



India Meteorological Department
FDP STORM Bulletin No.107 (20-06-2017)

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

The Northern Limit of Monsoon (NLM) continues to pass through Lat. 20.5°N / Long. 60.0°E, Lat. 20.5°N / Long. 70.0°E, Valsad, Nasik, Buldana, Yeotmal, Kanker, Jharsuguda, Jamshedpur, Bhagalpur and Lat. 27.0°N / Long. 86.0°E.

Favourable conditions are developing for further advance of southwest monsoon into some more parts of Chhattisgarh, Vidarbha, remaining parts of Odisha, Jharkhand, Bihar, some parts of East Madhya Pradesh and East Uttar Pradesh during next 48 hours.

The trough at mean sea level from northwest Rajasthan to northeast Bay of Bengal, now runs from northwest Rajasthan to northwest Bay of Bengal across Haryana, Uttar Pradesh, Bihar, Jharkhand & Gangetic West Bengal and extends upto 0.9 km above mean sea level with an embedded upper air cyclonic circulation over central parts of Uttar Pradesh extending upto 0.9 km above mean sea level.

The western disturbance as an upper air cyclonic circulation over north Pakistan & neighbourhood, now seen as a trough in mid & upper tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Longitude 71.0°E and north of Latitude 32.0°N.

The upper air cyclonic circulation over Sub-Himalayan West Bengal & Sikkim and neighbourhood now lies over northern parts of Bangladesh & neighbourhood at 1.5 km above mean sea level.

The north-south trough from eastern Bihar to north Bay of Bengal now runs from Sub-Himalayan West Bengal to north Bay of Bengal between 2.1 & 3.1 km above mean sea level.

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

A feeble off-shore trough at mean sea level runs off Karnataka-Kerala Coast.

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

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

Convective Activity:

Cell No	Date/time (UTC)	Location/Area	MIN CTT (-DEG C)	Movement	Remarks
7	20/0900	EXT EC RAJ	72		Developing
8	20/0900	NC MP	81		Developing

Cloud Description:

Broken low/medium clouds with intense to very intense convection were seen over EC Rajasthan, NC Madhya Pradesh and extreme SE Vidarbha. Scattered low/medium clouds with embedded intense to very intense convection were seen over N Jharkhand, adjoining Bihar, S Chhattisgarh, S Odisha, N Coastal Andhra Pradesh, and E Telangana. Broken low/medium clouds with embedded moderate to intense convection were seen over rest E Madhya Pradesh. Scattered low/medium clouds with embedded moderate to intense convection were seen over rest Odisha, S Gangetic West Bengal, SE Jharkhand and rest Andhra Pradesh. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over E Uttar Pradesh and rest parts of East and South India. Scattered low/medium clouds were seen over rest parts of North and West India.

Arabian Sea:

Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over SE Arabian Sea.

Bay of Bengal & Andaman Sea:

Broken low/medium clouds with embedded intense to very intense convection seen over N & WC Bay. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over rest Bay and Andaman Sea.

Past Weather:**Precipitation:****IMR:**

Rainfall Up to **150** mm was observed over North East Jharkhand South East Bihar Gangetic West Bengal.

Rainfall Up to **110** mm was observed over North West Bihar.

Rainfall Up to **90** mm was observed over Telangana

Rainfall Up to **70** mm was observed over Rest Bihar North East Odisha Meghalaya Tripura
Tripura Meghalaya Sub Himalayan West Bengal West Assam.

Rainfall Up to **50** mm was observed over Punjab North Tamilnadu

East Bihar South Jharkhand Gangetic West Bengal North Interior Karnataka.

Rainfall Up to **30** mm was observed over North Haryana South Uttarakhand

Rainfall Up to **20** mm was observed over South West J&K Sub Himalayan West Bengal .

Rainfall Up to **10** mm was observed over Rest J&K Himachal Pradesh Rest Haryana Delhi Rest Uttarakhand Uttar Pradesh Extreme
East Rajasthan North Madhya Pradesh South Marathwara Konkan & Goa Chhattisgarh Rest Odisha Sikkim Rest North East States
Karnataka Andhra Pradesh

Rest Tamilnadu Kerala .

HEM:.

Rainfall Up to **208** mm was observed over South West Bengal

Rainfall Up to **70** mm was observed over South West J&K South Uttarakhand South Konkan East Bihar East Jharkhand Rest West
Bengal Kerala North Tamilnadu

Rainfall Up to **14** mm was observed over Punjab North Haryana Meghalaya Manipur Tripura Karnataka.

West Bengal Rest North-East States South Chhattisgarh Andhra Pradesh.

Rainfall Up to **07** mm was observed over Himachal Pradesh Rest Uttarakhand North West Uttar Pradesh Delhi Rest Haryana
Extreme East Rajasthan North Madhya Pradesh South Marathwara Chhattisgarh Rest Bihar Rest Jharkhand Odisha Rest North
East States Telangana Andhra Pradesh Rest Tamilnadu.

RADAR and RAPID Observation:

DWR composite at 1640hrs IST indicated significant convection over S Chhattisgarh adjoining Telangana, N Coastal Andhra Pradesh, N Madhya Pradesh, E Uttar Pradesh and NE Rajasthan.

RAPID RGB Satellite imagery at 1600hrs IST indicated significant convective clouds over N Madhya Pradesh adjoining S Uttar Pradesh, Jharkhand adjoining S Bihar, Odisha, N Coastal Andhra Pradesh, S Chhattisgarh adjoining Vidarbha, adjoining Telangana, J & K, Himachal Pradesh and Uttarakhand.

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

Higher Dust concentration was observed over north Africa and northern part of India. Dust concentration is expected to decrease over north India for next five days. High PM10 concentration was observed over western and northern part of the country and Pakistan, it is expected to decrease over north India and IGP in the 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 heat low over south Pakistan and adjoining Rajasthan with MSLP values lower than 990hPa.

00 UTC Charts of Day 1-4 show a trough at mean sea level from North Rajasthan/Punjab to West Bengal/Bangladesh across Uttar Pradesh, Bihar, Jharkhand

12UTC charts of Day 0-3: show a zone of wind discontinuity at 925 hPa; SW-NE over Jharkhand and Bihar

00UTC charts of Day 1-3: Western Disturbance as a trough at 500 hPa over North Pakistan, J &K is moving eastward and gets deeper to reach Punjab and HP in Day 3.

00UTC charts of Day 1: A trough at 850 hPa from Bihar to Odisha coast. Trough is seen in Day 2-5 from Bihar to off WB/Odisha coast. Associate CYCIR in Day 4-5 over east Bihar.

00UTC charts of Day 1-2 show a trough over south west Rajasthan and associated CYCIR over adjoining Pakistan. It is seen to reach NW Gujarat in day 4-5

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: Assam Meghalaya, West RJ, East RJ,

Day1: Assam Meghalaya,

Day2: East RJ, Kerala,

Day3: Nill

Day4: Nill

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

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

Day0: Bihar, TN Puducherry,

Day1: Bihar, TN Puducherry,

Day2: Assam Meghalaya, Saurashtra Kutch, TN Puducherry, Kerala,

Day3: TN Puducherry,

Day4: TN Puducherry, Kerala

5. Showalter Index: -3 to -4[Very unstable]: (Day/Index: Subdivisions with Showalter Index < -4):

Day0: Arunachal Pradesh, 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, East MP, Guj Reg, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana,

Day1: Arunachal Pradesh, 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, East MP, Guj Reg, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana,

Day2: Arunachal Pradesh, 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, East MP, Guj Reg, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana,

Day3: Arunachal Pradesh, 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, East MP, Guj Reg, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, NI Karnataka,

Day4: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, West MP, East MP, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, NI Karnataka

6. K-Index :-> 35[Very Unstable thunderstorm likely]: (Day/Index: Subdivisions 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, East MP, Guj Reg, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana,

Day1: 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, East MP, Guj Reg, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Rayalseema, TN Puducherry,

Day2: 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, East MP, Guj Reg, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, TN Puducherry,

Day3: Arunachal Pradesh, 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, West MP, East MP, Guj Reg, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalseema, TN Puducherry, NI Karnataka,

Day4: 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, East MP, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalseema, NI 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, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, Guj Reg, Saurashtra Kutch,

Day1: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Guj Reg, Saurashtra Kutch,

Day2: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, Guj Reg, Saurashtra Kutch,

Day3: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Guj Reg, Saurashtra Kutch,

Day4: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir

8. Rainfall and thunder storm activity: (Day/Index: Subdivisions with Precipitation > 2 cm):

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar, Uttarakhand, Punjab, Jammu Kashmir, Odisha, Guj Reg, Konkan Goa, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, West UP, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, Konkan Goa, Madhya Maharashtra, Andaman Nicobar, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, East UP, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Konkan Goa, Madhya Maharashtra, Andaman Nicobar, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Hry Chd Delhi, Himachal Pradesh, Odisha, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Andaman Nicobar, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

****Rainfall >16 cm/day over North east part of Bangladesh in day 2-3**

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

1. Weather Systems:

The model analysis shows a trough from Punjab to GWB running parallel to foothills of Himalayas which persists over the region till day 5. A north-south trough is seen from SHWB extending up to Bay of Bengal with an embedded cyclonic circulation over SHWB and adjoining areas. The trough persists for next 5 days and cyclonic circulation shifted southward along the trough. The wind analysis at 500 hPa show a cyclonic circulation over J&K and adjoining areas which become trough in day 1 and remain over the region till day 2 and again become cyclonic circulation in day 3 over Delhi and adjoining region.

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

No presence of jet core over the Indian region.

3. Low level Vorticity:-Positive Vorticity 850hPa (>12 x 10⁻¹/s):

Mostly along the trough parallel to foot hill of Himalaya. Prominent vorticity zones are found in the morning hours along north-south trough over east India during next 5 days.

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

T-Storm Initiation Index (> 4): Above threshold values are mostly over western part of Rajasthan and adjoining Gujarat, isolated pockets of Bihar, GWB and Odisha Coast during next 5 days.

Lifted Index (< -2): Less than threshold value over most parts of the country except J&K, HP, Uttarakhand, UP, parts of central India, NE states and over major parts of the south peninsula during next 5 days.

Total-Total Index (> 50) : Above threshold value over some parts of NW India covering Punjab, Haryana, Delhi and west UP.

Sweat Index (> 300): Higher than threshold value almost all over the country except parts of NW India and isolated pockets over Delhi, UP, Bihar, MP and isolated pockets in the South peninsula.

CAPE (> 1000): Mostly western India, GWB, Bihar, isolated pockets of Odisha, Jharkhand and regions bordering the east coast of the county.

CIN (>150): Consistently over Gujarat and adjoining Rajasthan and over isolated pockets over Maharashtra, coastal region of Bay of Bengal.

5. Rainfall and thunderstorm activity:

40-70 mm rainfall and more over SHWB, NE states, GWB, Konkan coast, Vidarbha and along the foothills of the Himalayas over Bihar till day 2. Over Haryana and adjoining areas during day 2. Over coastal Orissa and Andhra Pradesh in during day 3-4.

20-70 mm rainfall over some pockets of central India over Madhya Pradesh, Madhya Maharashtra, Chhattisgarh, and Telangana during the next 5 days.

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

1. Model Reflectivity (Max.dBz):

15-40 dBz model reflectivity over SHWB and regions of NE states and along the foothills of the Himalayas, Konkan and Goa and adjoining areas along west coast for the next 2 days.

15-35 dBZ Model reflectivities over coastal AP and Odisha and some pockets of the South peninsula in day 1. Over some parts north-west India over Haryana, Delhi and adjoining north Rajasthan and west UP.

2. Spatial distribution of Total Total Index, K-Index, CAPE and CIN [High potential for thunderstorm]

Total-Total Index (> 50) : Above threshold value over northwest India and extending over central and east parts of India during evening hours.

CAPE (> 1000): Mostly along east coast of India, over eastern parts of India, extending along trough over Gangetic Plains Over North-west India mainly over western part of Rajasthan and Gujarat during next 2 days.

CIN (50-150): Over western parts of India including Rajasthan and Gujarat.

3. Rainfall and thunderstorm activity:

70-130 mm and more over SHWB, and NE states and west coast of India for the next 72 hours.

20-70 mm along foothills of the Himalayas, Punjab, Haryana, Delhi, adjoining Rajasthan, UP and north MP for the next 2 days.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

Presently, the western disturbance as an upper air cyclonic circulation now seen as a trough in mid & upper tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Longitude 71.0°E and north of Latitude 32.0°N. This will give rise to widespread rainfall activities including hailstorm over Northern parts of the country on Day-1 and Day-2.

The upper air cyclonic circulation over Sub-Himalayan West Bengal & Sikkim and neighbourhood now lies over northern parts of Bangladesh & neighbourhood at 1.5 km above mean sea level and the north-south trough from eastern Bihar to north Bay of Bengal now runs from Sub-Himalayan West Bengal to north Bay of Bengal between 2.1 & 3.1 km above mean sea level. Due to this system, SHWB, GWB, Sikkim and Assam, Meghalaya may experience very heavy rainfall on Day-1 and Day2.

The trough at mean sea level runs from northwest Rajasthan to northwest Bay of Bengal across Haryana, Uttar Pradesh, Bihar, Jharkhand & Gangetic West Bengal and extends upto 0.9 km above mean sea level with an embedded upper air cyclonic circulation over central parts of Uttar Pradesh extending upto 0.9 km above mean sea level. This will give rise to Thunderstorm with Gusty winds and isolated rainfall over Bihar, Jharkhand, Uttar Pradesh and Chhattisgarh on Day-1. Associated rainfall is likely to remain heavy in isolated pockets of south Konkan coast on day 1 and day 2.

24 hour Advisory for IOP:

Rainfall:

Assam, Meghalaya, Arunachal Pradesh
Nagaland, Manipur, Mizoram and Tripura
Sub Himalayan West Bengal & Sikkim, Gangetic West Bengal
South Konkan and Goa
Telengana, Coastal Andhra Pradesh
Jammu, Himachal Pradesh, Uttarakhand,
Punjab, Haryana, West and East Uttar Pradesh
Bihar, Jharkhand and Odisha

Thunderstorm with associated phenomena:

Jammu, Himachal Pradesh, Uttarakhand,
Punjab, Haryana, Uttar Pradesh, East and West Rajasthan
Bihar, Jharkhand, Gangetic West Bengal
Madhya Pradesh, Chhattisgarh
Odisha, Coastal Andhra Pradesh

48 hour Advisory for IOP:

Rainfall:

Assam, Meghalaya, Arunachal Pradesh
Nagaland, Manipur, Mizoram and Tripura
Sub Himalayan West Bengal & Sikkim, Gangetic West Bengal
South Konkan and Goa
Jharkhand, E Bihar
Jammu, Himachal Pradesh, Uttarakhand,
Punjab, North Haryana, West Uttar Pradesh

Thunderstorm with associated phenomena:

Jammu, Himachal Pradesh, Uttarakhand,
Punjab, Haryana, Uttar Pradesh, East Rajasthan, West Rajasthan
Bihar, Jharkhand, East Madhya Pradesh, Chhattisgarh

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

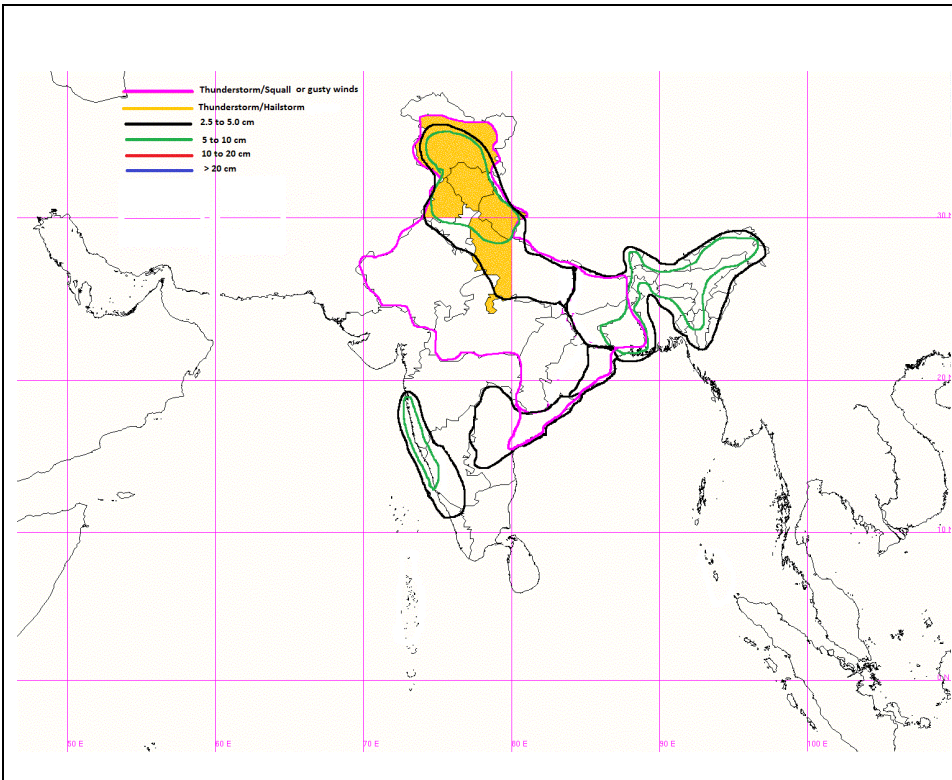
HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg

ForRadarimagesofthepast24hoursincludingmosaicofimages:

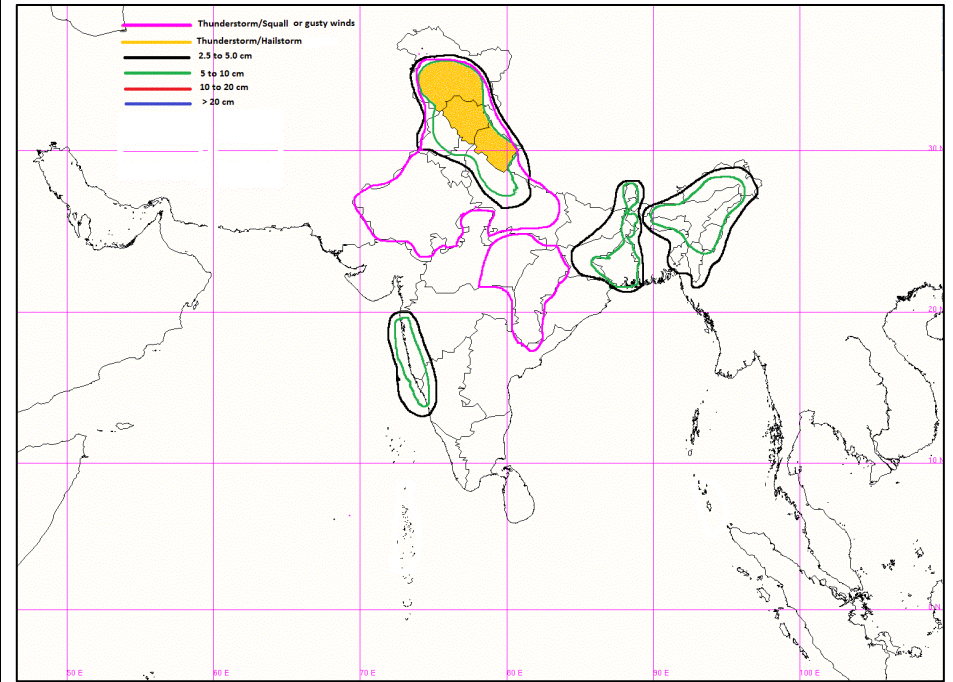
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Satellite sounder based T- Phigram

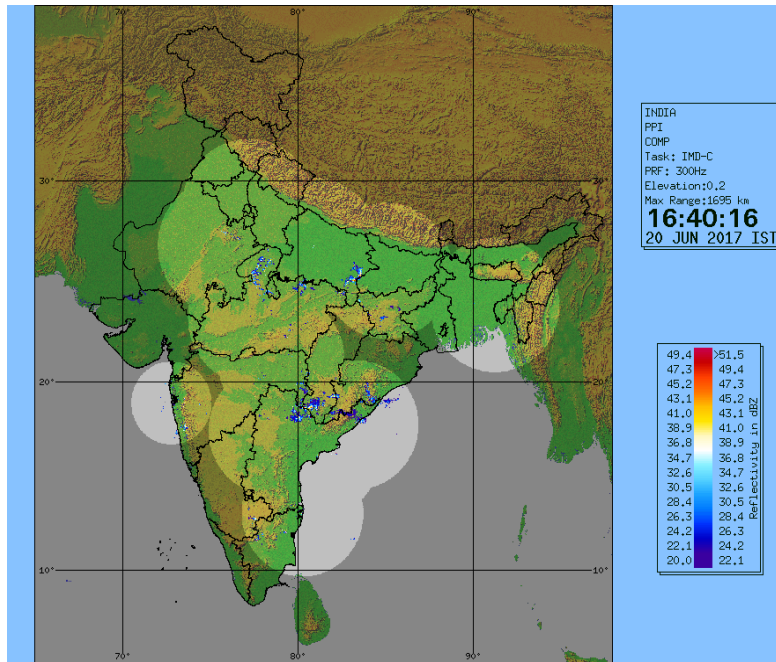
http://satellite.imd.gov.in/map_skm2.html



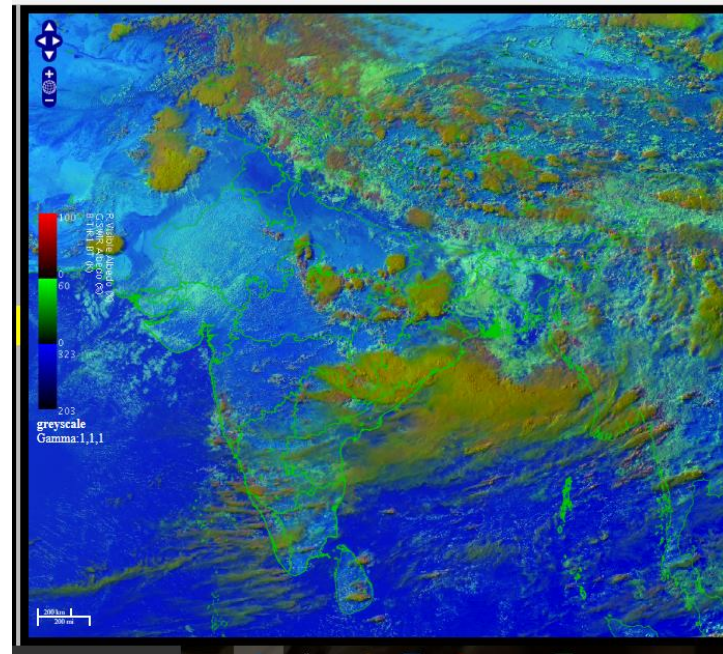
IOP Advisory for 24 hours



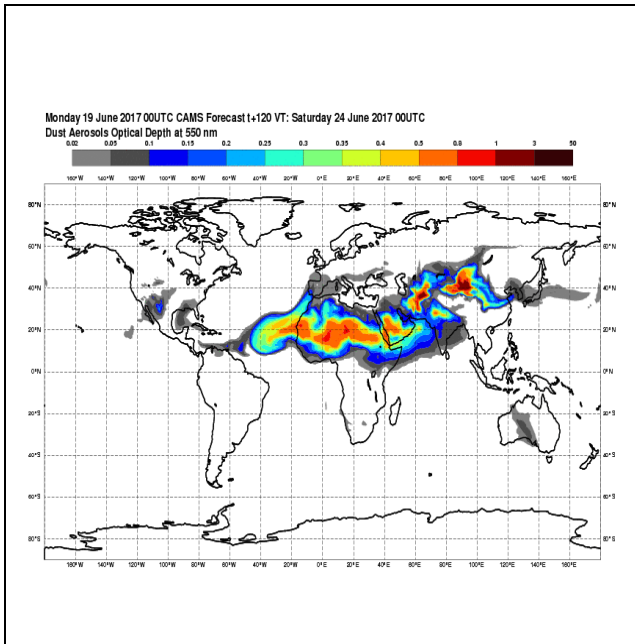
IOP Advisory for 48 hours



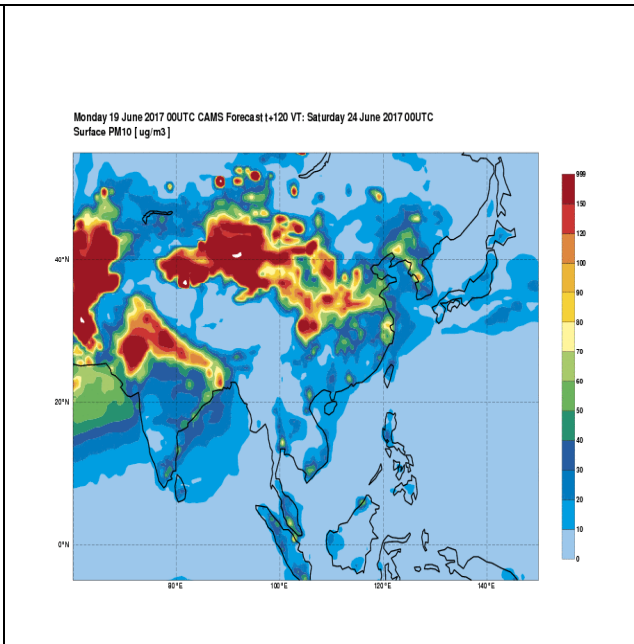
DWR Composite at 1640hrs IST



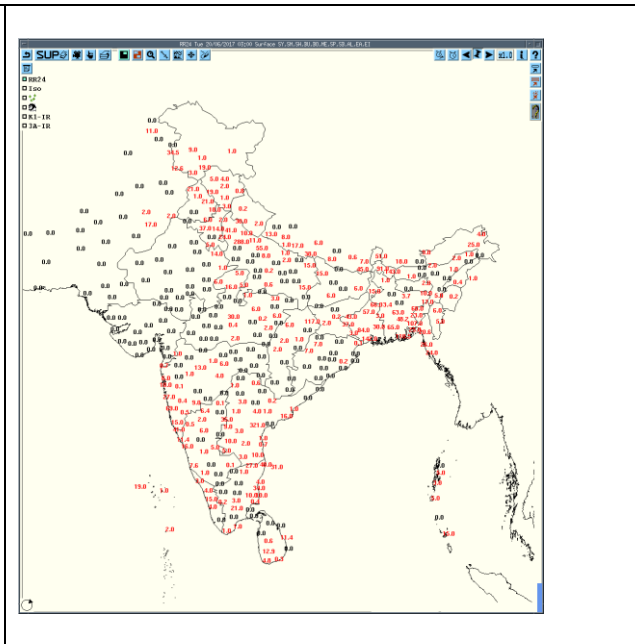
RAPID RGB Satellite Imagery at 1600 hrs IST of today



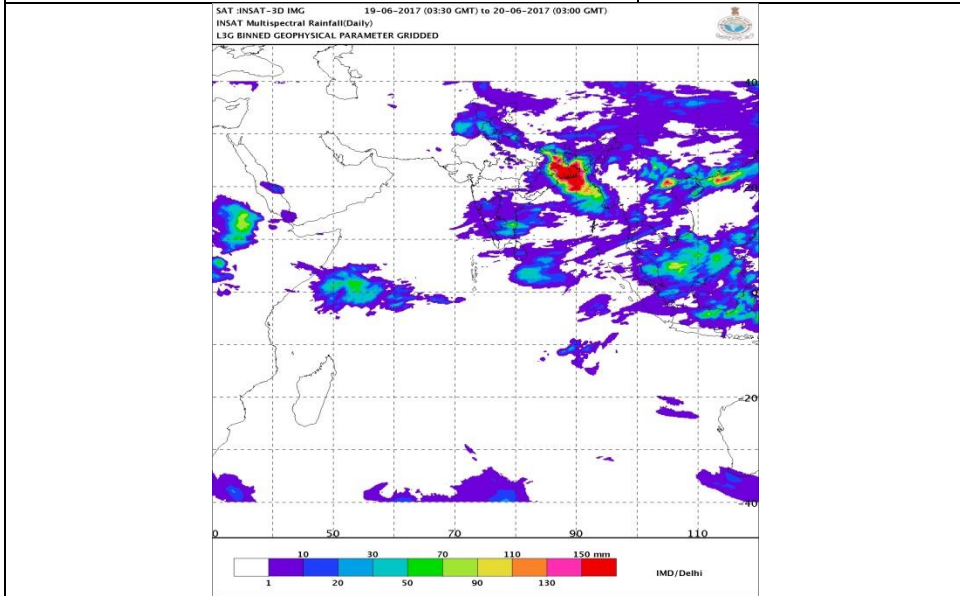
Forecast Dust Concentration for 00UTC of 24th June



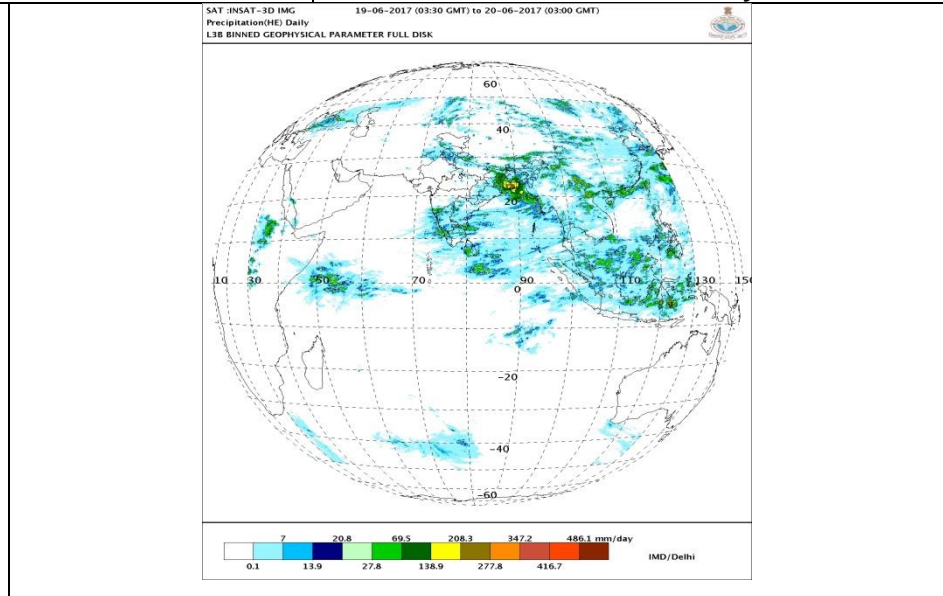
PM10 Forecast for 00UTC of 24th June



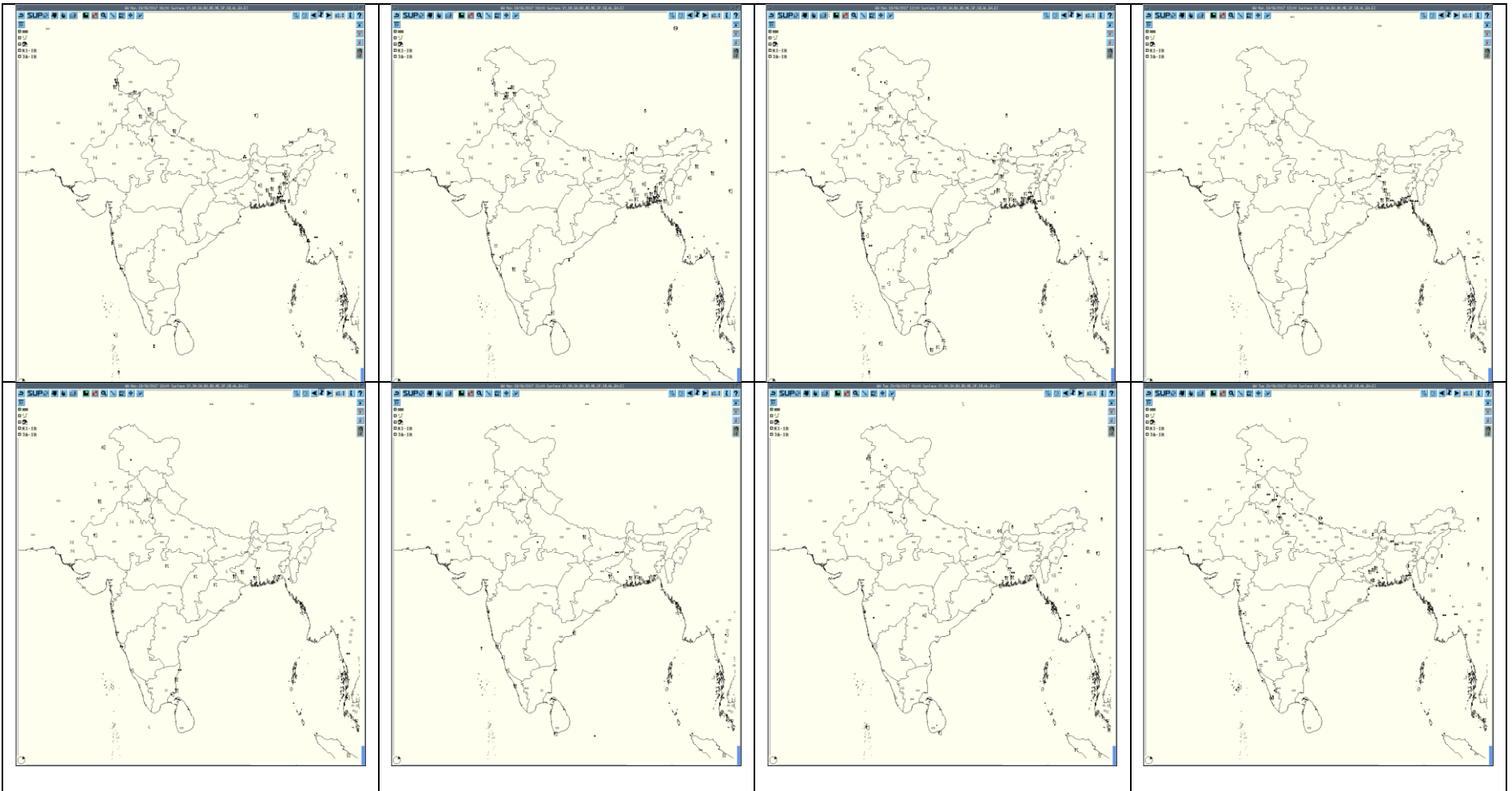
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



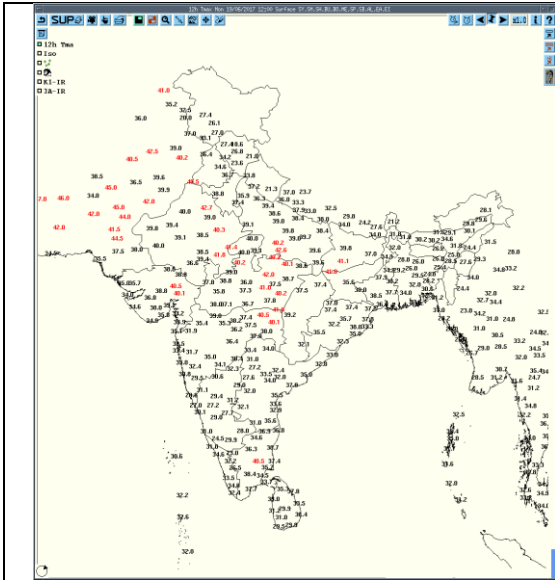
IMR Rainfall



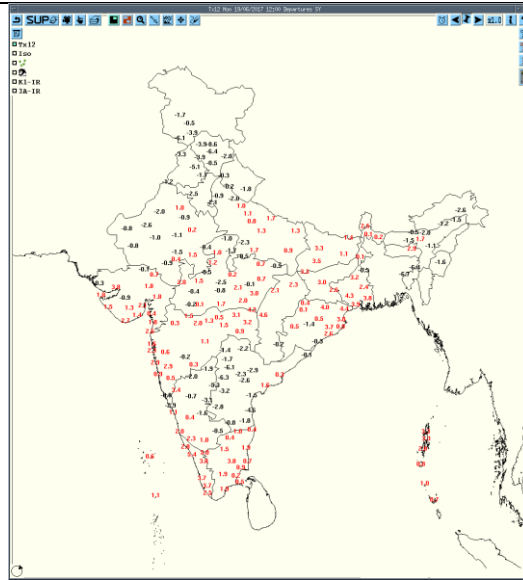
HEM Rainfall



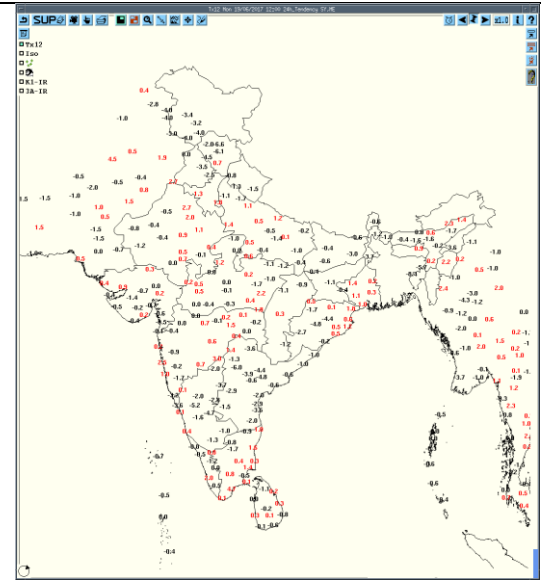
3hourly Past weather at 06, 09, 12, 15, 18, 21UTC of yesterday and 00 & 03 hrs UTC of today



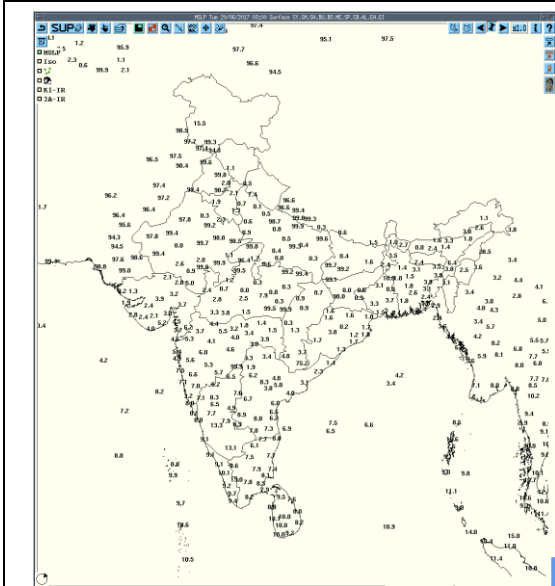
Tmax



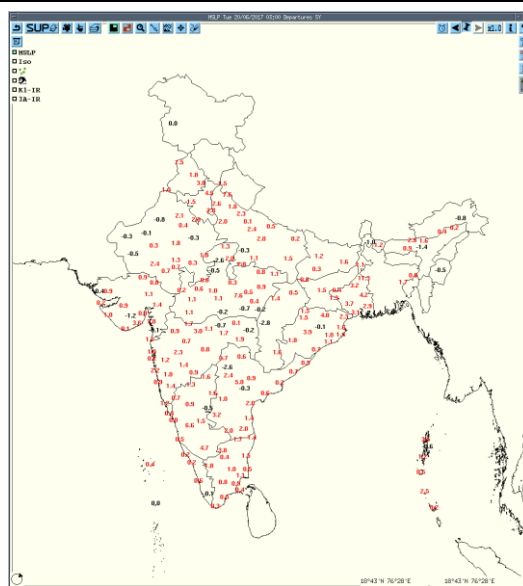
Departure Tmax



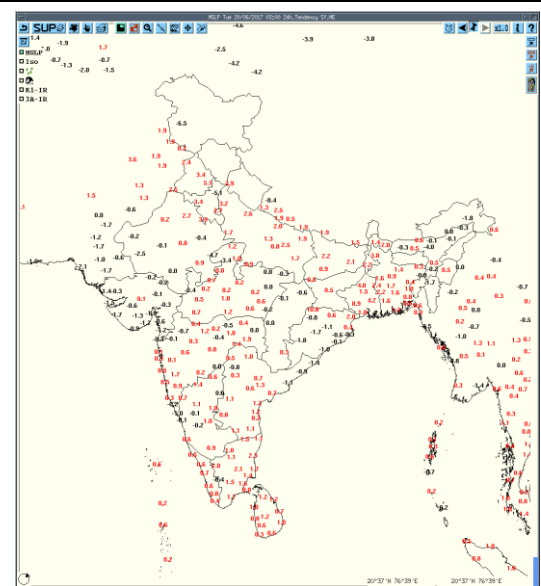
Tendency Tmax



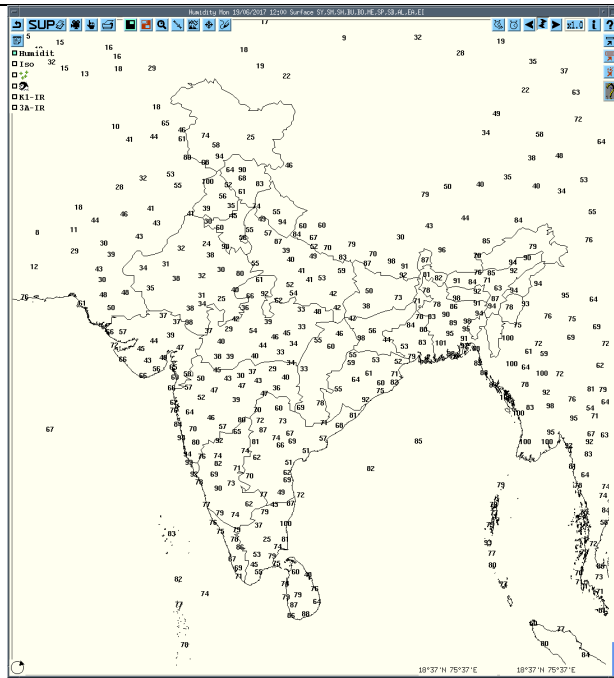
MSLP



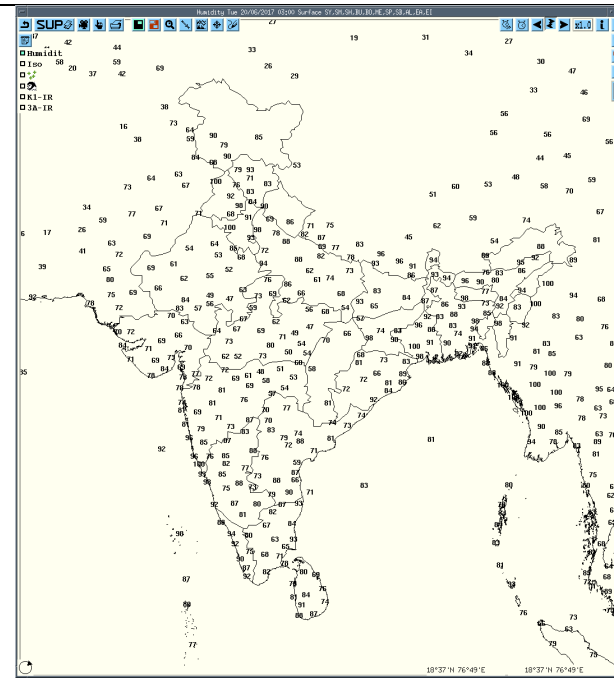
Departure MSLP



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
19-06-17	0600UTC	Katra, Batote	NW India	J & K	Thunderstorm
		Sundernagar, Shimla	NW India	HP	Thunderstorm
		Ludhiana	NW India	Punjab	Thunderstorm
		Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Agartala	NE India	Tripura	Thunderstorm
19-06-17	0900UTC	Kukernag, Bhaderwah, Katra, Jammu,	NW India	J & K	Thunderstorm
		Hisar	NW India	Haryana	Thunderstorm
		Dehradun	NW India	Uttarakhand	Thunderstorm
		Gorakhpur	NW India	Uttar Pradesh	Thunderstorm
		Gwalior	C India	Madhya Pradesh	Thunderstorm
		Gaya	E India	Bihar	Thunderstorm
		Agartala	NE India	Tripura	Thunderstorm
		Gadag	S India	Karnataka	Thunderstorm
19-06-17	1200UTC	Banihal	NW India	J & K	Thunderstorm
		Amritsar, Ludhiana	NW India	Punjab	Thunderstorm
		Bagdogra, Malda, Shantiniketan, Panagarh, Kolkata(Dumdum)	E India	West Bengal	Thunderstorm
		Jagdapur	C India	Chhattisgarh	Thunderstorm
		Ramagundam	S India	Telangana	Thunderstorm
19-06-17	1500UTC	Patiala	NW India	Punjab	Thunderstorm
		Ambala	NW India	Haryana	Lightening
		Gaya	E India	Bihar	Thunderstorm
		Ranchi	E India	Jharkhand	Thunderstorm
		Jharsuguda	E India	Odisha	Lightening
		Ambikapur	C India	Chhattisgarh	Lightening
		Kolkata(Dumdum & Alipore)	E India	West Bengal	Thunderstorm
		Chennai(Meenambakkam)	S India	Tamilnadu	Thunderstorm with Hail
		Karaikal, Atirampattinam, Cuddalore, Nagapattinam, Kanyakumari	S India	Tamilnadu	Lightening
		Pondicherry	S India	Pondicherry	Lightening
19-06-17	1800UTC	Ambala	NW India	Haryana	Thunderstorm
		Palam	NW India	Delhi	Thunderstorm
		Varanasi	NW India	Uttar Pradesh	Thunderstorm

		Bhagalpur	E India	Bihar	Lightening
		Ranchi	E India	Jharkhand	Lightening
		Jamshedpur	E India	Jharkhand	Thunderstorm
		Jharsuguda	E India	Odisha	Thunderstorm
		Pendra road	C India	Chhattisgarh	Thunderstorm
		Bankura, Kolkata(Dumdum & Alipore)	E India	West Bengal	Thunderstorm
		Pondicherry	S India	Pondicherry	Thunderstorm
		Karaikal, Nagapattinam	S India	Tamilnadu	Thunderstorm
19-06-17	2100UTC	Gorakhpur	NW India	Uttar Pradesh	Thunderstorm
		Patna	E India	Bihar	Lightening
		Jamshedpur	E India	Jharkhand	Thunderstorm
		Kolkata(Dumdum), Digha	E India	West Bengal	Thunderstorm
		Panjim	W India	Goa	Thunderstorm
		Kozhikode	S India	Kerala	Thunderstorm
20-06-17	0000UTC	Palam	NW India	Delhi	Thunderstorm
		Agra	NW India	Uttar Pradesh	Thunderstorm
		Kolkata(Dumdum), Digha	E India	West Bengal	Thunderstorm
		Ramagundam	S India	Telangana	Thunderstorm
20-06-17	0300UTC	Amritsar	NW India	Haryana	Thunderstorm
		Safdarjung, Palam	NW India	Delhi	Thunderstorm
		Sriniketan, Bankura, Panagarh, Midnapore		West Bengal	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)
Jagdalpur	C India	Chhattisgarh	Thunderstorm	19-06-17	1230 1600	1435 1810
Gwalior	C India	Madhya Pradesh	Thunderstorm	19-06-17	1400	1430
Qazigund	NW India	J & K	Thunderstorm	19-06-17	1422	1535
Pahalgam	NW India	J & K	Thunderstorm	19-06-17	1435	1450
Kupwara	NW India	J & K	Thunderstorm	19-06-17	1740	1820
Kukernag	NW India	J & K	Thunderstorm	19-06-17	1300	1520
Jammu	NW India	J & K	Thunderstorm	19-06-17	1333	1540
Banihal	NW India	J & K	Thunderstorm	19-06-17	1145	1300
Batote	NW India	J & K	Thunderstorm	19-06-17	1040	1145
Katra	NW India	J & K	Thunderstorm	19-06-17	0940 1345	1040 1430

Bhaderwah	NW India	J & K	Thunderstorm	19-06-17	1145	1530
Sundernagar	NW India	Himachal Pradesh	Thunderstorm	19-06-17	0940	1150
Pilani	NW India	Rajasthan	Thunderstorm	19-06-17	2035	2115
Shimla	NW India	Himachal Pradesh	Thunderstorm	19-06-17 20-06-17	1015 0245	1045 0315
Panjim	W India	Goa	Thunderstorm	19-06-17 20-06-17	2100 0230	2110 0245
Gorakhpur	NW India	Uttar Pradesh(East)	Thunderstorm	19-06-17 20-06-17	1315 0200	1440 0250
Kanpur IAF	NW India	Uttar Pradesh(East)	Thunderstorm	20-06-17	0700	0730
Bareilly	NW India	Uttar Pradesh(West)	Thunderstorm	19-06-17	1500	1550
Sahjahanpur	NW India	Uttar Pradesh(West)	Thunderstorm	20-06-17	0415	0615
Moradabad	NW India	Uttar Pradesh(West)	Thunderstorm	19-06-17	1130	1200
Ambala	NW India	Haryana	Thunderstorm	19-06-17	2050	2315
Hisar	NW India	Haryana	Thunderstorm	19-06-17 20-06-17	2110 0600	2210 0715
Patiala	NW India	Punjab	Thunderstorm	19-06-17	0900 1950	0920 2220
Amritsar	NW India	Punjab	Thunderstorm	19-06-17 19-06-17 20-06-17	0830 1600 0330	0930 2000 0830
Ludhiana	NW India	Punjab	Thunderstorm	19-06-17	1015 1700	1300 1800
Chandigarh	NW India	Chandigarh	Thunderstorm	19-06-17	1135	1340
Sagar	C India	Madhya Pradesh	Thunderstorm	19-06-17	2100	0030
Pendra Rd	C India	Chhattisgarh	Thunderstorm	19-06-17	1735 2245	1800 2325
Bilaspur	C India	Madhya Pradesh	Thunderstorm	19-06-17	1605 2035	1655 0130
Safdarjung	NW India	Delhi	Thunderstorm	20-06-17	0015 0510 0808	0025 0540 0830
Palam	NW India	Delhi	Thunderstorm	20-06-17	0030	0830
Cherrapunjee	NE India	Meghalaya	Thunderstorm	19-06-17	1030	1100
Agartala	NE India	Tripura	Thunderstorm	19-06-17	0830	1545
Kailasahar	NE India	Tripura	Thunderstorm	19-06-17	0830	1010
Ramagundam	S India	TLNG	Thunderstorm	19-06-17	1600	1800
			Thunderstorm	20-06-17	0300	0500
Tuni	S India	Andhra Pradesh(CAP)	Thunderstorm	19-06-17	1530	1710
Malda	E India	West Bengal (SHWB)	Thunderstorm	19-06-17	1700	1845
			Lightening	19-06-17	1815	2100
			Lightening	20-06-17	0130	0430
Alipore	E India	West Bengal (GWB)	Thunderstorm	19/20-06-17	191822	200055
			Lightening	19/20-06-17	191800	200530

Dum Dum	E India	West Bengal (GWB)	Thunderstorm & Lightening	19/20-06-17	191525	200232
			Lightening	20-06-17	0345	0635
Diamond Harbour	E India	West Bengal (GWB)	Thunderstorm	19-06-17	1940	2045
Haldia	E India	West Bengal (GWB)	Thunderstorm	19-06-17	1540	1610
			Lightening	20-06-17	0115	0140
Digha	E India	West Bengal (GWB)	Thunderstorm	20-06-17	0125	0700
			Lightening	19-06-17	1920	2230
Bankura	E India	West Bengal (GWB)	Thunderstorm	19-06-17	2140	2400
			Lightening	19/20-06-17	2120	200020
			Lightening	20-06-17	0532	0659
Sriniketan	E India	West Bengal (GWB)	Thunderstorm & Lightening	19-06-17	1705	2100
Gaya	E India	Bihar	Thunderstorm	19-06-17	1420	1440
			Lightening	19-06-17	1935	2020
Bhagalpur	E India	Bihar	Thunderstorm	19-06-17	1440	1510
			Lightening	19-06-17	2310	2330
Purnia	E India	Bihar	Thunderstorm	19-06-17	1615	1630
Ranchi	E India	Jharkhand	Thunderstorm	19-06-17	1458	1605
Jamshedpur	E India	Jharkhand	Thunderstorm	19-06-17	1800	1850
Jharsuguda	E India	Odisha	Thunderstorm	19-06-17	1900	2345
Sambalpur	E India	Odisha	Thunderstorm	20-06-17	0030	0230
			Lightening	19/20-06-17	2130	0300
Yelahanka	S India	Karnataka	Thunderstorm	20-06-17	0100	0130
Kozhikode	S India	Kerala	Thunderstorm	20-06-17	0215	0250
Chennai (Nungambakkam)	S India	Tamilnadu (North)	Thunderstorm	19-06-17	1840	1920
Thiruttani	S India	Tamilnadu (North)	Thunderstorm	19-06-17	1725	1745

Past 24 hours DWR Report:

Radar Station Name	Date	Time Interval of Observation (UTC)	Organisation of cells (Isolated single cells/multiple cells/convective regions /squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated Severe Weather if any	Districts affected
Jaipur	20-06-17	190302-190452	Multiple cell with average height of 5.0 km & maximum reflectivity 37.0 dBZ	Multiple cell develop from 0302(Continueing from previous day) UTC of 19/06/2017 towards North-East of Jaipur and	Cell starts forming from from 0302(Continueing from previous day) UTC of 19/06/2017 towards North-East of Jaipur and	Thunderstorm/rain at ISOLATED places	ALWAR, BHARATPUR districts.

				moved to SE Wards at speed 30-35 km/hr	reaches maximum reflectivity during 0312 0332-UTC .Died down 0452UTC		
		190512-191002	Multiple cell with height 6.0 km and maximum height 49.0 dbz	Multiple cell develop from 0512 utc of 19/06/2017 towards ESE- of jaipur and moved SE Wards at speed 30-35 km/hr	Cells starts from 0512 utc of at 19/06/2017 at ESE Jaipur and reaches maximum reflectivity during 0722 to 0832 utc and died 1002 UTC .	Thunderstorm/rain at few place	DAUSA KARAULI AND SAWAIMA DHOPUR districts.
		190742-200252	Multiple cell with height 6.0 km and maximum height 50.0 dbz	Multiple cell develop from 0742 utc of 19/06/2017 towards NE,E of jaipur and moved E,SE Wards at speed 35-40 km/hr	Cells starts from 0742 utc of at 19/06/2017 at E,NE Jaipur and reaches maximum reflectivity during 1142 -1232,1452-1542 UTC and died 0252 of 20/06/2017 UTC .	Thunderstorm/rain at few places	DAUSA KARAULI,ALWAR,TONK,KARAULI ,BHARATPUR,DHOLPUR AND SAWAIMA DHOPUR districts
Agartala	20-06-17	190300 - 191242	Multiple cells formed all around of DWR Agartala NW at a distance of 300km with Maximum cell Height 16 km at 0302 and maximum reflectivity 41.5 dBZ at 0302 UTC	Formed all around of DWR Agartala of NW at a distance of 300km and moves SE-wards direction with around 59 kmph.	Dissipated in Mizoram at 1242 utc	N/A	N/A,
		192320-200300	Multiple cells formed NW /S direction of DWR Agartala at a distance of 50/100 km with Maximum cell Height 08 km and maximum reflectivity 37 dBZ at 0252 UTC	Formed all around of DWR Agartala at a distance of 50/100 km and moves N- wards direction with around 4 kmph.	Persists	NA	NA,
Patiala	20-06-17	190300-190600	Multiple cells Max dBZ=60.5 Ht.= 10-13 KMS	N,W,NW AND SE SECTORS. MOVEMENT ESE WARDS		HAIL/RA/TS	SIRHIND,KHANNA, PATIALA, PANIPAT, KARNAL, CHANDIGARH, AMBALA, ROOPNAGAR.

		190600-190900	Multiple cells Max dBZ=56.0 Ht.= 10-11 KMS	NW AND SE SECTORS. MOVEMENT ESE WARDS		TS/RA	CHANDIGARH, SOLAN, ROOPNAGAR, KAITHAL, DEHRADON, RISHIKESH, HARIDWAR.
		190900-191200	Multiple cells Max dBZ=51.5 Ht.= 10-12 KMS	NW SECTOR MOVEMENT ESE WARDS		TS/RA	FEROZPUR, FARIDKOT, AMRITSAR, KAPURTHALA, JALANDHAR, PHAGWARA, LUDHIANA.
		191200-191500	Multiple cells Max dBZ=55.0 Ht.= 09-10 KMS	NW SECTOR.		TS/RA	MOGA, FARIDKOT, FEROZPUR, LUDHIANA, JALANDHAR, KHANNA
		191500-191800	Multiple cells Max dBZ= 52.0 Ht.= 10-11 KMS	MOVEMENT SE WARDS	-----	RA/TS	LUDHIANA, KHANNA, NABHA, PATIALA, RAJPURA, SANAUR, AMBALA, KAITHAL, KARNAL, PANIPAT, SONIPAT, BHIWANI

		191800-192100	Multiple cells Max dBZ= 45.0 Ht.= 8-9 KMS	MOVEMENT SE WARDS		TS/RA	BHIWANI,R OHTAK, PANIPAT, SONIPAT, DELHI, GHAZIABA D, BAGHPAT, FARIDABA D.
		192100-200000	Multiple cells Max dBZ=57.0 Ht.= 10-11 KMS	MOVEMENT SE WARDS	-----	RA/TS	MOGA, HALWARA, MALERKO TLA, DHURI, NABHA, PATIALA, SANGROO R, NIRWANA, KAITHAL, KARNAL, PANIPAT
		200000-200300	Multiple cells Max dBZ=46.5 Ht.= 06-08 KMS	MOVEMENT SE WARDS	-----	RA/TS	MOGA, FARIDKOT, BARNALA, BATHINDA, NABHA, PATIALA, SANGRUR, FATEHABA D, HIRWANA, JIND, HISSAR, KAITHAL, PANIPAT, KARNAL, SONIPAT.
Kolkata	20-06-17	0301-UTC Contd. From 0001 UTC of 19.06.17	1.Isolated single cell with maximum reflectivity of 59.5 dBz at 0051 UTC and maximum height of 13.80 km at 0201 UTC.	Cells developed in at N/178.6 km from Radar and moving ESE-ly	Isolated single cell developed at 0001 UTC in at N/178.6 km from Radar. Matured, later transformed into a multi cell system and moving into Bangladesh.	Thunderstorm / Rain	N/A

			2..Isolated single cell converted to multicelled system with maximum reflectivity of 59.5 dBz at 0831 UTC and maximum height more than18 km at 0831 UTC	Cell developed at NE/42 km and moving ESE-ly at a speed of 26 kmph	Isolated single cell developed at 0721 UTC in at NE/42 km from Radar. Converted to multicelled system. Matured, merged with cell no 3 at 0921 UTC.	Thunderstorm / Rain	N/A
			3..Isolated single cell converted to multicelled system with maximum reflectivity of 59.0 dBz at 0911 UTC and maximum height more than18 km at 0911 UTC	Cell developed at E/74 km and almost no movement	Isolated single cell developed at 0831 UTC in at E/74 km from Radar. Converted to multicelled system. Matured, merged with cell no 2 at 0921 UTC.	Thunderstorm / Rain	N/A
			4..Isolated single cell converted to multicelled system with maximum reflectivity of 61.0 dBz at 1002 UTC and maximum height more than18 km at 0921 UTC	Cell developed at ENE/79 km and moving ESE-ly at a speed of 25 kmph	Cell 2 & 3 merged at 0921 UTC in ENE/79 km from Radar. Converted to multicelled system. Matured, merged with cell no 1, 6 & 7 at 1031 UTC.	Thunderstorm Hail/ Rain	N/A
			5..Isolated single cell converted to multicelled system with maximum reflectivity of 62.5 dBz at 1002 UTC and maximum height more than18 km at 0931 UTC	Cells developed at NW/230 km from Radar and moving E-ly at a speed of 28 kmph	Isolated single cell developed at 0851 UTC in at NW/230 km from Radar. Converted to multicelled system Matured, merged with cell no 8 at 1111 UTC	Thunderstorm Hail/ Rain	N/A
			6 ..Isolated single cell with maximum reflectivity of 63.5 dBz at 1011 UTC and maximum height more than18 km at 0941 UTC	Cells developed at N/84 km from Radar and moving SE-ly at a speed of 28 kmph	Isolated single cell developed at 0921 UTC in at N/84 km from Radar. Matured, merged with cell no 1,4 & 7 at 1031 UTC	Thunderstorm Hail/ Rain	N/A
			7 ..Isolated single cell with maximum reflectivity of 59.0 dBz at 1021 UTC and maximum height 11.38 km at 1021 UTC	Cells developed at NNW/27 to NNE/69 km from Radar and moving E-ly at a speed of 13 kmph	Isolated single cells developed between 0931 UTC to 1011 UTC at NNW/27 km to NNE/ 69 km from Radar. Matured, merged with cell no 1,4 & 6 at 1031 UTC	Thunderstorm / Rain	N/A
			9. Formed due t merger of single cells.	Extended system developed in N/24 km from Radar.	Cell 1,4,6 & 7 merged at 1031 UTC in N/24 km from Radar. Details could not be obtained due to fault in DWR.	----	----

			10. Formed due t merger of single cells.	Extended system developed in NNW/200 km from Radar.	Cell 5 & 8 merged at 1111 UTC in NNW/200 km from Radar. Details could not be obtained due to fault in DWR.	---	----
		191941 – 200301	Extended large system developed in NW sector but time of origin or maximum values of parameters could not be obtained due to fault in DWR.	----	----	----	----
Patna	20-06-17	190300 - 190315	NIL	NIL	N/A	N/A	N/A
		190315 - 190615	MULTIPLE CELL. Maximum Reflectivity : 44 dBZ Echo Top : 14.0 KM	Range: 101.5 KM from DWR Patna in NORTH-NORTH-East direction. Movement- NORTH-Easterly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	GOPALGA NJ,SIWAN, SARAN,PA TNA,NALANDA,SEIKHPURA,LA KHISARAI, JAMUI
		190550 - 190850	MULTIPLE CELL. Maximum Reflectivity : 50 dBZ Echo Top : 12.8 KM	Range: 60.5 KM from DWR Patna in NORTH-NORTH-WEST direction. Movement- EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	WEST CHAMPARAN, SIWAN,SARAN (CHHAPRA),EAST CHAMPARAN, GOPALGA NJ AND MUZAFFARPUR
		190740 - 191040	MULTIPLE CELL. Maximum Reflectivity : 50.5 dBZ Echo Top : 14 KM	Range: 119.3 KM from DWR Patna in EAST direction. Movement- NORTH-EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	MADHUBANI, DARBHANGA, MUNGER, KHAGARIA

							BEGUSAR AI, SAHARSA, BHAGALP UR, SHEOHAR, SITAMARH I, HAJIPUR, PATNA, SAMASTIP UR, NALANDA AND ARA
		190930 - 191230	MULTIPLE CELL. Maximum Reflectivity : 52 dBZ Echo Top : 14 KM	Range: 74 KM from DWR Patna in EAST-NORTH- EAST direction. Movement- EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	MUZAFFA RPUR, GAYA, AURANAG ABAD, LAKHISAR AI, SHEIKHPU RA, BANKA, JEHANABA D, VAISHALI & SAMASTIP UR
		191130 - 191430	MULTIPLE CELL. Maximum Reflectivity : 55 dBZ Echo Top : 11.6 KM	Range: 60 KM from DWR Patna in SOUTH-EAST direction. Movement- EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	MADHUBA NI, DARBHAN GA, KHAGARIA , SAHARSA, SUPAUL, MADHEPU RA, PURNEA, JAMUI

		191410 - 191710	MULTIPLE CELL. Maximum Reflectivity : 41 dBZ Echo Top : 14 KM	Range: 93 KM from DWR Patna in SOUTH-EAST direction. Movement- EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	GAYA, AURANAG ABAD, JE HANABAD, NAWADA, JAMUI
		191710 - 192000	MULTIPLE CELL. Maximum Reflectivity : 41 dBZ Echo Top : 10.5 KM	Range: 94 KM from DWR Patna in NORTH direction. Movement- SOUTHEASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	KHAGARIA , MUNGER, LAKHISAR AI, JAMUI, BHAGALP UR & BANKA
		192000 - 192145	NIL	NIL	N/A	N/A	N/A
		192145 - 200045	MULTIPLE CELL. Maximum Reflectivity : 44.5 dBZ Echo Top : 8.1 KM	Range: 54 KM from DWR Patna in EAST direction. Movement- EAST- SOUTH-EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	KHAGARIA , MUNGER, LAKHISAR AI, JAMUI, BANKA, BHAGALP UR, SARAN, VAISHALI, SAMASTIP UR, PATNA, NALANDA, BEGUSAR AI, SHEIKHPU RA, DARBHAN GA, SAMASTIP UR, MUZAFFA RPUR, SITAMARH I, MADHUBA NI &

							SHEOHAR, GOPALGA NJ, SIWAN
		200045 - 200200	NIL	NIL	N/A	N/A	N/A
		200200 - 200300	MULTIPLE CELL. Maximum Reflectivity : 48.5 dBZ Echo Top : 14 KM	Range: 80.7 KM from DWR Patna in NORTH- WEST direction. Movement- SOUTH- EASTERLY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	N/A	SIWAN, SARAN, BHOJPUR, PATNA, BEGUSAR AI, LAKHISAR AI,NALAND A, SHEIKHPU RA
Bhuj	20-06-17	190426- 191140	NIL	NIL	NIL	NIL	NIL

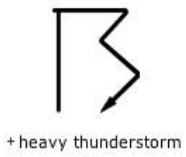
Nagpur	20-06-17	190632-191000	Single	246 km NW dir. Moving towards SE direction.	40.5 DBZ & cloud ht.= 6.0-9.3 km	Thunderstorm warning started at 0912 till 1120 in NW direction 215 Km away from Radar. 1022-1032 SE direction 235 km away from Radar. 1352-1410 SW direction 208 Km. away from Radar. Hailstorm-NIL	Rainfall in many places in Washim , Pusad, Hingoli, Gadchiroli, Adilabad, and Chandrapur . Rainfall Isolated places in Seoni Chindwara and Balaghat.
		191330-191440	Single	70 km N dir. Moving towards E direction.	40 DBZ & cloud ht.= 2.3-5.8 km		
		191300-191600	Single	208 km SW direction moving towards E-dir.	41 dbZ & cloud ht.=4.7-7.0 km		
		192100-192230	Single	93 km NE dir. Moving towards E-direction.	42 dbz & Cloud ht.= 2.0-5.0 km		
		200002-200302		NIL			
Lucknow	20-06-17	190300-190542	Multiple cell system formed previous day persisted at 150 Km W, got matured at around 0412 UTC over 120 Km WSW w.r.t. the station. Maximum reflectivity was observed 46 dBZ & height reached 10 Km (20 dBZ echo top).	The system WSW w.r.t. the station (towards it) with avg. velocity 40 Km/h. The system dissipated at 0542 UTC over 100 Km WSW.	Radar was not operational between 0442 UTC to 0542 UTC due to power failure.	NIL	NIL
		191059-191342	Multiple cell system formed extending from the station to 200 Km. NNW. Maximum reflectivity was 58 dBZ & height reached more than 16 Km (20 dBZ echo top).	The system moved with average velocity 72 Km/h SEly approaching the station but passed nearby it & dissipated at around 1342 UTC over 100 Km NNW.		TS	Sitapur Hardoi Khiri Shahjahanpur Kanpur
		191202-191452.	Single cell system formed at around 1202 UTC over 50 Km NNE which later evolved as multiple cell system around the	System moved with avg. speed 55 Km/h SEly & then Easterly away from the station. It dissipated		TS	Gorakhpur

			same location at 1312 UTC extending from 80 Km NNE to 50 Km E. Max reflectivity was observed to be 54 dBZ & height was 15 Km.	at around 1452 UTC over 100 Km East of the station.			
		192059-200300	A widespread multiple cell system formed before 2059 UTC extending from 150 Km NNW to 200 Km WSW. The coverage along NNW goes beyond 250 Km from the station. System matured at around 2202 UTC ranging over 150-250 Km NNW. While moving part of the system over 50 Km N became stronger, further moving to 50 Km NE. Max. Reflectivity was 62 dBZ & height reached beyond 16 Km on 20 dBZ echo top.	The system moved towards the station with an average speed 70 Km/h Easterly and SEly started weakening at around 0212 UTC over 100 Km N, NE. But it persisted till 0300 UTC.	Radar was started at 19/2045 UTC due to voltage supply/ phase problem.	TS	Moradabad Bareilly Kanpur
Srinagar	20-06-17	190300-200300	A single cell developed in the SW direction of DWR and moved SE wards with max reflectivity of 50-55 DBZ and average height 8kms. Multiple cells developd ESE Direction of DWR at 09500 UTC with max reflectivity 55-60 DBZ and height 9 kms .	1. Moved SE direction and dissipated around 0950utc 2. mowed ESE direction and dissipated around 1730 utc	Light to mod. rain at isolated places	Thunderstorm reported at Qazigund, K ukernag, Banihal Kupwara Jammu Batote Katra Bholderwah	Anantnag, Baramulla and Ramban Doda & jammu
Machilipatnam	20-06-17	190321-190501	Isolated Multiple cells average height of 4.8km with maximum reflectivity of 50.0dBZ.	NNE(235Km) and moving Sly direction with average speed of 10.0kmph.	Cell started forming at 0321 UTC, at NNE(235 km) from Radar the maximum reflectivity during 0411 UTC to 0451 UTC and died down at 0501 UTC	Possibility of Thunder storm with rain and winds.	Malkangir district
		190501-190721	Isolated Multiple cells average height of 4.6 km with maximum reflectivity of 46.0dBZ.	N(163Km) and moving SE ly direction with average speed of 8.0kmph	Cell started forming at 0501UTC, at N (163 km) from Radar the maximum reflectivity during 0511UTC to 0531 UTC and died down at 0721.	Possibility of Thunder storm with rain and winds.	Bhadradi-Kothagudem District.

		190441-190641	Isolated Multiple cells average height of 4.5 km with maximum reflectivity of 45.0dBZ.	NNW (109KM) and it is stationary.	Cell started forming at 0401UTC, at N (109km) from Radar the maximum reflectivity during 0451UTC to 0601 UTC and died down at 0641 UTC	Possibility of Thunderstorm with rain and winds.	Guntur, Krishna, , west Godavari Districts .
		190751-190941.	Isolated Multiple cells average height of 5.5 km with maximum reflectivity of 51.0dBZ.	NE and moving E ly direction with average speed of 15.0kmph	Cell started forming at 0751UTC, at NE (50Km) from Radar the maximum reflectivity during 0751UTC to 0931 UTC and died down at 0941 UTC .	Possibility of Thunder storm with rain and winds.	west Godavari Districts .
		190931-191131.	Isolated Multiple cells average height of 8.5 km with maximum reflectivity of 52.0BZ.	NE (206KM) and moving SE ly direction with average speed of 15.0kmph	Cell started forming at 0931UTC, at SW (206km) from Radar the maximum reflectivity during 093UTC to 1121 UTC and died down at 1131 UTC .	Possibility of Thunder storm with rain and winds.	Visakhapat nam District .
		191101-191201	Isolated Multiple cells average height of 4.6 km with maximum reflectivity of 52.0BZ.	SW (153KM) and it is stationary.	Cell started forming at 1101UTC, at SW (153km) from Radar the maximum reflectivity during 1101UTC to 1141 UTC and died down at 1201 UTC .	Possibility of Thunder storm with rain and winds.	Prakasam, District .
		191841-192241.	Isolated Multiple cells average height of 5.0 km with maximum reflectivity of 53.5BZ.	NE (176KM) and moving SE ly direction with average speed of 20.0kmph	Cell started forming at 1841UTC, at NE (176km) from Radar the maximum reflectivity during 1841UTC to 1941 UTC and died down at 2241 UTC .	Possibility of Thunder storm with rain and winds.	East godavari District .
Paradeep	20-06-17	190300-200300	--	--	DWR U/S	--	--
Karaikal	20-06-17	190300-200300	--	--	DWR U/S	--	--



+ thunderstorm



+ heavy thunderstorm



sandstorm or dust storm



squall

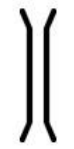
www.visualdictionaryonline.com



hail shower



tropical storm



+ tornado



+ lightning



+ hurricane

∞	haze
☁	smoke
☁	dust or sand storm
☁	fog
☔	drizzle
•	rain
❄	snow
☔	showers
⚡	hail
☁	thunderstorm
Weather Symbols	