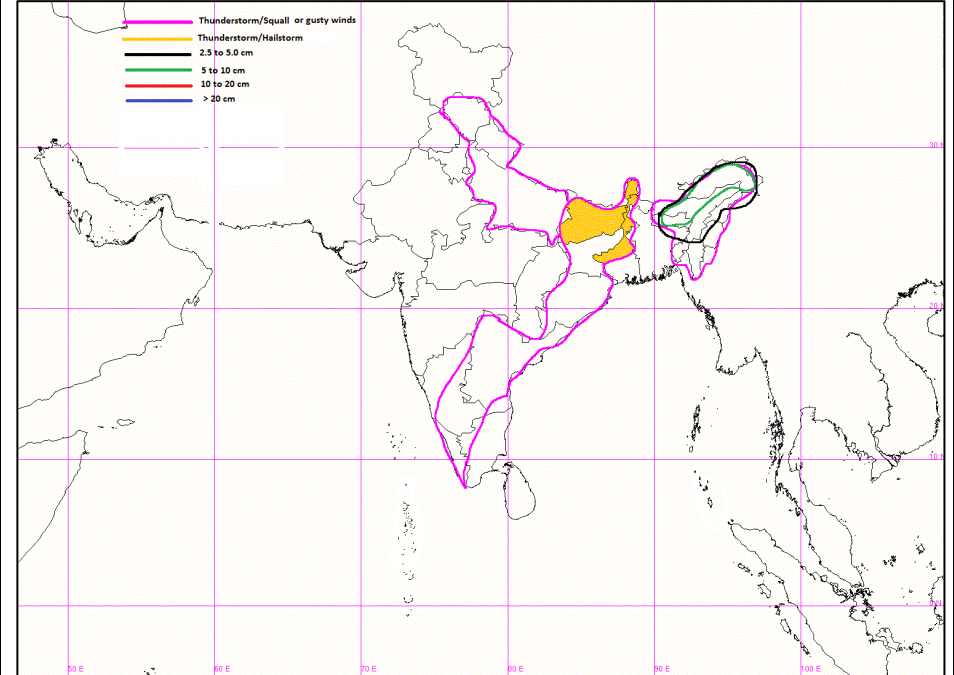
http://ddgmui.imd.gov.in/dwr_img/

Satellite sounder based T- Phigram

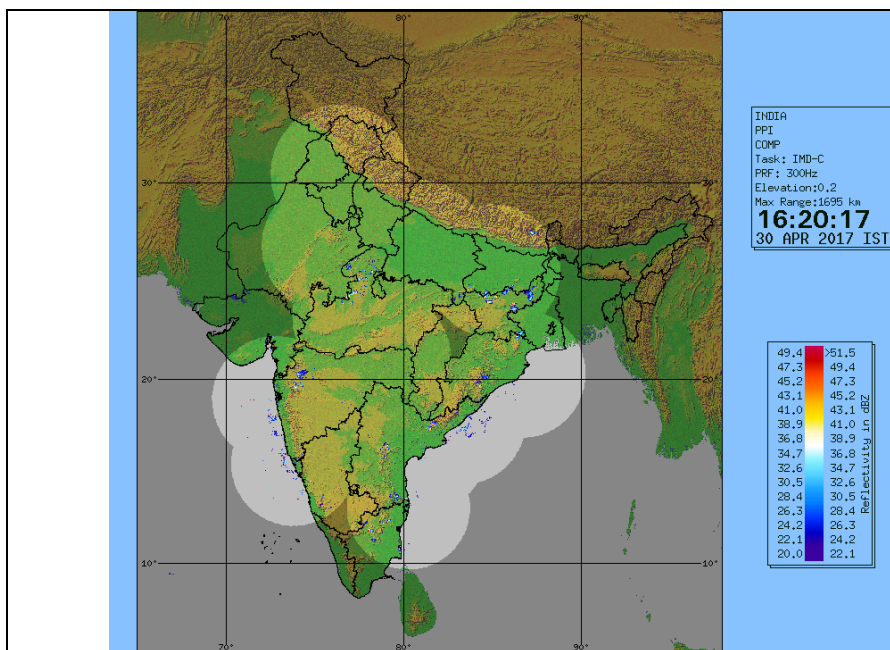
http://satellite.imd.gov.in/map_skm2.html



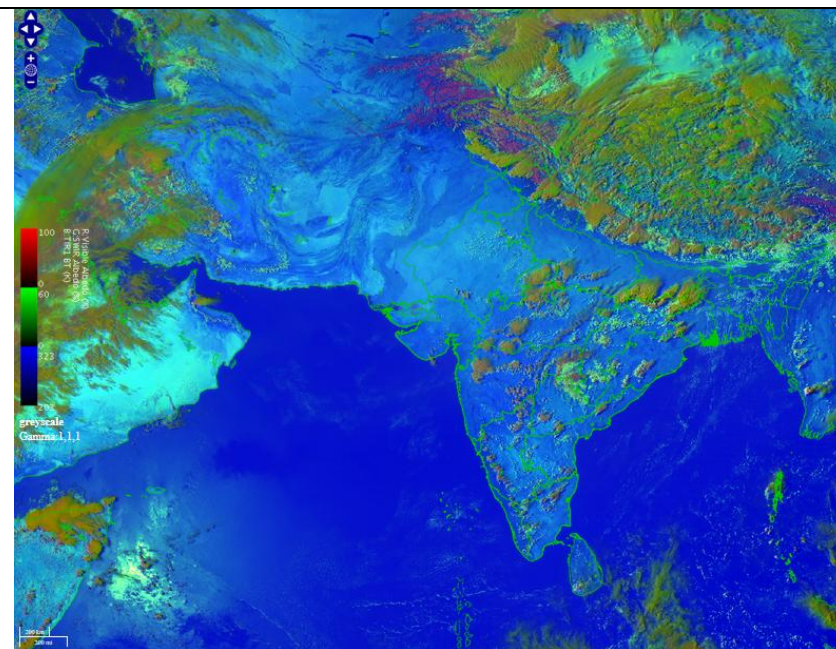
IOP Advisory for 24 hours



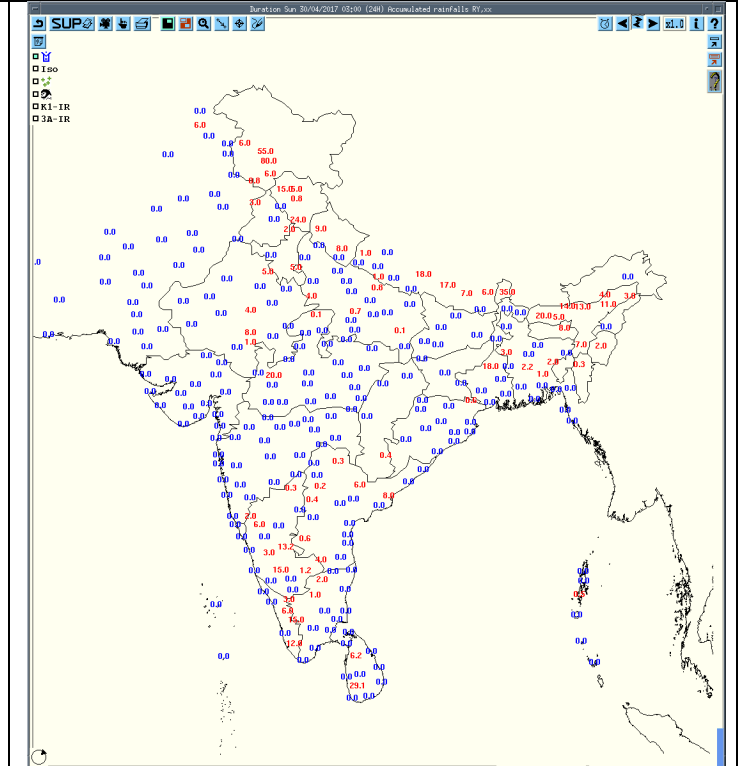
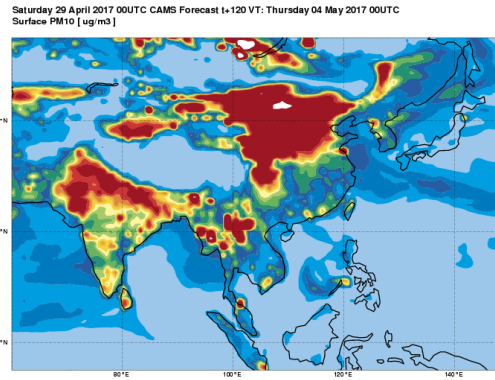
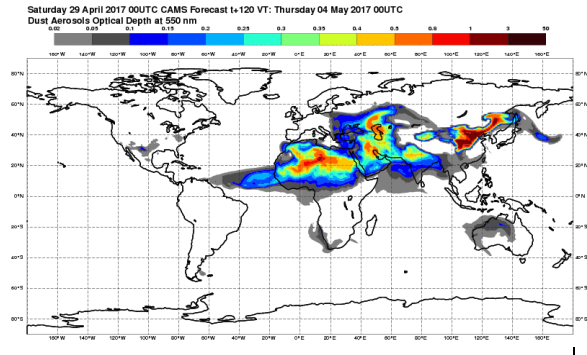
IOP Advisory for 48 hours



DWR Composite at 1620hrs IST of today



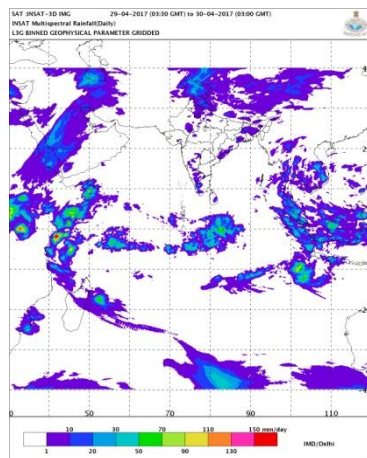
RAPID RGB Image of INSAT 3D at 1600 hrs IST of today



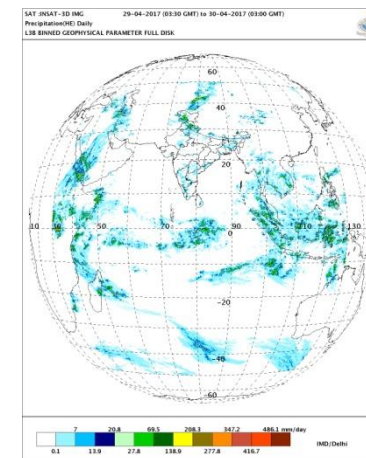
Forecast Dust Concentration for 00UTC of 4th May

PM10 Forecast for 00UTC of 4th May

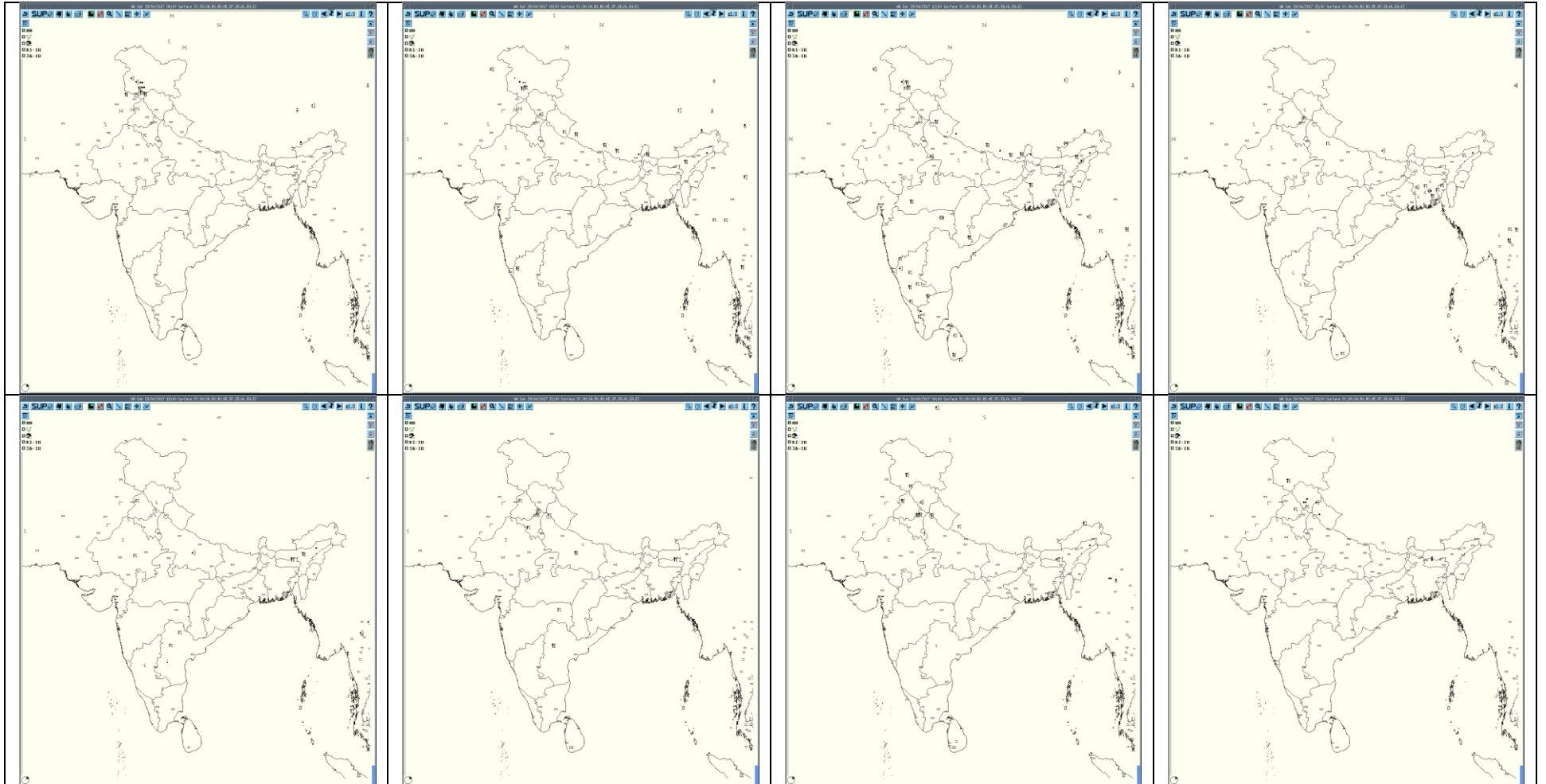
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



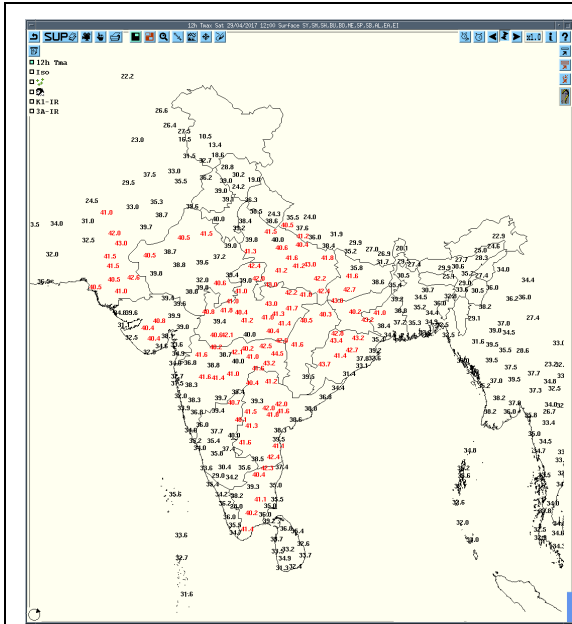
IMR Rainfall



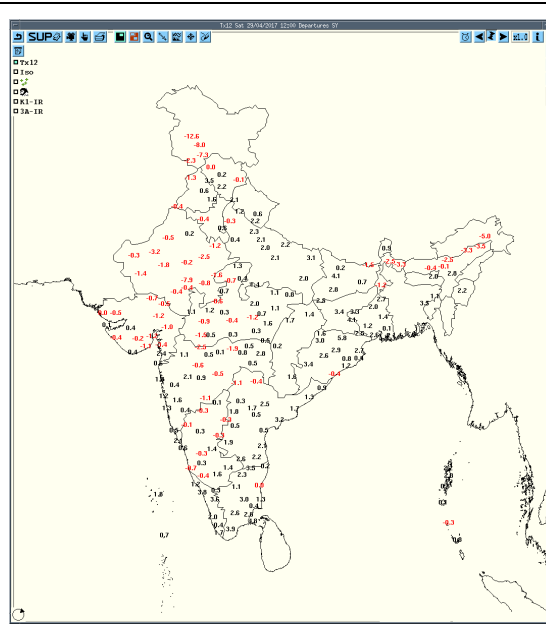
HEM Rainfall



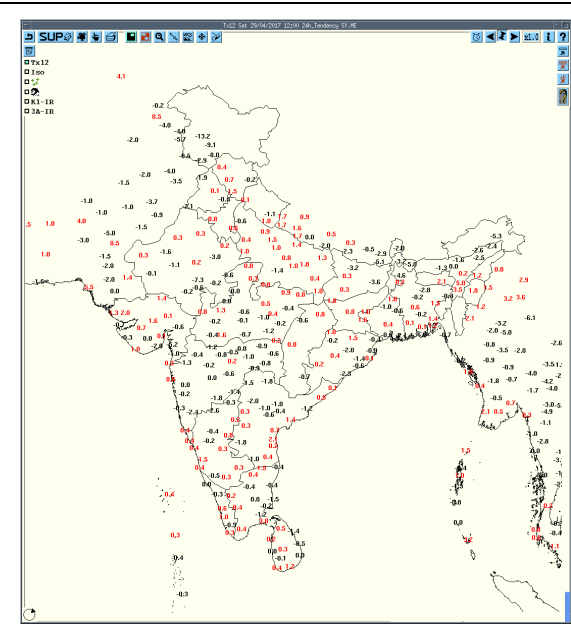
3hourly Past weather at 06, 09,12,15,18, 21UTC of yesterday and 00 & 03hrs UTC of today



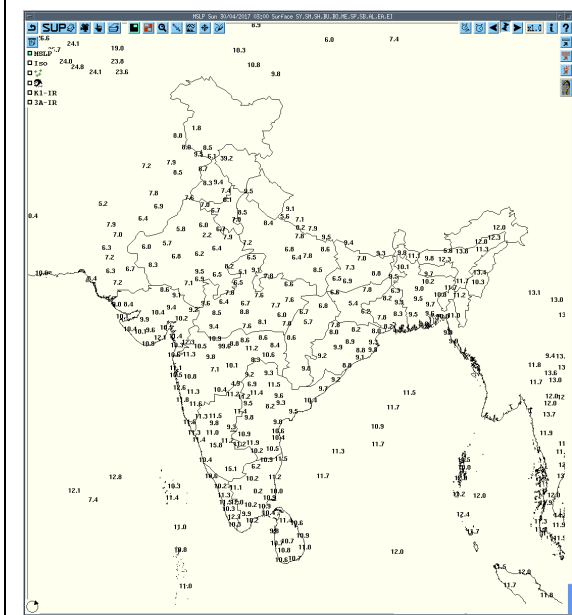
Tmax



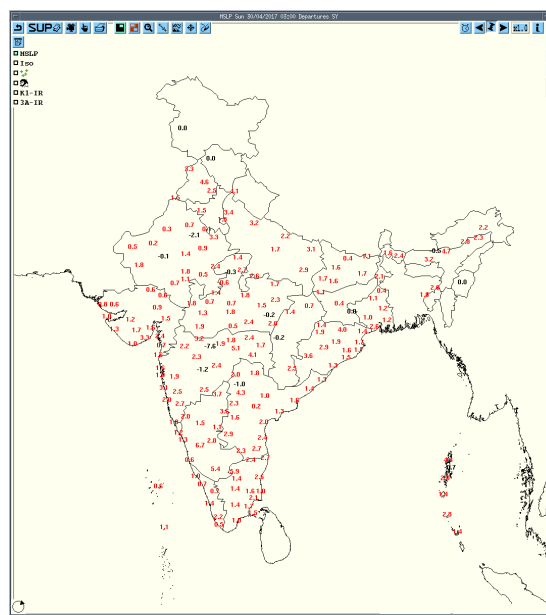
Departure Tmax



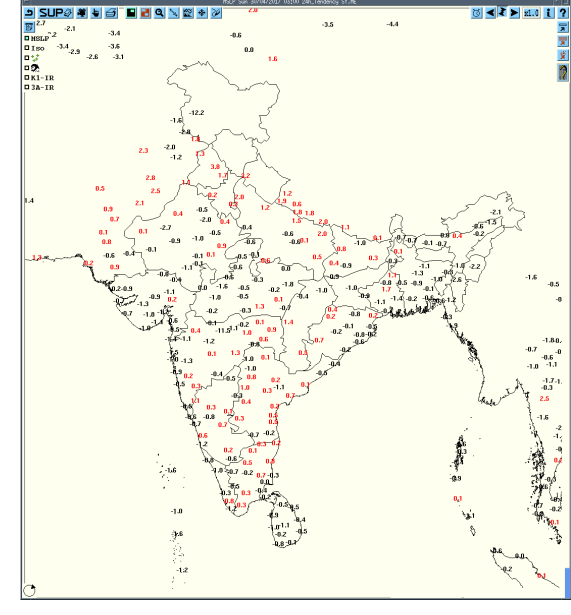
Tendency Tmax



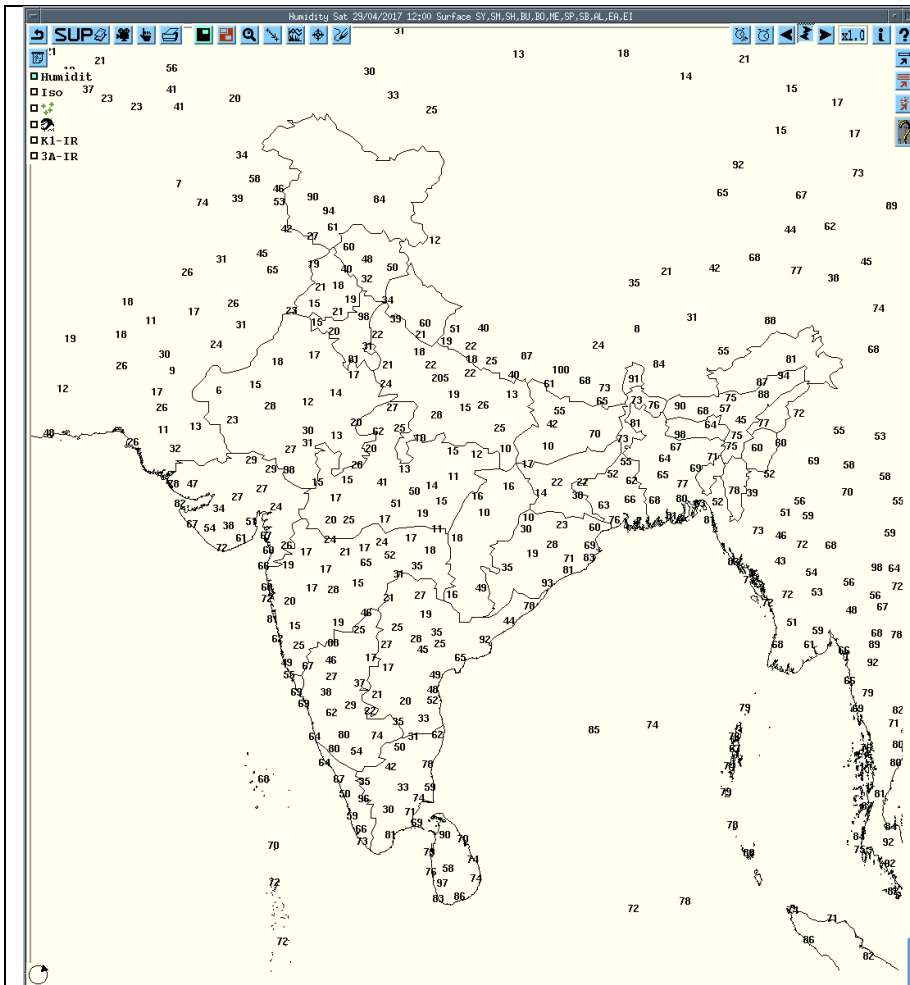
MSLP



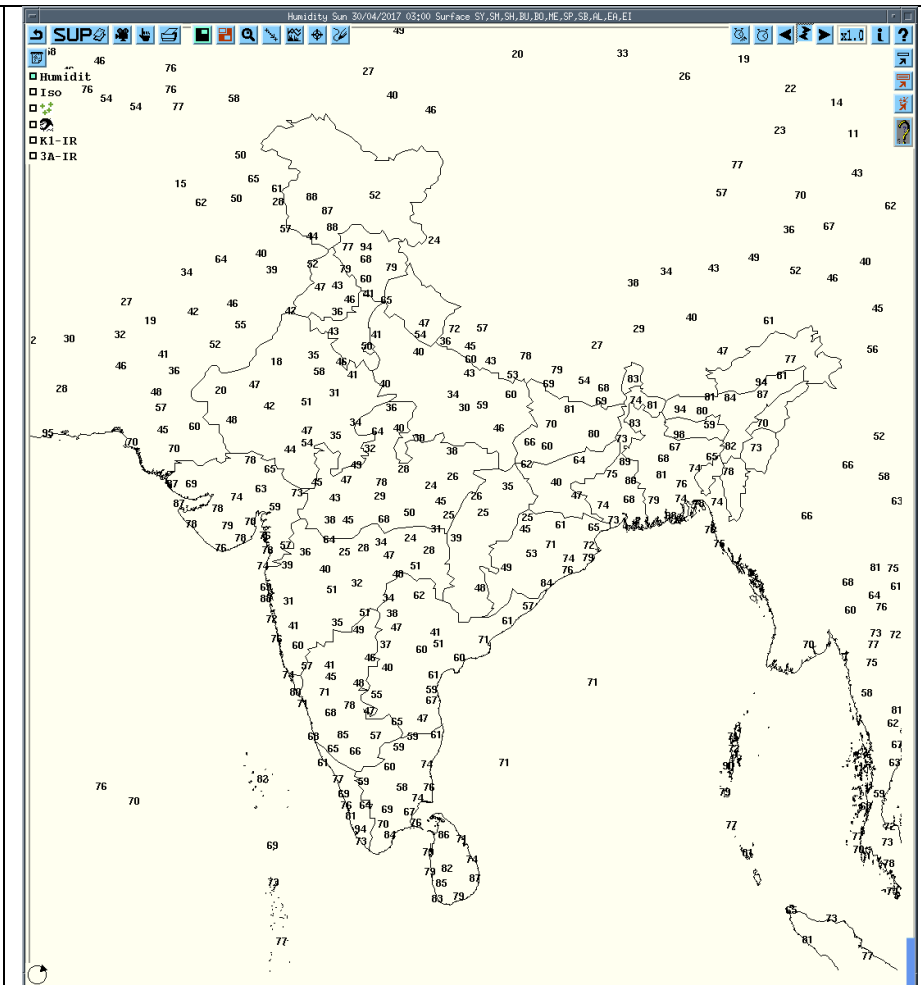
Departure MSLP



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
29-04-17	0600 UTC	Banihal, Bhaderwah, Jammu	Northwest India	Jammu & Kashmir	Thunderstorm
		Cooch Behar	East India	WB(SHWB)	Thunderstorm
29-04-17	0900 UTC	Batote, Kukernag	Northwest India	Jammu & Kashmir	Thunderstorm
		Shimla	Northwest India	Himachal Pradesh	Thunderstorm
		Gangtok	East India	Sikkim	Thunderstorm
		Tezpur	Northeast India	Assam	Thunderstorm
		Belgaum	South India	Karnataka	Thunderstorm
		Kukernag, Banihal, Pahalgam	Northwest India	Jammu & Kashmir	Thunderstorm
29-04-17 29-04-17 29-04-17 29-04-17 29-04-17 29-04-17	1200 UTC	Agra	Northwest India	Uttar Pradesh	Thunderstorm
		Itanagar	Northeast India	Arunachal Pradesh	Thunderstorm
		Indore	Central India	Madhya Pradesh	Thunderstorm
		Sangali	Central India	Maharashtra	Thunderstorm
		Jagdarpur	Central India	Chhattisgarh	Thunderstorm
		Tuni	South India	Andhra Pradesh	Thunderstorm
		Gadag, Chitradurga, Shimoga, Bangalore, Madikeri	South India	Karnataka	Thunderstorm
		Bareilly	Northwest India	Uttar Pradesh	Thunderstorm
29-04-17 29-04-17	1500 UTC	North Lakhimpur	Northeast India	Assam	Thunderstorm
		Agartala	Northeast India	Tripura	Thunderstorm
	1800 UTC	Amritsar	Northwest India	Punjab	Thunderstorm
		Tezpur, Guwahati	Northeast India	Assam	Thunderstorm
		Ajmer	Northwest India	Rajasthan	Thunderstorm
		Ramagundam, Hyderabad	South India	Andhra Pradesh	Thunderstorm
29-04-17	2100 UTC	Amritsar	Northwest India	Punjab	Thunderstorm
		Ambala, Chandigarh	Northwest India	Haryana	Thunderstorm
		Lucknow	Northwest India	Uttar Pradesh	Thunderstorm
		Guwahati	Northeast India	Assam	Thunderstorm
		Nagpur	Central India	Maharashtra	Thunderstorm
30-04-17	0000 UTC	Pahalgam, Bhaderwah	Northwest India	Jammu & Kashmir	Thunderstorm
		Amritsar, Patiala	Northwest India	Punjab	Thunderstorm
		Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm
		Ambala	Northwest India	Haryana	Thunderstorm
		Dehradun	Northwest India	Uttarakhand	Thunderstorm
		Guwahati	Northeast India	Assam	Thunderstorm
30-04-17	0300 UTC	Banihal	Northwest India	Jammu & Kashmir	Thunderstorm
		Solan	Northwest India	Himachal Pradesh	Thunderstorm
		Ludhiana	Northwest India	Punjab	Thunderstorm

Realised TS/HS/SQ during past 24 hours ending at 0300UTC of today(received from RMCs/MCs)						
Name of Station Reporting	Region	STATE	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Qazigund	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	0830 1330 1600	0900 1400 2100
Pahalgam	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	1705	1745
Pahalgam	Northwest India	Jammu & Kashmir	Thunderstorm	30-04-17	0500	0540
Kukernag	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	0700 1010 1410	0850 1110 2240
Jammu	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	0900	1000
Banihal	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	1900	xxxx
Banihal	Northwest India	Jammu & Kashmir	Hailstorm (Diamter-1.0 cm)		2210	2220
Banihal	Northwest India	Jammu & Kashmir	Thunderstorm	30-04-17	0615	0830
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	0830	1215
Katra	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	0900	1035
Bhaderwah	Northwest India	Jammu & Kashmir	Thunderstorm	29-04-17	1100 2230	1150 2400
Bhaderwah	Northwest India	Jammu & Kashmir	Thunderstorm	30-04-17	0000 0430	0300 0600
Amritsar	Northwest India	Punjab	Thunderstorm	29-04-17	2230	2400
Amritsar	Northwest India	Punjab	Thunderstorm		0000	0630
Patiala	Northwest India	Punjab	Thunderstorm	30-04-17	0105 0445	0140 0540
Ludhiana	Northwest India	Punjab	Thunderstorm	30-04-17	0800	0830
Ambala	Northwest India	Haryana	Thunderstorm	30-04-17	0130 0500	0435 0600
Hissar	Northwest India	Haryana	Thunderstorm	30-04-17	0200	0300
Chandigarh	Northwest India	Haryana	Thunderstorm	29-04-17	2010	2105
Shimla	Northwest India	Himachal Pradesh	Thunderstorm	30-04-17	0000 0815	0445 0830
Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm	30-04-17	0250	0755
Safdarjung	Northwest India	Delhi	Thunderstorm	30-04-17	0600	-0645
Palam	Northwest India	Delhi	Thunderstorm	29-04-17	1630	1700
Palam	Northwest India	Delhi	Thunderstorm	30-04-17	0400 0700	0600 0730
Nagpur	Central India	Vidarbha	Squall from W direction	29-04-17	1724	1726
Gwalior	Central India	Madhya Pradesh	Thunderstorm	30-04-17	0120	0127
Chhindwada	Central India	Madhya Pradesh	Thunderstorm	29-04-17	1930	2145
Jagdalpur	Central India	Chhattisgarh	Thunderstorm	29-04-17	1600	1800
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)
Gangtok	East India	Sikkim	Hailstorm (Diameter-1.0 cm)		1400	1415
Tadong	East India	Sikkim	Thunderstorm	29-04-17	1320	1340
Coochbehar	East India	West Bengal	Thunderstorm	29-04-17	1055	1140
Malda	East India	West Bengal	Thunderstorm	29-04-17	1515	1600
Balasore	East India	Odisha	Thunderstorm	29-04-17	1700	1900
Port Blair	East India	Odisha	Thunderstorm	29-04-17	1335	1440
Port Blair		Odisha	Thunderstorm	30-04-17	0655	0745
Itanagar	Northeast India	Arunachal Pradesh	Thunderstorm	29-04-17	29/1650 29/1800	29/2140 29/2220
Silchar	Northeast India	Assam	Thunderstorm	29-04-17	29/2330	29/2400
	Northeast India	Assam	Thunderstorm	30-04-17	30/0000	30/0130
Jorhat	Northeast India	Assam	Thunderstorm	29-04-17	29/1500 29/1700	29/1920 29/2200
Jorhat	Northeast India	Assam	Thunderstorm	30-04-17	30/0340	30/0540
Dibrugarh	Northeast India	Assam	Thunderstorm	29-04-17	29/1900	29/1930
N/Lakhimpur	Northeast India	Assam	Thunderstorm	29-04-17	29/1840 29/2030	29/2030 29/2100
Tezpur	Northeast India	Assam	Thunderstorm	29-04-17	29/1345 29/1425 29/2240 29/2330	29/1400 29/1440 29/2335 30/0120
Dhubri	Northeast India	Assam	Thunderstorm	29-04-17	29/2000	29/2300
Guwahati	Northeast India	Assam	Thunderstorm	29-04-17	29/2115	29/2400
Guwahati	Northeast India	Assam	Thunderstorm	29-04-17	30/0000	30/0450
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	29-04-17	29/2010 29/2030	29/2030 29/2400
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	30-04-17	30/0000	30/0540
Shillong	Northeast India	Meghalaya	Thunderstorm	29-04-17	29/2345	29/2400
Shillong	Northeast India	Meghalaya	Thunderstorm	30-04-17	30/0000	30/0400
Imphal	Northeast India	Manipur	Thunderstorm	29-04-17	30/0020	30/0130
Agartala	Northeast India	Tripura	Thunderstorm	29-04-17	29/1950	29/2150

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)
M.C. Dehradun	Northwest India	Uttarakhand	Thunderstorm	30-04-17	0210 0330	0240 0545
M.O. Mukteshwar	Northwest India	Uttarakhand	Thunderstorm	29-04-17	1315 1800	1640 1915
M.O. Mukteshwar	Northwest India	Uttarakhand	Hailstorm (Diameter-xx cm)	29-04-17	1520	1530
M.O. Tehri	Northwest India	Uttarakhand	Thunderstorm	30-04-17	1610	1815
M.O. Tehri	Northwest India	Uttarakhand	Thunderstorm			
M.O. Tehri	Northwest India	Uttarakhand	Thunderstorm	29-04-17	0510	0645
M.O. Tehri	Northwest India	Uttarakhand	Hailstorm (Diameter-1.0 cm)	29-04-17	1710	1715
Kanpur(IAF)	Northwest India	Uttar Pradesh	Thunderstorm	29-04-17	2000 2230	2200 2400
Kanpur(IAF)	Northwest India	Uttar Pradesh	Thunderstorm	30-04-17	0000	0300
Kanpur City	Northwest India	Uttar Pradesh	Thunderstorm	30-04-17	0030	0100
Bareilly	Northwest India	Uttar Pradesh	Thunderstorm	30-04-17	1930	0130
Najibabad	Northwest India	Uttar Pradesh	Thunderstorm	30-04-17	0700	0715
Orai	Northwest India	Uttar Pradesh	Thunderstorm	30-04-17	2030	2100
Chitradurga	South India	Karnataka	Thunderstorm	29-04-17	1540 1735 2040	1735 1810 2130
Yelahanka IAF	South India	Karnataka	Thunderstorm	29-04-17	2020	2400
Yelahanka IAF	South India	Karnataka	Thunderstorm	30-04-17	0000	0230
Bengaluru AMS HAL	South India	Karnataka	Thunderstorm	29-04-17	1500	2035
Bengaluru City	South India	Karnataka	Thunderstorm	29-04-17	1535	1910
KIAL Bengaluru	South India	Karnataka	Thunderstorm	29-04-17	1900	1950
Coimbatore	South India	Tamilnadu	Thunderstorm	29-04-17	1745	1920
Ramagundam	South India	Andhra Pradesh	Thunderstorm	29-04-17	2230	2400
	South India	Andhra Pradesh	Thunderstorm	30-04-17	0000	0115
Hyderabad	South India	Andhra Pradesh	Thunderstorm	29-04-17	2305	2400
	South India	Andhra Pradesh	Thunderstorm	30-04-17	0000	0300
Tuni	South India	Andhra Pradesh	Thunderstorm	29-04-17	1520	1830
Kakinada	South India	Andhra Pradesh	Thunderstorm	29-04-17	1600	1740
Anantapur	South India	Andhra Pradesh	Thunderstorm	30-04-17	0300	0340
CIAL Kochi	South India	Kerala	Thunderstorm	29-04-17	1630	1645

Past 24 hours DWR Report:

Radar Station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Patiala	30-04-17	0300-0600	NIL	NIL	NIL	NIL	NIL
		0600-0900	NIL	NIL	NIL	NIL	NIL
		0900-1200	MULTIPLE ECHO CELLS	NE	MAX. DBZ 47.0; AV. HT. 10-12 KMS	TS/RA	SOLAN; NAHAN.
		1200-1500	ISOLATED CELL	NE	MAX. DBZ 63.0; AV. HT. 10-12 KMS	HAIL/TS/RA	LUDHIANA; KHANNA HAILSTORM LIKELY OVER LUDHIANA
		1500-1800	MULTIPLE CELLS	NE	MAX. DBZ 53.0; AV. HT. 10-12 KMS	HAIL/TS/RA	ROOPNAGAR, NAWANS HAHR; SAS NAGAR; NAHAN
		1800-2100	MULTIPLE CELLS	NE	MAX. DBZ 56.0; AV. HT. 10-12	HAIL/TS/RA	ROOPNAGAR, NAWANS HAHR; SAS NAGAR; NAHAN
		2100-0000	MULTIPLE CELLS	NE	MAX. DBZ 53.50; AV. HT. 09-10 KMS	HAIL/TS/RA	SANGRUR; DEVIGARH; BARNALA; PATIALA; BHATINDA.
		0000-0252	MULTIPLE CELLS	NE	MAX. DBZ 57.0; AV. HT. 10-12 KMS	HAIL/TS/RA	AMRITSAR; PATIALA; ROHTAK; BHIWANI; KARNAL; AMBALA.










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
Agartala	30-04-17	291030 - 291810	Squall line with Maximum Height 16km and maximum reflectivity 43dBZ (at 1240 UTC over Bangladesh-220 km West of DWR AGT)	Formation of the system unknown as the 500km Range PPI-Z is not working. System first visible in DWR AGT 250 km WNW at 1030 UTC of 29.04.17 and moved ESE-wards at around 50 kmph	The cells dissipated at 1810 UTC of 29.04.17 over Mizoram	1.TS with rain & squall at Agartala Airport 2.Light Rain at other places	All districts of Tripura
		291430 - 291900	Multiple Cells with Maximum Height 12km and maximum reflectivity 46dBZ (at 1650 UTC over South Meghalaya)	Formed 150 km North of DWR AGT at 1430 UTC of 29.04.17 and moved ESE-wards at around 40 kmph	The cells dissipated at 1900 UTC of 29.04.17 over East Meghalaya & adj Assam	TS with heavy rain at Cherrapunjee	East Khasi hills districts of Meghalaya
Hyderabad	30-04-17	290742-0942	Scattered cells with an average height of 10 Km with a max reflectivity of 50 dBZ	SSE (132 Kms) with No movement.	Cells started forming at 0742 UTC at SSE (132 Kms)direction from radar, Matured a bit in size. Max reflectivity was between 0802 and 0822 UTC and dissipated at 1002 UTC	Moderate Thunderstorm with or without rain	Not Known
		29/ 1852-2032	Scattered cells with an average height of 10 Km with a max reflectivity of 61.5 dBZ	NE (65 Kms) moving NE-ly at an average speed of 24 kmph	Cells started forming at 1852 UTC at NE (65 Kms) from radar, matured bet. 1902 and 2002 UTC and dissipated at 2022 UTC	Severe Thunderstorm with or without rain	Not Known.

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	Associa ted severe weather if any	Districts affected
Visakhapatnam	30-04-17	0300 UTC-0600 UTC	Isolated single cell with max 50 dBz and max height 8Kms.	A single cell at a distance of 86 kms in NW ly direction.	NIL-	-	-
		0600 UTC-0900 UTC	Multiple cells in a squall line with max reflectivity 58dBz and max height 14Kms.	Well developed cells in NW sector to the radar at a distance of 80 kms moving SEly slowly.	Existing cells are full developed and new cells are forming	-	-
		0900 UTC-1200 UTC	Multiple cells in a squall line with max reflectivity 58dBz and max height 14Kms.	Well developed cells in NW to SW sector at a distance of 20 to 150 kms and NNE sector at a distance of 100 kms to the radar moving SEly slowly.	Existing cells are full matured and dissipating.	-	-
		1200 UTC-1500 UTC	Multiple cells i with max reflectivity 53dBz and max height 10Kms.	SW(120km) NE(120 KM) moving Ely	cells are in dissipating stage.	-	-
		1500 UTC-1800 UTC	Multiple cells i with max reflectivity 45dBz and max height 8Kms.	SW(45 km) moving Ely	cells are dissipating during the period.	-	-
		1800 UTC-0000 UTC	Convective region of max reflectivity 50dBz and max height 6Kms.	SW(170 km) moving Ely	Convective region formed in BOB not matured well and start dissipating.	-	-
Lucknow	30-04-	Under maintenance					
Patna	30-04-17	290300 - 300300	Nil	Nil	Nil	Nil	Nil
JAIPUR	30/04/17	0832 - 0122 UTC	Multiple cell average height of 12.1 km maximum reflectivity 53.5 dBZ	Continuous from Last day SE & EAST wards at speed direction 42 km/hr to 60 km/hr different times	Cells continuous forming 0302 UTC SE Jaipur and multiple cell was observed and maximum refelectivity during 0302-0442 , 0812 to 1622,1722 to 2232 UTC and died down at 0242 UTC.	TSRA AT ISOLATED PLACES	TONK,JAIPUR,AJMER,JHUNJHUNU, AJMER,KOTA,BHILWARA,BARAN,D AUSA,BHARATPUR,ALAWAR,SIKAR, CHURU,NAGAU, DHOLPUR DISTRICTS

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	30-04-17	29/0311-0811	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
		29/0842 – 1721	Single cell with maximum reflectivity of 69.0 dBz at 1002 UTC and maximum height of 16.84 Km at 1022 UTC.	NNW (238.0 km) Moving towards SE-ly with a speed of 29 kmph	Formation started before 0842 UTC in NNW at a distance of 238.0 km from Radar. Matured and dissipated 1721 UTC at a distance of 224.9 km from Radar.	Thunderstorm Hail/Rain	N/A
		29/0842 – 1402	Single cell with maximum reflectivity of 67.0 dBz at 1101 UTC and maximum height of 13.97 Km at 1201 UTC .	NNW (198.3 km) Moving towards SE-ly with a speed of 16 kmph.	Formation started at 0842 UTC in NNW at a distance of 198.3 km from Radar. Matured and dissipated at 1402 UTC in at a distance of 105.7 km from Radar.	Thunderstorm Hail/Rain	Dumka(Bihar), Birbhum (WB)
		29/0902 –1251	Single cell with maximum reflectivity of 68.5 dBz at 1012 UTC and maximum height of 16.93 Km at 1041 UTC	WSW (202.2 km) moving towards ENE-ly with a speed of 20 Kmph	Formation started at 0902 UTC in WSW at a distance of 202.2 km from Radar at 1012 UTC, Matured and dissipated at 1251 UTC in at a distance of 142 km from Radar.	Thunderstorm Hail/Rain	N/A
		29/0902 –1131	Single cell with maximum reflectivity of 67.0 at 1041 UTC and maximum height of 13.97 km at 1012 UTC	WSW (214.2 km) moving towards ENE-ly with a speed of 62 kmph.	Formation started at 0902 UTC in WSW at a distance of 214.2 km from Radar, Matured and dissipated at 1131 UTC in at a distance of 64.7 km from Radar.	Thunderstorm Hail/Rain	Part of Jharkhand, Bankura and Madinipur
		29/0951 – 1432	Single cell with maximum reflectivity of 66.0 dBz at 1211 UTC and maximum height of 12.99 Km at 1101 UTC .	North (228.9 km) Moving towards SE-ly with a speed of 58 kmph.	Formation started at 0951 UTC in North at a distance of 228.9 km from Radar. Matured and dissipated after 1432 UTC at a distance of 249.5 km from Radar.	Thunderstorm Hail/Rain	N/A
		29/1412 –1521	Single cell with maximum reflectivity of 57.50 dBz at 1432 UTC and maximum height of 12.72 Km at 1432 UTC .	NW(226.8 km) Moving towards SE-ly with a speed of 32 kmph.	Formation started at 1412 UTC in NW at a distance of 226.8 km from Radar. Matured and dissipated after 1521 UTC at a distance of 209.3 km from Radar.	Thunderstorm /Rain	Dhanbad, Dumka and Birbhum
		29/1531-2351	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
		30/0001-0301	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL

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

Weather Symbols

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