



India Meteorological Department
FDP STORM Bulletin No.79 (23-05-2017)

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

The upper air cyclonic circulation over Southeast Bay of Bengal & adjoining equatorial Indian Ocean, now lies over Southeast Bay of Bengal & neighbourhood and extends upto 4.5 Km above mean sea level.

A shear zone runs roughly along altitude 10.0°N at 3.1 km above mean sea level.

The Western Disturbance as an upper air cyclonic circulation over Jammu & Kashmir and adjoining Pakistan now lies over Jammu & Kashmir & neighbourhood between 3.6 km & 5.8 km, with a trough aloft runs roughly along Long. 74.0° E and north of Lat. 30.0°N.

The induced upper air cyclonic circulation over Punjab & neighbourhood between 1.5 and 2.1 Km above mean sea level persists.

The upper air cyclonic circulation over southwest Rajasthan & adjoining south Pakistan extending upto 2.1 Km above mean sea level persists.

The upper air cyclonic circulation over north Chhattisgarh & neighbourhood extending upto 0.9 km above mean sea level persists. The trough from this system to north coastal Andhra Pradesh across interior Odisha extending upto 0.9 Km above mean sea level also persists.

The upper air cyclonic circulation over southwest and adjoining west central Arabian Sea, now lies over western parts of west central Arabian sea & neighbourhood and extends upto 1.5 km above mean sea level.

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

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

Convective Activity: Nil

Western Disturbance:

Scattered multi-layered clouds seen over J & K, Himachal Pradesh, Uttarakhand and NW Uttar Pradesh in association with WD over the Area.

Westerly Trough:

Trough in westerlies runs roughly along 75.0°E north of lat 25.0°N

Cloud Description:

Scattered low/medium clouds with embedded moderate to intense convection were seen over Lakshadweep. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over Nagaland. Scattered low/medium clouds with embedded isolated weak convection were seen over Tamilnadu, Karnataka, N Telangana, and Kerala. Scattered low/medium clouds were seen over C Haryana, C Uttar Pradesh, rest Punjab, C Uttar Pradesh, N Rajasthan, Maharashtra, S Chhattisgarh, Sikkim, rest NE states and rest parts of South India except Coastal Andhra Pradesh.

Arabian Sea:

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

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded moderate to intense convection were seen over S Bay of Bengal and Andaman Sea.

Past Weather:

Convection:-

Moderate to Intense convection was observed over J&K Himachal Pradesh Punjab Rajasthan Haryana Delhi Uttarakhand Uttar Pradesh East Bihar Jharkhand West Bengal North East States Andhra Pradesh South Interior Karnataka Kerala Tamilnadu .

OLR:-

Upto **200** wm^{-2} was observed over East J&K South Interior Karnataka Kerala Tamilnadu.

Upto **230** wm^{-2} was observed over Rest J&K Himachal Pradesh North Uttarakhand North West Uttar Pradesh Sikkim West Assam East Meghalaya West Gangetic West Bengal South Andhra Pradesh.

Upto **250** wm^{-2} was observed over Haryana Arunachal Pradesh Rest Assam West Meghalaya

Westerly Trough & Jet-Stream:

Trough in Westerlies runs roughly along Longitude 77.0E north of Latitude 25.0N.

No Jet Stream is observed over India.

Dynamic Features:

Low to Medium wind shear is observed over India.

Negative shear tendency is observed over Saurashtra and Positive shear tendency is observed over rest parts of India

A positive Vorticity field is observed over Saurashtra South Chhattisgarh Andhra Pradesh Odisha West Bengal .

Positive low level convergence is observed over Saurashtra South Chhattisgarh Andhra Pradesh Odisha West Bengal and Negative low level convergence observed over rest parts of India

Precipitation:

IMR:

Rainfall Up to **70** mm was observed over Sub Himalayan West Bengal adjoining East Assam North West Tamilnadu. Rainfall Up to **50** mm was observed over West Gangetic West Bengal adjoining Jharkhand South Interior Karnataka Kerala Rest Tamilnadu. Rainfall Up to **30** mm was observed over South West & Central Odisha. Rainfall Up to **10** mm was observed over J&K Himachal Pradesh North-West Uttar Pradesh North Haryana Rest Assam Nagaland.

HEM:.

Rainfall Up to **70** mm was observed over South Interior Karnataka Kerala North West Tamilnadu. Rainfall Up to **14** mm was observed over West J&K Himachal Pradesh West Uttarakhand South West & Central Odisha Sub Himalayan West Bengal Meghalaya.

Rainfall Up to **07** mm was observed over North Haryana West Gangetic West Bengal East Assam Nagaland Rest Tamilnadu North Interior South Andhra Pradesh

RADAR and RAPID Observation:

DWR Composite at 1230hrs IST indicated isolated moderate convection over extreme E Uttar Pradesh adjoining Bihar.

RAPID RGB Satellite imagery at 1200hrs IST indicated significant convective clouds Lakshadweep & Minicoy Islands and Nicobar Islands. It also indicated isolated weak convective clouds over E Uttar Pradesh adjoining Bihar, SE J & K, HP, Uttarakhand, E Rajasthan and S Assam.

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

Higher Dust concentration was observed over north-west Africa. Dust concentration is expected to increase over north-west India for next five days. High PM10 concentration was observed over Rajasthan and is expected to increase over north India in next five days.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

12UTC Charts of Day 0-4 show evolution of heat low over NW India and adjoining Pakistan with MSLP values lower than 992hPa on Day-2 to Day-4.

12UTC charts on days from Day0-4: show a zones of wind discontinuity at 925 hPa :(i) SW-NE extending from NIK-Maharashtra region to Jharkhand and WB region.

A CYCIR is seen over Arabian Sea: from Day-2 to Day-4 moving westwards. At 15N/56E on day-4 00UTC

A CYCIR is seen over Bay fo Bengal: from Day-2 to Day-4 moving northwards. At 15N/90E on Day-5 00UTC

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:

(Day/Index : Subdivisions with Lower Level Convergence > 15 x 10⁻⁵ /s):

Day0: Jharkhand, Odisha,

Day1: Assam Meghalaya, Jharkhand, Bihar, Odisha, Chhattisgarh, Telangana,

Day2: Assam Meghalaya, Jharkhand, Madhya Maharashtra, Chhattisgarh, TN Puducherry, NI Karnataka,

Day3: Jharkhand, Punjab, West MP, Chhattisgarh, NI Karnataka,

Day4: Hry Chd Delhi, Vidarbha, TN Puducherry

4. Low level Vorticity:-Positive Vorticity (>15 x 10⁻⁵/s):

(Day/Index : Subdivisions with Lower Level Vortex > 15 x 10⁻⁵ /s):

Day0: Arunachal Pradesh, Assam Meghalaya, Jharkhand,

Day1: Arunachal Pradesh, Assam Meghalaya, Telangana, TN Puducherry,

Day2: Arunachal Pradesh, Assam Meghalaya, Jharkhand, Saurashtra Kutch, TN Puducherry,

Day3: Arunachal Pradesh, Assam Meghalaya, Jharkhand, Uttarakhand, Himachal Pradesh, Chhattisgarh, TN Puducherry,

Day4: Assam Meghalaya, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, TN Puducherry, Kerala

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

(Day/Index : Subdivisions with Showalter Index < -4):

Day0: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

Day2: Arunachal Pradesh, Sub Himalayan WB, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

Day4: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Konkan Goa, Chhattisgarh, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

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

(Day/Index : Subdivisions with K Index > 40):

Day0: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Hry Chd Delhi, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

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

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

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

(Day/Index : Subdivision with Total Totals Index > 52):

Day0: Arunachal Pradesh, Sub Himalayan WB, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, Coastal Karnataka,

Day1: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Konkan Goa, Madhya Maharashtra, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day2: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Vidarbha, Chhattisgarh, Coastal AP, Telangana, TN Puducherry,

Day4: Arunachal Pradesh, Sub Himalayan WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Chhattisgarh, Coastal AP, Telangana, TN Puducherry, SI Karnataka

8. Rainfall and thunder storm activity:

(Day/Index : Subdivisions with Precipitation > 2 cm):

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

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jammu Kashmir, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Andaman Nicobar, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Andaman Nicobar, Kerala,

Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Uttarakhand, Andaman Nicobar, Kerala

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

1. Weather Systems:

00 UTC analysis shows an east west trough over UP, Bihar, Jharkhand and adjoining areas. The analysis also shows a trough at low level from this system passing through Odisha and North Andhra and extending up to TN. The N-S oriented trough from west UP and Bihar along north Odisha and thereby extending up to interior parts of Tamil Nadu is seen persisting during next 4 to 5 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 x 10⁻¹/s):

Analysis shows low level positive vorticity (>12 x 10⁻⁵/s) mainly over Interior Odisha, and Chhattisgarh regions. The high vorticity belts are mainly confined over regions of Odisha, Chhattisgarh region along with few pockets in AP and Karnataka during next 3 days.

4. Spatial distribution of T-Storm Initiation Index, Lifted Index, Total Total Index, CAPE, CINE and Sweat Index (High potential for thunderstorm):

T-Storm Initiation Index (> 4): Significant threshold values are noticed over GWB, Odisha, and over major regions bordering the east coast and also few regions in Gujarat in the analysis. Forecast shows high threshold values over west coast of India mainly over the Gujarat and Maharashtra coast and regions over Odisha, GWB, coastal AP and TN for the next 3 days.

Lifted Index (< -2): The areas with index less than -2 lies along east UP, Bihar, Chhattisgarh, GWB and major regions of AP and TN along with major regions along the west coast for the next 3 days.

Sweat Index (> 400): 00UTC shows significant values over major parts over Bihar, GWB, Odisha, Coastal AP, TN and over major regions bordering the west coast of the country and is expected to persist for the next 3 days.

CAPE (> 1000): Mostly along east coast of India, Bihar, GWB, Odisha, and AP and along major regions bordering the west coast during the next 3 days.

CIN (50-150): Maximum CIN values are found in areas over GWB, Odisha, AP and TN along with major pockets in the Gujarat region for the next 2-3 days.

5. Rainfall and thunderstorm activity:

10-40 mm rainfall is forecasted tomorrow over isolated pockets in the north east states and in the Kerala region along with WB region and is expected to persist for the next 5 days.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

A shear zone runs roughly along altitude 10.0°N at 3.1 km above mean sea level. Together with the embedded vortices, this feature will cause thunderstorm with gusty winds to develop over Kerala, Interior Tamil Nadu, Coastal and South Interior Karnataka on day 1 and day 2. Heavy rain is likely over Kerala on day1 and day2 in association with these systems. The heavy rainfall belt will extend to South Interior Karnataka on day 2.

The Western Disturbance as an upper air cyclonic circulation over Jammu & Kashmir and adjoining Pakistan now lies over Jammu & Kashmir & neighbourhood between 3.6 km & 5.8 km, with a trough aloft runs roughly along Long. 74.0° E and north of Lat. 30.0° N. In association with the movement of the system towards north-east, thundersquall with hail is expected over Uttarakhand on day1 and thundersquall over Himachal Pradesh on day 1 and day 2. Uttarakhand will experience thunderstorm with on day 2 also, but of lesser severity.

The induced upper air cyclonic circulation over Punjab & neighbourhood between 1.5 and 2.1 Km above mean sea level persists. Also, the upper air cyclonic circulation over southwest Rajasthan & adjoining south Pakistan extending upto 2.1 Km above mean sea level persists. However, the upper level features are not supporting for the development of severe weather over the regions in the next 48 hours.

The upper air cyclonic circulation over north Chhattisgarh & neighbourhood extending upto 0.9 km above mean sea level is persisting over the same region today. The trough from this system to north coastal Andhra Pradesh across interior Odisha extending upto 0.9 Km above mean sea level is also persisting. The upper level divergence to the east of the system is favourable for development thundersquall over Gangetic West Bengal, Jharkhand, Bihar and Orissa on day1. The thunderstorms will develop over the region on day 2 also, however, they will be associated only with gusty winds.

The low level convergence of the moist air over north eastern states is expected to cause thundersquall over Assam& Meghalaya on day1 and over Assam& Meghalaya and NMMT on day2.

24 hour Advisory for IOP:

Himachal Pradesh, Uttarakhand,
Kerala, South Interior Karnataka, Coastal Karnataka, Interior Tamilnadu,
Orissa, Bihar and Jharkhand
Sub Himalayan West Bengal, Gangetic West Bengal, Assam& Meghalaya

48 hour Advisory for IOP:

Himachal Pradesh, Uttarakhand,
Kerala, South Interior Karnataka, Coastal Karnataka, Interior Tamilnadu
Jharkhand, Orissa
Sub Himalayan West Bengal, Himachal Pradesh, Assam& Meghalaya, NMMT

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

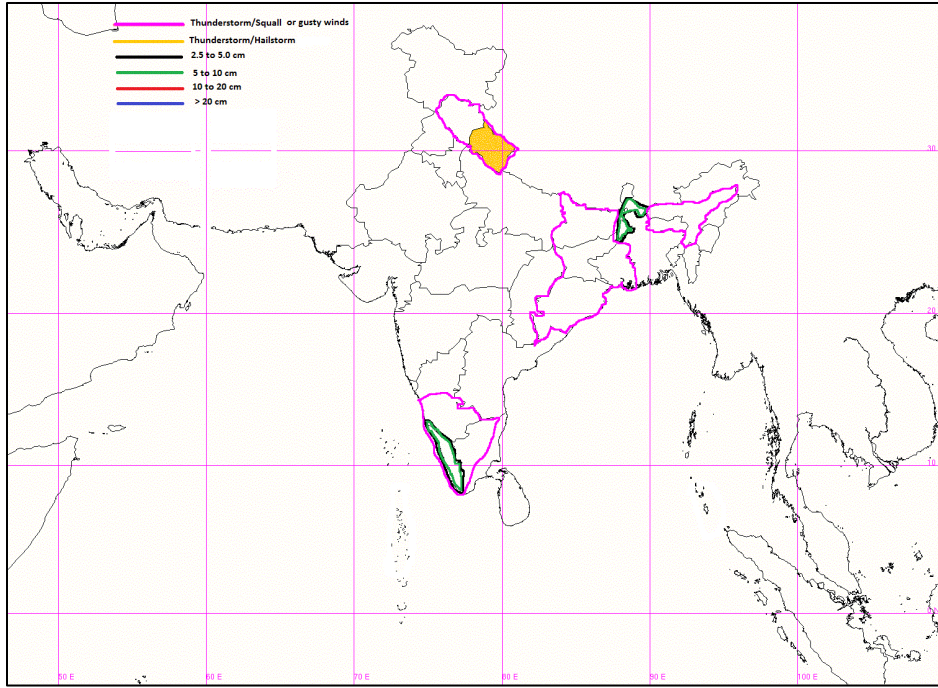
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ForRadarimagesofthepast24hoursincludingmosaicofimages:

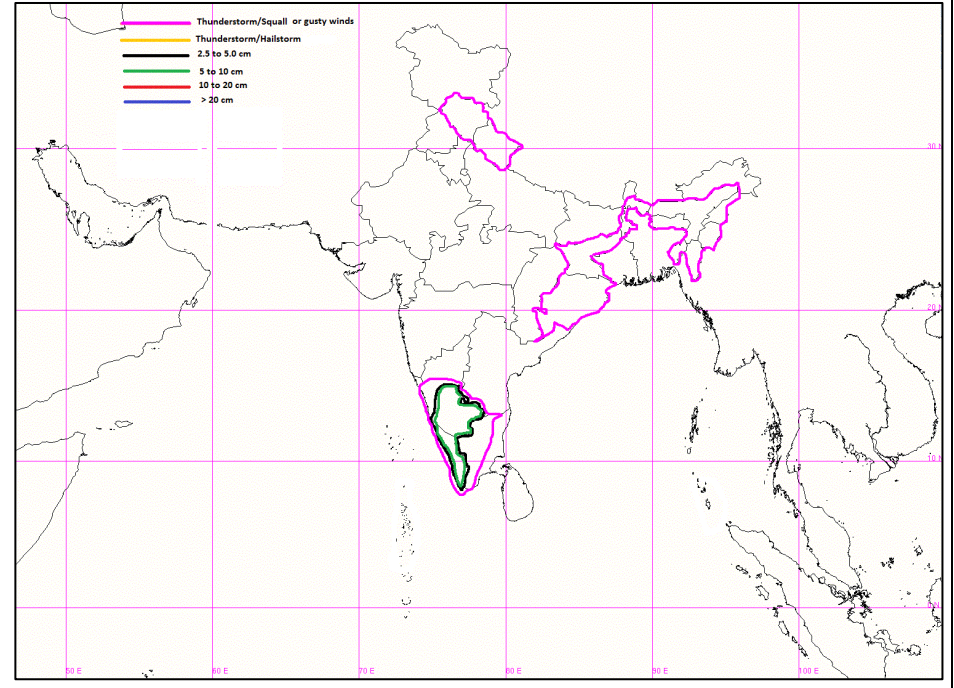
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Satellite sounder based T- Phigram

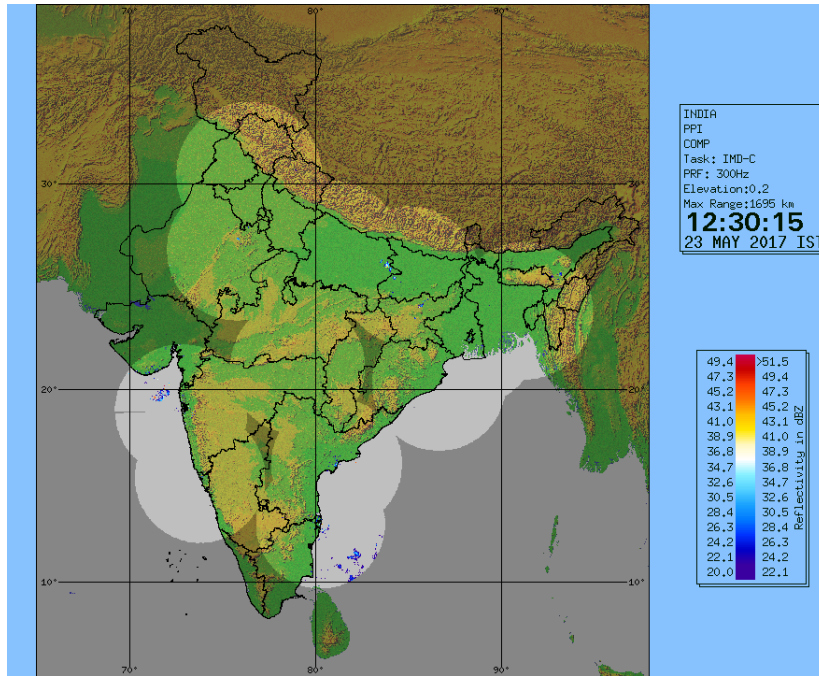
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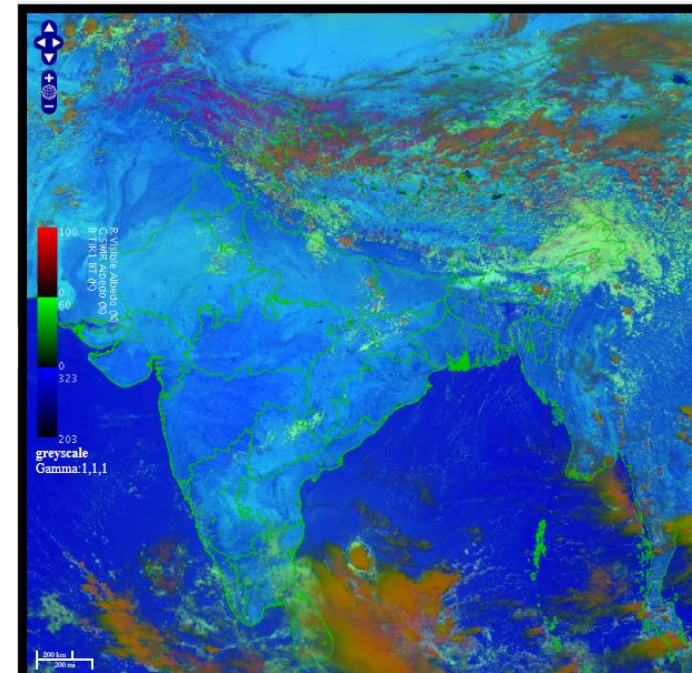
IOP Advisory for 24 hours



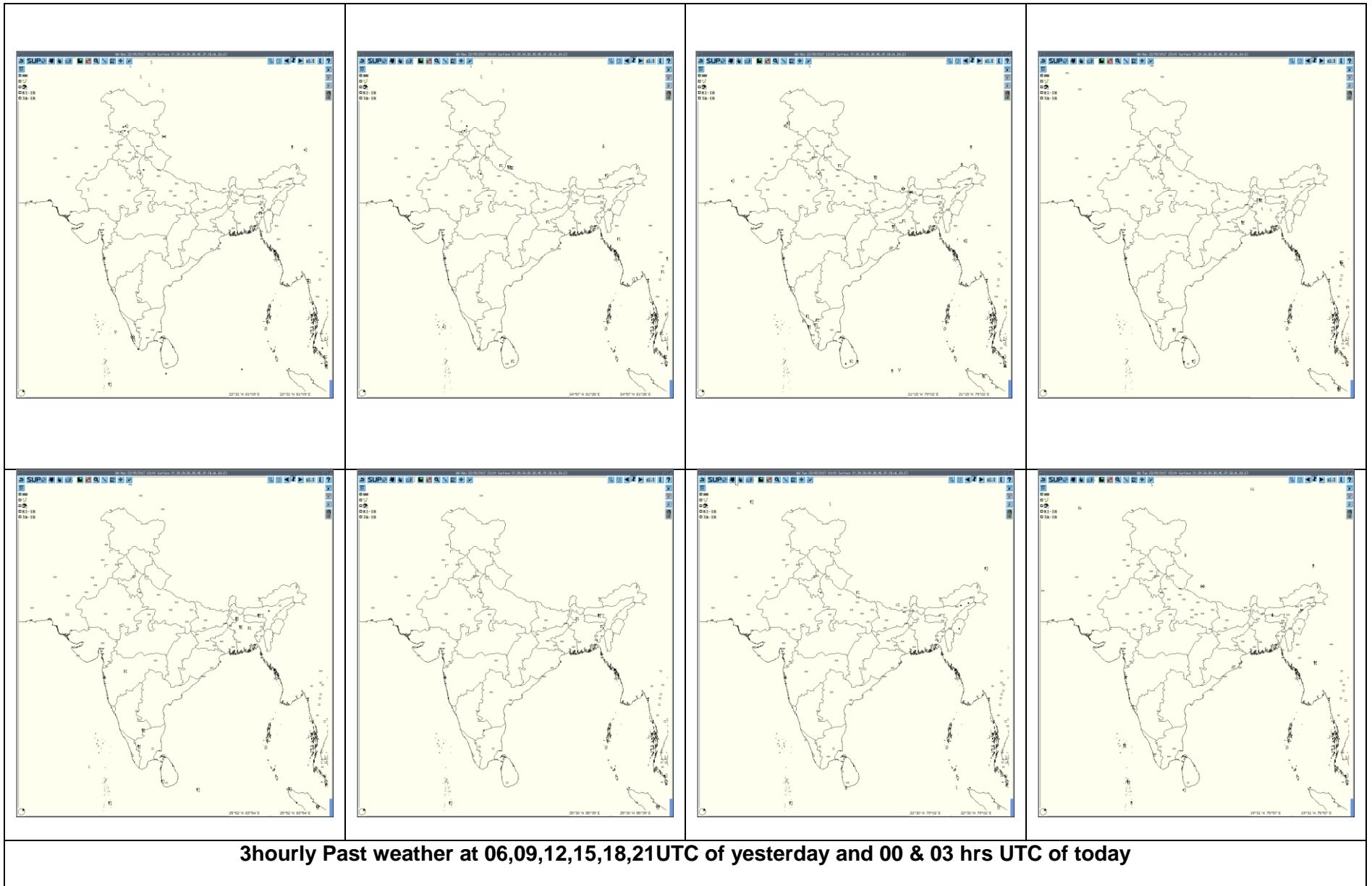
IOP Advisory for 48 hours

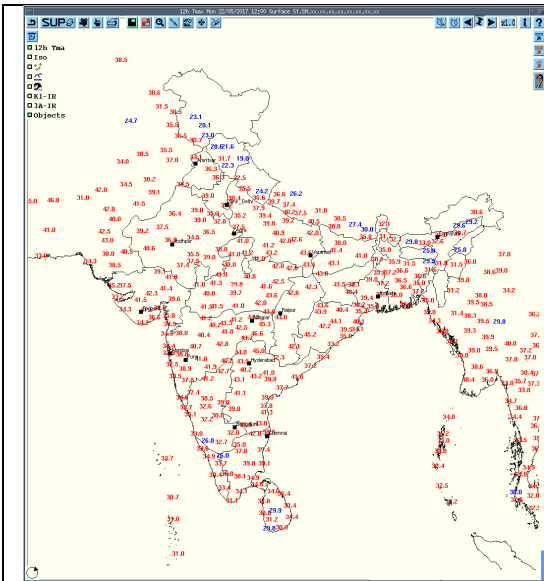


DWR Composite at 1230 hrs IST

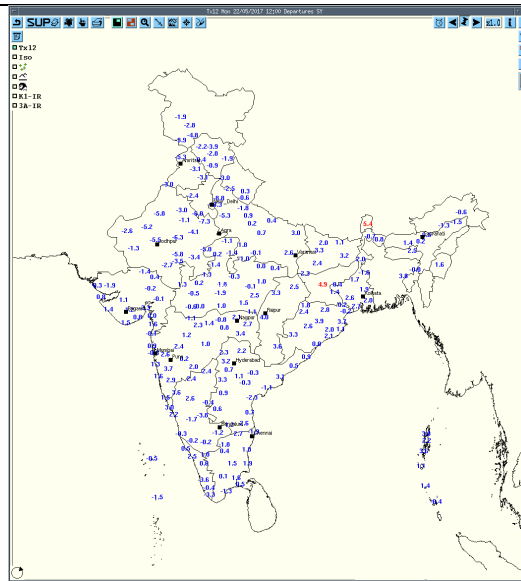


RAPID RGB Satellite Imagery at 1200 hrs IST of today

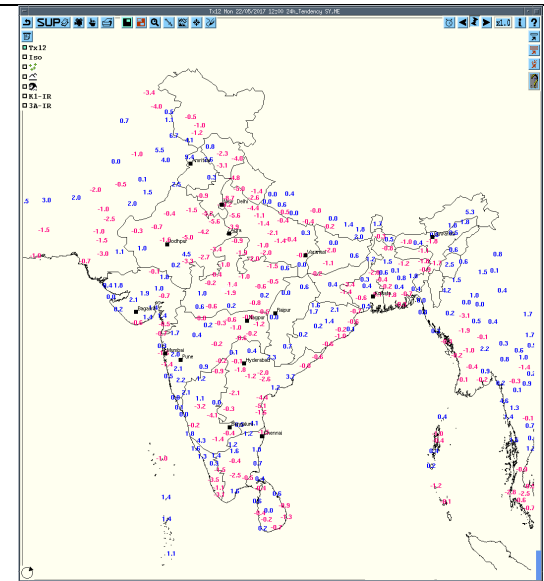




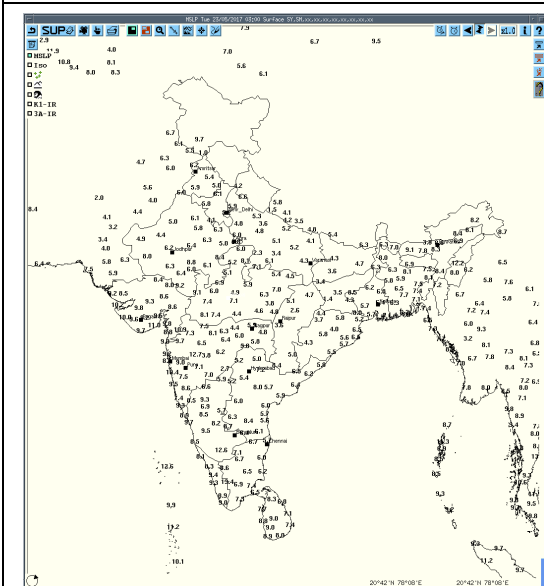
Tmax



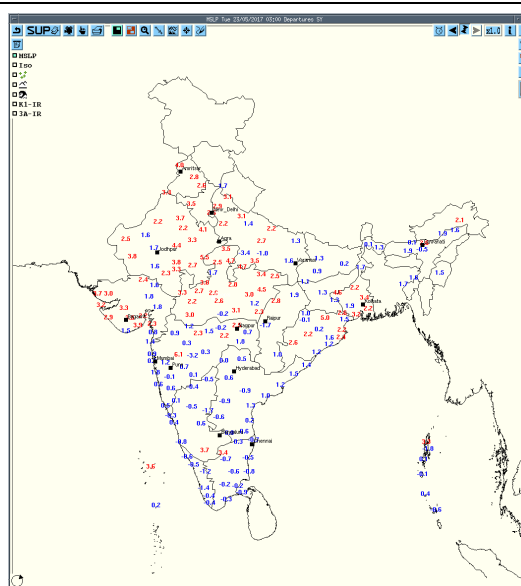
Departure Tmax



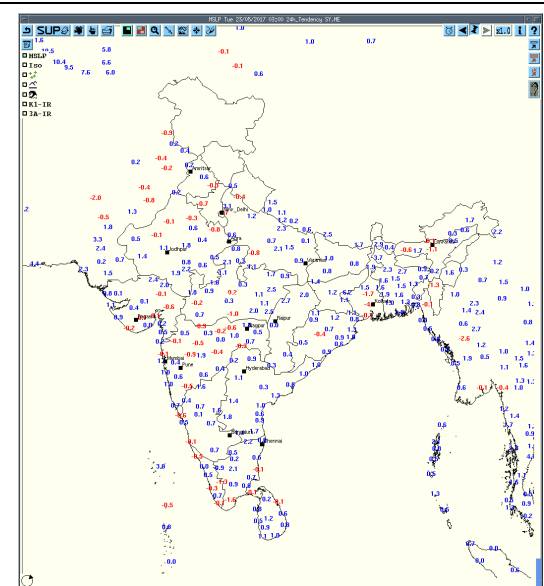
Tendency Tmax



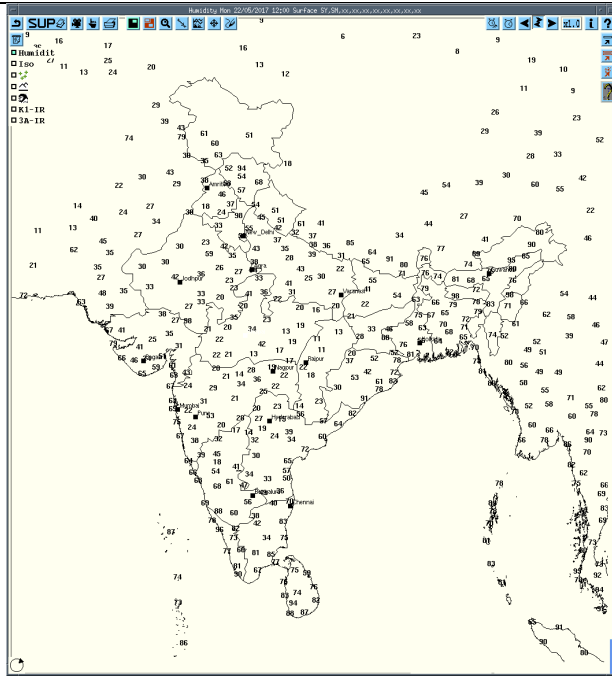
MSLP



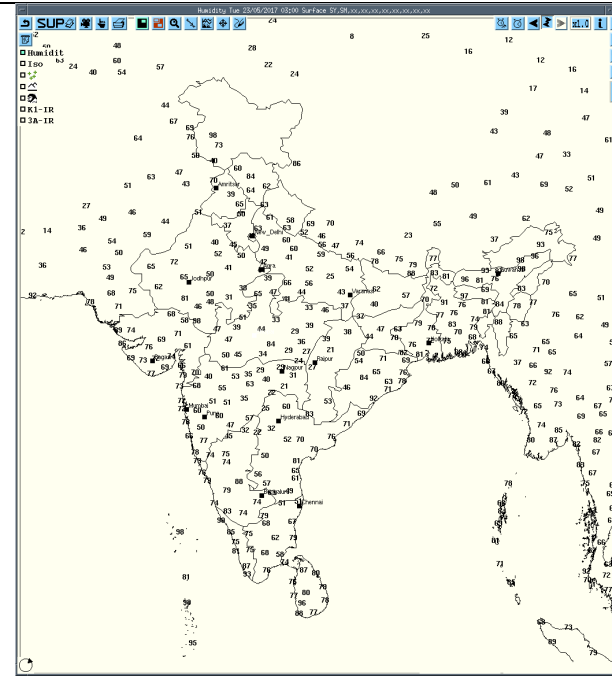
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

Realised past 24hrs TS/SQ/HS Data (reported at 0300UTC of the day):

Realized weather past 24hours (Based on SYNERGIE Products)					
Date	Time of Reporting	Name of Station Reporting	Region	STATE	Weather Event
21-05-17	0600UTC	Alappuzha	S India	Kerala	Thunderstorm
22-05-17	0900UTC	Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Ranchi	E India	Jharkhand	Thunderstorm
22-05-17	1200UTC	Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Jamshedpur	E India	Jharkhand	Thunderstorm
		Panagarh	E India	West Bengal	Thunderstorm
		Madikeri, Chamarajanagar	S India	Karnataka	Thunderstorm
		Kannur, Karipur, Kozhikode	S India	Kerala	Thunderstorm
		Coonoor	S India	Tamilnadu	Thunderstorm
22-05-17	1500UTC	Tiruchirappalli	S India	Tamilnadu	Thunderstorm
		Coimbatore	S India	Tamilnadu	Lightening
		Bengaluru	S India	Karnataka	Lightening
		Sundernagar	NW India	Himachal Pradesh	Thunderstorm
		Bankura	E India	West Bengal	Thunderstorm
		Malda	E India	West Bengal	Lightening
		Ahmedabad	W India	Gujarat	Lightening
22-05-17	1800UTC	Guwahati	NE India	Assam	Thunderstorm
		Malda	E India	West Bengal	Lightening
		Aurangabad	W India	Maharashtra	Thunderstorm
		Bengaluru (City & HAL)	S India	Karnataka	Thunderstorm
		Coimbatore	S India	Tamilnadu	Thunderstorm
22-05-17	2100UTC	Guwahati	NE India	Assam	Thunderstorm
23-05-17	0000UTC	Aminidivi	S India	Andaman & Nicobar Islands	Lightening
23-05-17	0300 UTC	Aminidivi	S India	Andaman & Nicobar Islands	Thunderstorm

Past 24 hours DWR Report:

Radar Station name	Date of Reporting	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Jaipur	23-05-17	230132-230302	Single cells with average height of 5.5 km maximum reflectivity 40 dBZ	Single Cell develop 0132(23/05/17) to 0302 UTC towards North West of Jaipur and movement towards South East East at speed 45-50 km/hr.	Cell continuous forming from 0132 UTC North West of Jaipur and maximum relectivity during 0212UTC and died down at 0302 UTC		Churu
Lucknow	23-05-17	220722-220822	Single cells with average height of 4.5 KM. Echo tops:4.0 KM with Maximum Reflectivity of 34 dBZ	W(100KM) From LKN Radar and moving in NNE'ly direction at speed of 43 km/hr	Single cell started forming at W(100KM) from LKN Radar at 0712 UTC did not intensified and dissipated at 0832 UTC at NW(80KM) from LKN Radar.	-	-
		230102-230300	Single cells with average height of 5 KM. Echo tops:4.5 KM with Maximum Reflectivity of 36 dBZ	WNW(70KM) From LKN Radar and moving in NNE'ly direction at speed of 22 km/hr	Single cell started forming at WNW(75KM) from LKN Radar at 0052 UTC did not intensified and dissipated at 0300 UTC at NNW(80KM) from LKN Radar.	-	-
Nagpur	23-05-17	220932-230152	Multiple coming from SW	250 km in SW-dir moving E-ly	Max Z=45 ht of cloud=2.5-5.8km	Thunderstorm warning started at 1152 till 1222 in sw-dir 150 km away from Radar.	Isolated places of Distt. Yeotmal, Pusad, Hingoli, Chandrapur and Adilabad.
		230002-230252	Nil				

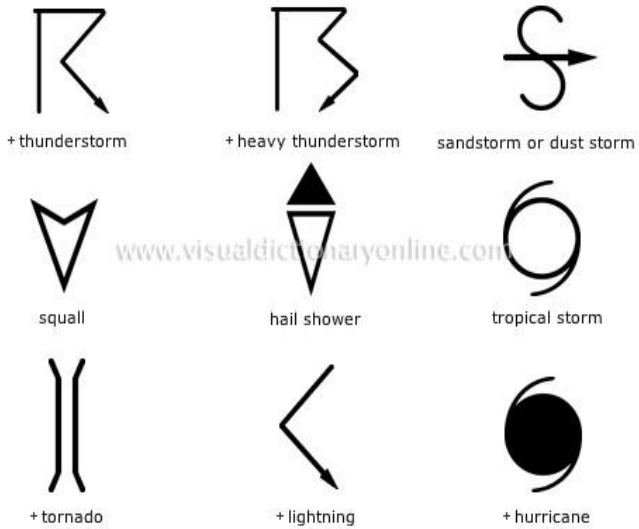
Patna	23-05-17	220300 - 221210	NIL	NIL	NIL	N/A	N/A
		221210 - 221310	Single Cell. Maximum Reflectivity : 48.0 dBZ Echo Top : 9 KM	Range: 56 km SOUTH from DWR Patna Movement- EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	Thunderstorm with Rain and gusty wind.	JAHANABAD, NALANDA AND NAWADA
		221310 - 230300	NIL	NIL	NIL	N/A	N/A
Patiala	23-05-17	220300- 220600	NO SIGNIFICANT ECHO	-----,	-----	-----	-----
		220600- 220900	NO SIGNIFICANT ECHO	-----,	-----	-----	-----
		220900- 221200	Multiple cells Max= 59.0 dBz Ht.= 09-14 km	Formation in NE AND NORTH sector. MOVEMENT NORTH- WARDS.	-----	TS/RA	LUDHIANA,PHILL OUR, NAWANSHAR,NA NGAL, HAMIRPUR
		221200- 221500	Single cells Max= 50.5 dBz Ht.= 08 - 09 km	Formation in SSE sector. MOVEMENT SE- WARDS.	-----	TS/RA	HISAR
		221500- 221800	NO SIGNIFICANT	-----	-----	-----	
		221800- 222100	NO SIGNIFICANT ECHO	-----	-----	-----	-----
		222100- 230300	NO SIGNIFICANT ECHO	-----	-----	-----	-
		230000- 230252	NO SIGNIFICANT ECHO	-----	-----	-----	-

Srinagar	23-05-17	220300-230300	<p>1. Isolated single cell developed at 0320 utc with max. reflectivity 45-50 dbz and average height 6Km</p> <p>2. Multiple cell developed in SW- direction at 0850 utc with max. reflectivity 55-60 dbz and average height 6km. and afterwards transformed into all direction with max. reflectivity 40-45 dbz and average height 6km</p>	<p>1. Stationary Single cell developed at S- direction and dissipated at 0500 utc</p> <p>2. Multiple cells developed in SW direction and transformed into all direction till 0300 utc</p>	-----	Thunderstorm reported Pahalgam;Kukernag	ALL DISTRICT AFFECTED WITH LIGHT RAIN
Machilipatnam	23-05-17	220851-221211	Multiple cells average height of 11 km with maximum reflectivity of 66 dBZ	NE (244km) and moving SW ly direction and dissipating at NE (165km) with average speed of 13 kmph	Cell started forming at 0851UTC, at NE (244km) from Radar the maximum reflectivity during 0851 to 1201 UTC and died down at 1211UTC	Possibility of Thunder storm with Hail and rain with moderate winds.	Visakhapatnam and East Godavari Districts
		220821-220901	Isolated single cell average height of 9 km with maximum reflectivity of 50.5 dBZ	W (237km) stationary	Cell started forming at 0821UTC, at W (237km) from Radar the maximum reflectivity during 0821 to 0851 UTC and died down at 0901UTC	Possibility of Thunder storm and rain with light winds	Kurnool District
Agartala	23-05-17	220300 - 220910	Multiple cells formed one after another with Maximum Height 15 km and maximum reflectivity 52 dBZ at 0630UTC,formed two distinct squall line 40KM apart over Assam	Formed 350 km NW of DWR and moved SE-wards at around 45 kmph	Cells dissipated at 0910 UTC over E Assam	N/A	N/A

	220300 - 220500	Multiple cells with Maximum Height 10 km and maximum reflectivity 43 dBZ	Formed 220 km NW of DWR and moved SE-wards at around 20 kmph	Cells dissipated at 0500 UTC over Mizoram	N/A	N/A
	220440 - 221140	Multiple cells with Maximum Height 15 km and maximum reflectivity 55 dBZ at 0610UTC	Formed 100 km NW of DWR and moved SE-wards at around 15 kmph	Cells dissipated at 1140 UTC over Mizoram	TS with rain at	Mamit dist of Mizoram, Dhalai & North dist. Of Tripura
	221140 - 222310	Multiple cells formed one after another with Maximum Height 15 km and maximum reflectivity 51 dBZ formed squall line at 1540UTC	Formed 360 km NW of DWR and moved SE-wards at around 50 kmph	Cells dissipated at 2310 UTC over E-Assam	N/A	N/A
	221300 - 221800	Multiple cells with Maximum Height 12 km and maximum reflectivity 44 dBZ at 1540UTC	Formed 460 km NW of DWR and moved SE-wards at around 15 kmph	Cells dissipated at 1800 UTC over Balurghat of WB	N/A	N/A
Paradeep	220300- 221200	Isolated single cells seen developing in the NW sector of Radar with av. Height of 9 kms and maximum height exceeding 14 kms, average reflectivity value of 30 dBZ and highest reflectivity value of 53 dBZ.	Formed in the NW sector of RADAR in the range of 265-300 degrees and at distance of 200 kms. Direction of movement is Ely.	Cells merging in later stages to form a weak squall line kind of structure but are not properly connected.	TS with Rain. Hailstorms also expected.	Nayagarh, Cuttack, Khorda, Dhenkanal and Puri.
	221200- 222200	Isolated single cells seen developing in the W sector of Radar with av. Height of 7 kms and maximum height of 12 kms, average reflectivity value of 30 dBZ and highest reflectivity value of 44 dBZ.	Formed in the N-NW sector of RADAR in the range of 335-5 degrees (CLOCKWISE) and at distance of 200 kms. Direction of movement is Ely.		TS	Mayurbhanj, Keonjhar, Bhadrak and Baleshwar.

Bhuj	23-05-17	220130-221230	Isolated two cell (1) 3 Km to 15 Km Ht. with 56 dBz Max.Z (2) 3 Km to 10 Km Ht. with 53 dBz Max.Z	(1) 175 KM SE move towards SE. (2) 190 KM E move towards E.	-	TS or TSRA	(1) Rajkot (2) Ahmedabad
Kolkata	23-05-17	220301-220731	NIL	NIL	NO ECHO	NIL	NIL
		220741-220801	NIL	NIL	NO ECHO	NIL	NIL
		220811-221131	Multiple cells from cell at a position 24.016N / 86.622 E/ 312.6 Degree /239 km to 24.145N / 86.897 E/ 319.9 Degree /229.7 km away from Radar with maximum reflectivity of 58.0 dBz at 0941 UTC and maximum height of 11.56 Km at 0941UTC	NW (229.7 km to 239Km) to moving in ESE-ly direction at a speed of 24 kmph	Multiple cells formed in NW at a distance of 229.7 km to 239km km from Radar at 0811 UTC . Matured, dissipated in NNW at 1131 UTC at a distance of 162.0 km from radar	Hailstorm/Thunderstorm / Rain	N/A
		221001-221841	ii) Multiple cells from a position 22.801 N/ 85.973 E/ 276.5 Degree/ 245.5 km to 23.307 N/ 86.072 E/ 289.8 Degree/ 247.5 km away from radar and transformed into big cells with maximum reflectivity of 68.5 dBz at 1051 UTC and maximum height of 19.38 Km at 1041 UTC	ii. W (245.5 km) to WNW (247.5km) moving in ESE-ly/ SE-ly direction at a speed of 40 kmph	ii). Multiple cells formed in W to WNW at a distance of 245.5 km W to 247.5 KM WNW from Radar at 1021 UTC. Matured, dissipated in W at 1841 UTC at a distance of 9.3 km from radar	Hailstorm/Thunderstorm /Squall/ Rain	N/A

		221851- 222351	NIL	NIL	NO ECHO	NIL	NIL
		230001- 230301	NIL	NIL	NO SIG ECHO	NIL	NIL
Karaikal	23-05-17	220300- 230300	--	--	DWR U/S	--	--



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