



**India Meteorological Department**  
**FDP STORM Bulletin No.95 (08-06-2017)**

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

The well marked low pressure area over west central Arabian Sea & adjoining coastal Oman now seen as a low pressure area over the same region with associated upper air cyclonic circulation extending upto mid tropospheric level.

The trough at mean sea level from Punjab to north coastal Odisha now runs from north Rajasthan to west central Bay of Bengal across north Madhya Pradesh, north Chhattisgarh & Odisha.

The shear zone now runs roughly along Lat.14 .0°N between 4.5 & 5.8 Km above mean sea level.

The upper air cyclonic circulation over east central Bay of Bengal and adjoining north Andaman Sea now lies over north Andaman Sea & neighbourhood at 5.8 Km above mean sea level.

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

The upper air cyclonic circulation over west central Bay of Bengal & adjoining north coastal Andhra Pradesh now lies over west central Bay of Bengal off Coastal Andhra Pradesh & south Odisha and extends upto mid tropospheric level.

The upper air cyclonic circulation over southeast Bihar & neighbourhood persists and extends upto 1.5 Km above mean sea level. A trough runs from this system to south Chhattisgarh and extends upto 0.9 km above mean sea level.

The western disturbance as an upper air cyclonic circulation over Jammu & Kashmir and neighbourhood between 3.1 Km & 3.6 Km above mean sea level has moved away northeastwards.

**SATELLITE OBSERVATIONS during past 24hrs and current observation:**

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

**LOW LEVEL CIRCULATION (LLC):-**

Low Level Circulation lies over WC Arabian Sea in associated Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over area between Lat 12.5N to 18.0N West Long 58.5E (MINIMUM CTT MINUS 58 DEG C).

**WESTERN DISTURBANCE (WD):**

Scattered multi-layered clouds were seen over West J & K in association with WD over the area.

**CONVECTIVE ACTIVITY: -**

Cell No	Date/time (UTC)	Location/Area	MIN CTT (-DEG C)	Movement	Remarks
1	08/0400	NE BHR	80		DEVELOPING
	0500	DO	77		
	0600	NE BHR ADH JHRKND	83		
	0700	DO	83		
	0800	DO	70		
	0900	DO			
2	08/0800	COTL GWB COTL BD	70		
	0900	DO	81		
3	08/0900	C JHRKND	85		
4	08/0900	COTL ADJ C ORS	77		
5	08/0900	NW MP	71		

**Cloud Description:**

Broken low/medium clouds with embedded weak to moderate convection were seen over Himachal Pradesh, Punjab, Haryana, Delhi, Uttarakhand, West Uttar Pradesh, Andhra Pradesh, North Kerala, Tamilnadu and Bay Islands.

Broken low/medium clouds with embedded intense to very intense convection were seen over Jharkhand, adjoining Bihar, Coastal Odisha, North Sub Himalayan West Bengal, Coastal Gangetic West Bengal, West Assam and exterior Southeast Mizoram.

Scattered low /medium clouds with embedded moderate to intense convection were seen over Central Uttar Pradesh, Northeast Chhattisgarh, rest Odisha, Nagaland, Manipur, Northwest Madhya Pradesh, Central Rajasthan, South Gujarat, and North Madhya Maharashtra.

Scattered low/medium clouds with embedded weak to moderate convection were seen over North Rajasthan, North Gujarat and rest Madhya Maharashtra

Scattered low/medium clouds were seen over rest J & K.

**Arabian Sea:**

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

**Bay of Bengal & Andaman Sea:**

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

**Past Weather:****Convection:-**

Moderate to Intense convection was observed over Himachal Pradesh Punjab Haryana Uttarakhand Uttar Pradesh North Rajasthan Madhya Pradesh Maharashtra Chhattisgarh Odisha Bihar Jharkhand Assam Mizoram Telangana Andhra Pradesh. Karnataka Kerala & Tamilnadu

**OLR:-**

Upto **200**  $\text{wm}^{-2}$  was observed over West Madhya Pradesh Vidarbha South Chhattisgarh South Odisha East Bihar Andhra Pradesh Telangana Karnataka Tamilnadu Kerala

Upto **230**  $\text{wm}^{-2}$  was observed over East J&K Himachal Pradesh Rest Bihar Rest Chhattisgarh Rest Madhya Pradesh Rest Odisha rest Maharashtra Sikkim Meghalaya.

Upto **250**  $\text{wm}^{-2}$  was observed over North East Jharkhand North West Bengal Mizoram Tripura.

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

**Dynamic Features:**

Medium to High wind shear is observed over India. Positive shear tendency is observed over the India.

A positive Vorticity field is observed over North West Rajasthan West Bengal Bihar. Negative low level convergence is observed over Goa Coastal Karnataka Coastal Odisha Bihar West Bengal and Positive low level convergence observed over rest parts of India.

**Precipitation:**

**IMR:**

Rainfall Up to **70** mm was observed over Bihar Mizoram south Chhattisgarh South East Odisha.

Rainfall Up to **50** mm was observed over West Madhya Pradesh South Telangana Coastal Andhra Pradesh North East Andhra Pradesh.

Rainfall Up to **30** mm was observed over Rayalaseema Coastal Odisha East Meghalaya .

Rainfall Up to **20** mm was observed over South Tamilnadu.

Rainfall Up to **10** mm was observed over North Himachal Pradesh South East Punjab North West Rajasthan Gujarat Maharashtra Rest Chhattisgarh Odisha North East Jharkhand Sikkim Sub Himalayan West Bengal West Meghalaya Nagaland Manipur Tripura Karnataka Rest Andhra Pradesh Rest Tamilnadu

**HEM:**

Rainfall Up to **70** mm was observed over West Madhya Pradesh South Chhattisgarh Central Bihar South East Odisha East Meghalaya Telangana North East Andhra Pradesh Mizoram.

Rainfall Up to **07** mm was observed over Haryana North Rajasthan Himachal Pradesh East Uttar Pradesh Rest Bihar Gujarat Rest Chhattisgarh Rest Odisha East Jharkhand Sub Himalayan West Bengal Sikkim West Meghalaya Nagaland Manipur Tripura Kerala Tamilnadu Rest Andhra Pradesh

**RADAR and RAPID Observation:**

DWR Composite at 1700hrs IST indicated significant convection over East Rajasthan, West Madhya Pradesh, Mizoram, Bihar, Odisha, South Chhattisgarh, North Andhra Pradesh and Maharashtra.

RAPID RGB Satellite imagery at 1600hrs IST indicated significant convective clouds over J & K, Central Uttar Pradesh, East Rajasthan, Northwest Madhya Pradesh, Jharkhand, adjoining Bihar, Coastal Odisha, North Sub Himalayan West Bengal, Coastal Gangetic West Bengal, West Assam and exterior Southeast Mizoram, Sub Himalayan West Bengal, Coastal Gangetic West Bengal, Andhra Pradesh, North Kerala, Tamilnadu and Lakshadweep.

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

Higher Dust concentration was observed over north Africa and IGP region of India. Dust concentration is expected to decrease over north India for next five days. High PM10 concentration was observed over Rajasthan and IGP; it is expected to decrease 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 2-4** show evolution of heat low over NW India and adjoining Pakistan with MSLP values lower than 994hPa.

**12UTC charts of Day 2-4:** show a zone of wind discontinuity at 925 hPa; SW-NE over Madhya Pradesh and Chhattisgarh

**00 UTC charts of Day 0-4:** show a CYCIR over central BoB moving towards North with intensification approaching Bangladesh in Day 4

**12 UTC charts on Day 0:** A CYCIR over NW Arabian sea close to Oman coast at 850 hPa and a feeble Western Disturbance at 500 hPa over J&K

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

Weaker core winds at 12 UTC on all days over India.

## **3. Convergence at 850 hPa:**

Day0: Haryana Chandigarh Delhi, West Rajasthan,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Chhattisgarh,

Day2: Arunachal Pradesh, Assam Meghalaya,

Day3: Nil

Day4: Nil

## **4. Low level Vorticity:-Positive Vorticity (>15 x 10<sup>-5</sup>/s):**

**(Day/Index: Subdivisions with Lower Level Vortex > 15 x 10<sup>-5</sup> /s):**

Day0: TN Puducherry, Kerala,

Day1: Himachal Pradesh, TN Puducherry, Kerala,

Day2: NE NMMT, TN Puducherry, Kerala,

Day3: Assam Meghalaya, NE NMMT, Chhattisgarh, TN Puducherry,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Uttarakhand, Himachal Pradesh, Konkan Goa, TN Puducherry, Kerala

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

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RAJASTHAN, East RAJASTHAN, Odisha, West MP, East MP, Saurashtra Kutch, Vidarbha, Chhattisgarh, Coastal AP, Telangana

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East RAJASTHAN, Odisha, West MP, Gujarat region, Saurashtra Kutch, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Vidarbha, Chhattisgarh, Coastal AP,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RAJASTHAN, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Vidarbha, Chhattisgarh

**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, Bihar, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, TN Puducherry,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RAJASTHAN, East RAJASTHAN, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RAJASTHAN, East RAJASTHAN, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Vidarbha, Chhattisgarh

**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, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan,

Day1: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RAJASTHAN, East Rajasthan,

Day2: Arunachal Pradesh, Sub Himalayan WB, East UP, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan,

Day3: Arunachal Pradesh, Sub Himalayan WB, East UP, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP,

Day4: Arunachal Pradesh, Sub Himalayan WB, East UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP

**8. Rainfall and thunder storm activity:**

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

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir, Gujarat region, Konkan Goa, Madhya Maharashtra, Marathwada, Telangana, Rayalaseema, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Jammu Kashmir, West RAJASTHAN, Konkan Goa, Madhya Maharashtra, Andaman Nicobar, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir, Odisha, Gujarat region, Konkan Goa, Madhya Maharashtra, Andaman Nicobar, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Gangetic WB, Haryana Chandigarh Delhi, Punjab, Jammu Kashmir, Odisha, West MP, East MP, Konkan Goa, Madhya Maharashtra, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jammu Kashmir, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

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

### **1. Weather Systems:**

The analysis based on 00 UTC show a low level CYCIR over Bihar and adjoining areas and another CYCIR over north Bay of Bengal. Forecasts show that the CYCIR over Bihar would persists for next 24 hours and the CYCIR over north Bay of Bengal moves westward and cross Odisha coast on day3. Forecasts also show formation of CYCIR over the off Maharashtra coast on day4 and moves eastward, would lies over the central parts of India on day6.

**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<sup>-1</sup>/s):**

The high vorticity belts are mainly over the Gangetic plains, foot hills of Himalaya, south peninsula, Maharashtra coast and Karnataka and eastern parts of the country.

**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 over the country.

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

**Total Total Index (> 50) :** Less than threshold value all over the country.

**Sweat Index (> 300):** Higher than threshold value almost all over the country.

**CAPE (> 1000):** Mostly over parts of Rajasthan and adjoining Gujarat, Sub-Himalayan West Bengal, parts of AP and NE states.

**CIN (50-150):** Mostly all over the country except Gujarat and northwest India during next 48 hours.

**5. Rainfall and thunderstorm activity:**

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

70-200 mm rainfall: over Andhra Pradesh during day2 to day4.

10-40 mm rainfall: over Sub- Himalayan West Bengal on day2 and day3.

20-70 mm rainfall: over west coast during day1 to day4.

70-200 mm rainfall: over west coast, coastal Maharashtra and adjoining Karnataka during day5 to day10.

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

**1. Model Reflectivity (Max. dBz):** 15-35 dBZ Model reflectivity over south peninsula and Sub-Himalayan West Bengal during next 24 hours. 15-35 dBZ Model reflectivity: over parts of Bihar and parts of AP during next 48 hours

**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 and central parts of India and Gangetic plain during next 72 hour and south peninsula on day3.

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

**CAPE (> 1000):** Mostly over Gangetic plain, parts of central India and NE states during next 3 days.

**CIN (50-150):** Over north west parts of India, Gangetic plain and Parts of AP during next three days.

**Rainfall and thunderstorm activity:** 20-70 mm: over parts of Gujarat, AP, Bihar, Sub-Himalayan West Bengal, NE states and west coast during next 3 days. 70-200 mm: over isolated parts of Bihar during next 24 hours.

### **3. IOP ADVISORY FOR 24 and 48Hrs:**

#### **Summary and Conclusions:**

##### **Day-1 & Day-2:**

Presently due to strengthening of westerlies in the West Coast, the Konkan and Goa will experience heavy rainfall on Day-1 and Day-2. The shear zone now runs roughly along Lat.14 .0°N between 4.5 & 5.8 Km above mean sea level.

The upper air cyclonic circulation over west central Bay of Bengal & adjoining north coastal Andhra Pradesh now lies over west central Bay of Bengal off Coastal Andhra Pradesh & south Odisha and extends upto mid tropospheric Level. Due to this system, Telangana and Coastal Andhra Pradesh will experience heavy rainfall on Day-1.

The upper air cyclonic circulation over southeast Bihar & neighbourhood persists and extends upto 1.5 Km above mean sea level. A trough runs from this system to south Chhattisgarh and extends upto 0.9 km above mean sea level. This will give rise to thunderstorm with gusty wind possibilities over Bihar, Jharkhand and SHWB on Day-1.

##### **24 hour Advisory for IOP:**

Konkan and Goa, South Gujarat, Coastal Karnataka, North Kerala  
Telangana, Coastal Andhra Pradesh  
Assam, Meghalaya,  
Nagaland, Manipur, Mizoram, Tripura  
Jharkhand, Bihar, Sub Himalayan West Bengal, Chhattisgarh  
Punjab, Haryana, Delhi, North & East Rajasthan,  
West Uttar Pradesh  
Jammu and Kashmir,  
Madhya Pradesh  
Orissa  
Gangetic West Bengal

##### **48 hour Advisory for IOP:**

Konkan and Goa, Coastal Karnataka, North Kerala  
Telangana, Coastal Andhra Pradesh  
Jharkhand, Bihar



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](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](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](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](http://satellite.imd.gov.in/img/3Ddaily_imr.jpg)

HEM: [http://satellite.imd.gov.in/img/3Ddaily\\_he.jpg](http://satellite.imd.gov.in/img/3Ddaily_he.jpg)

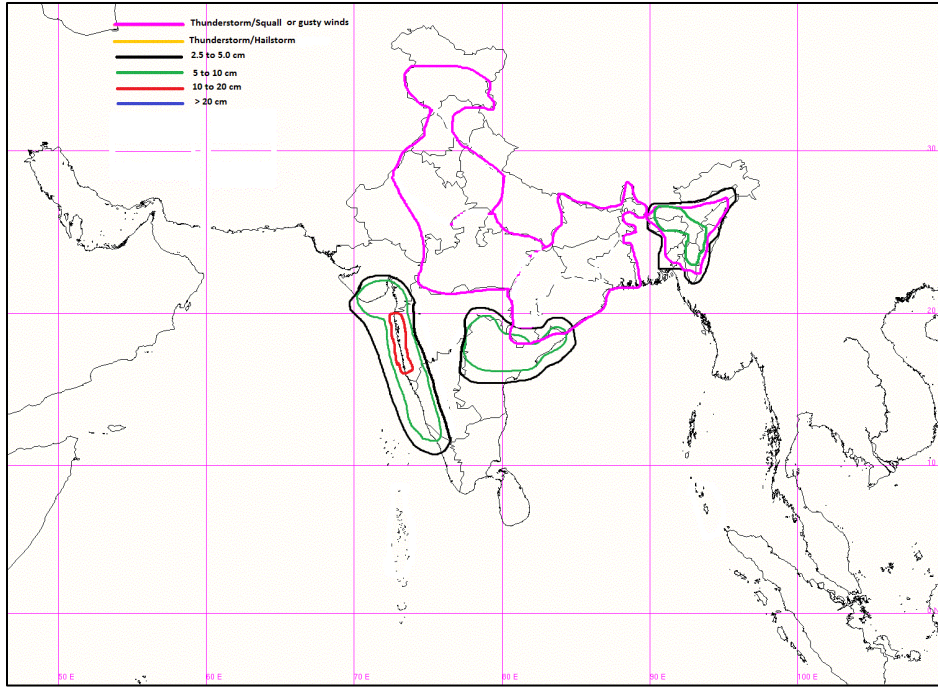
ForRadarimagesofthepast24hoursincludingmosaicofimages:

[http://ddgmui.imd.gov.in/dwr\\_img/](http://ddgmui.imd.gov.in/dwr_img/)

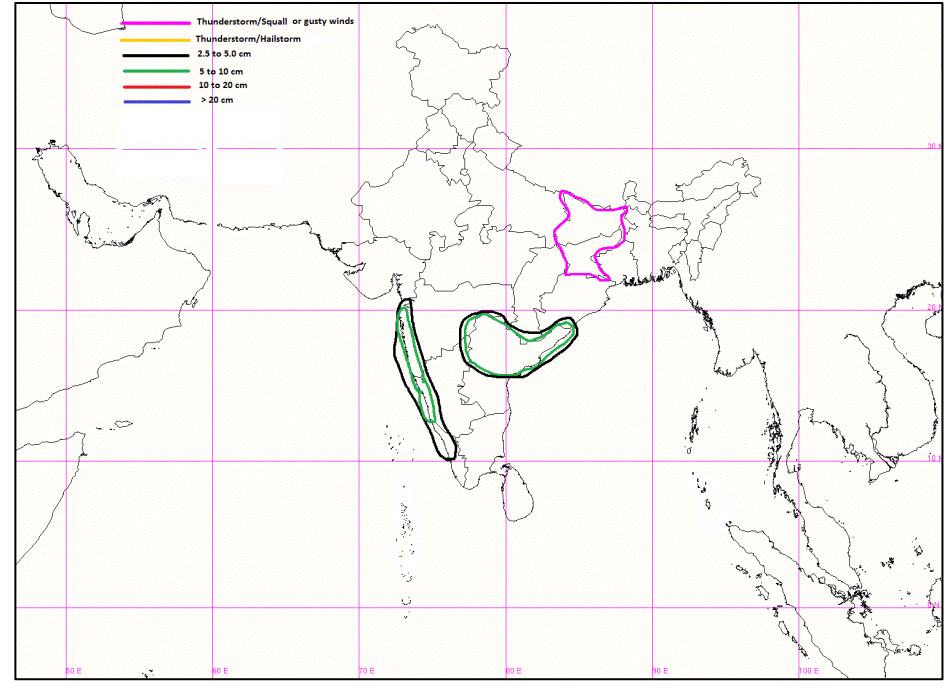
Satellite sounder based T- Phigram

[http://satellite.imd.gov.in/map\\_skm2.html](http://satellite.imd.gov.in/map_skm2.html)

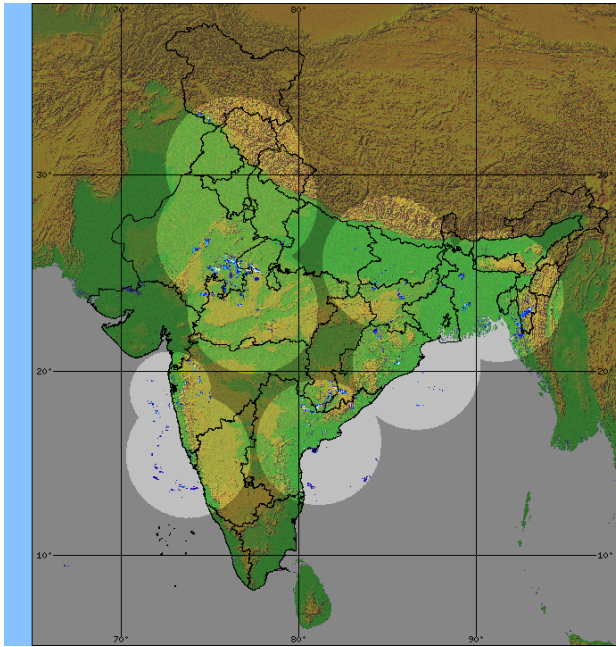




**IOP Advisory for 24 hours**



**IOP Advisory for 48 hours**

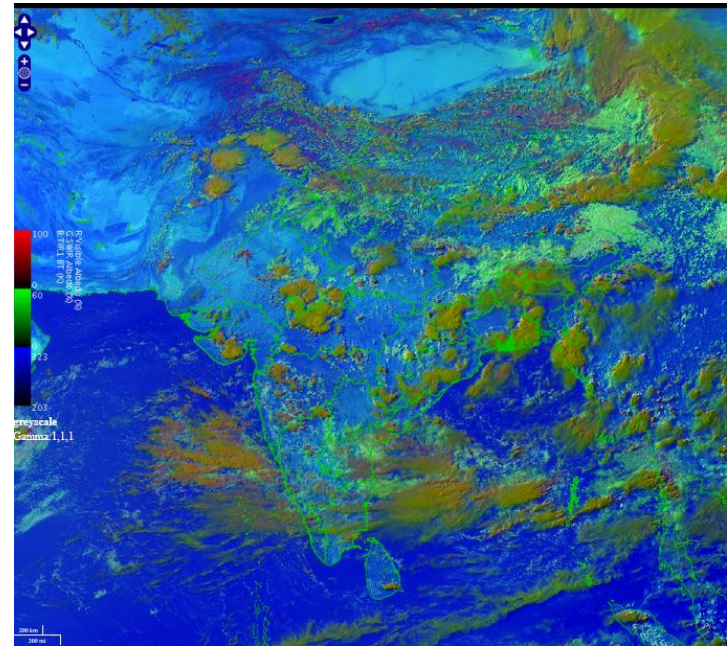


INDIA  
 PPI  
 COMP  
 Task: IMD-C  
 PRF: 250Hz  
 Elevation:0.2  
 Max Range:1695 km  
**17:00:26**  
**8 JUN 2017 IST**

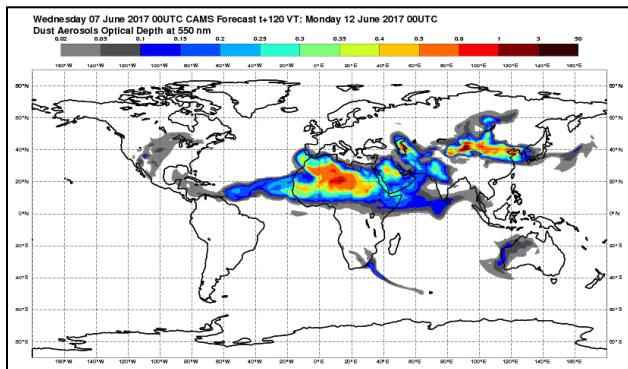
49.4	>51.5
47.3	49.4
45.2	47.3
43.1	45.2
41.0	43.1
38.9	41.0
36.8	38.9
34.7	36.8
32.6	34.7
30.5	32.6
28.4	30.5
26.3	28.4
24.2	26.3
22.1	24.2
20.0	22.1

Reflectivity in dBZ

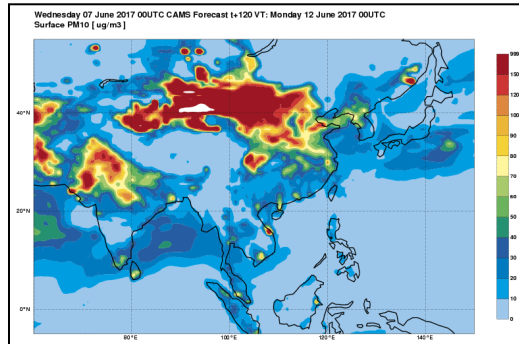
**DWR composite at 1700 hrs IST**



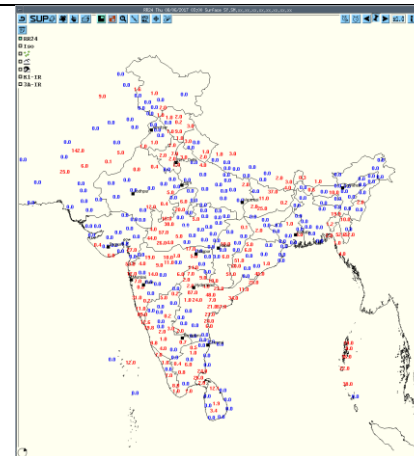
**RAPID RGB Satellite Imagery at 1600 hrs IST of today**



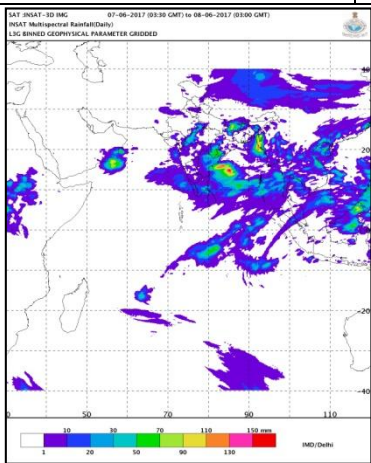
**Forecast Dust Concentration for 00UTC of 12<sup>th</sup> June**



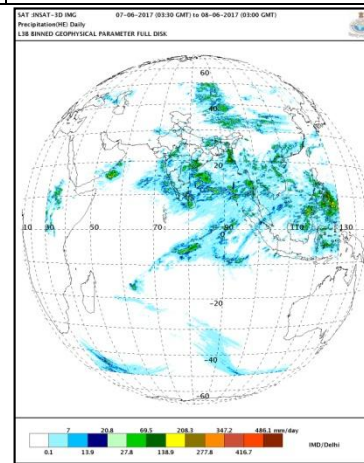
**PM10 Forecast for 00UTC of 12<sup>th</sup> June**



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

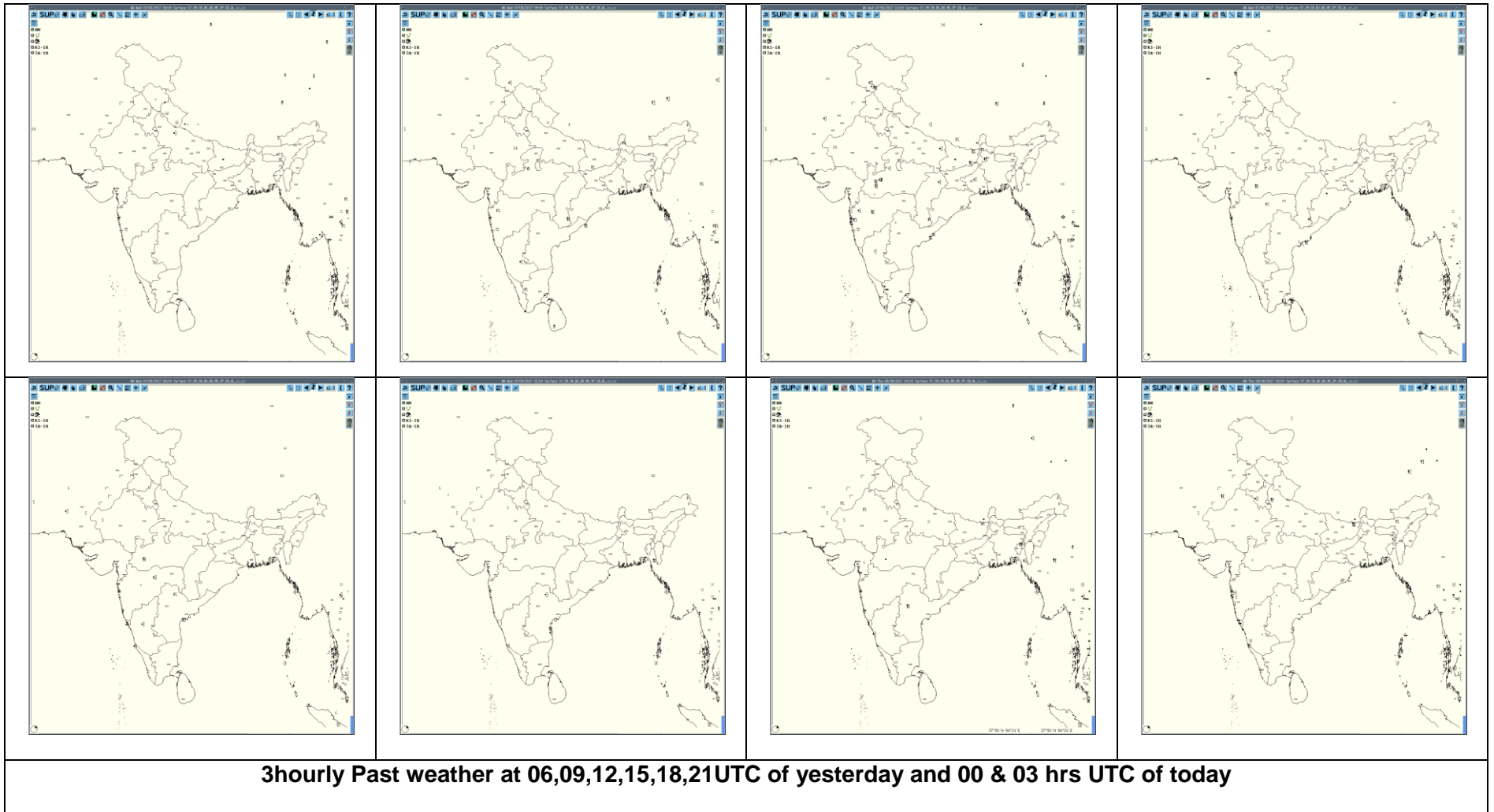


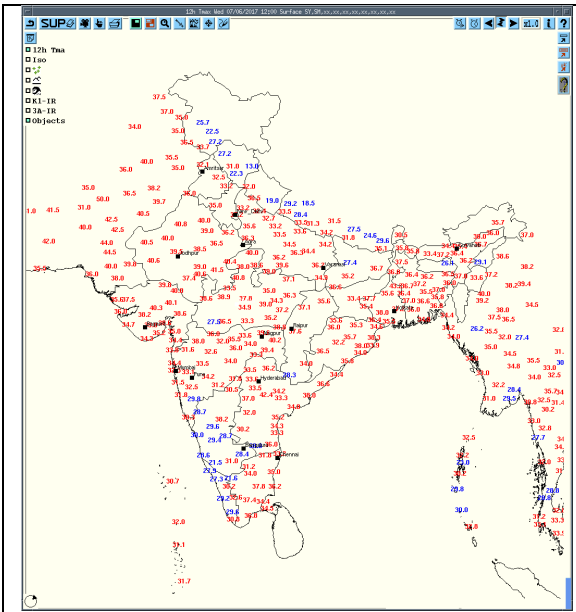
**IMR Rainfall**



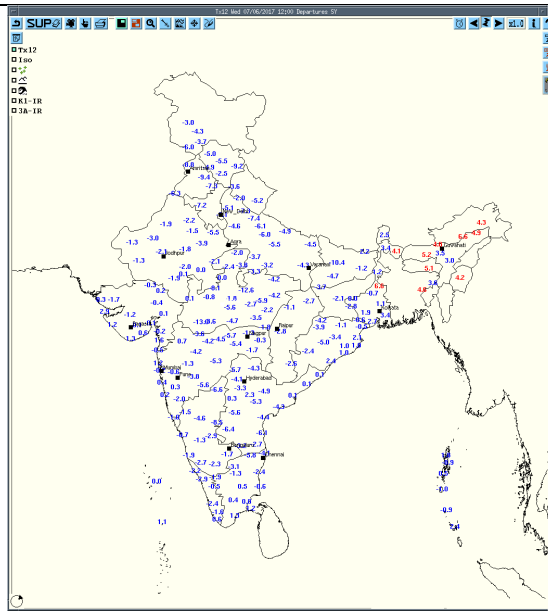
**HEM Rainfall**



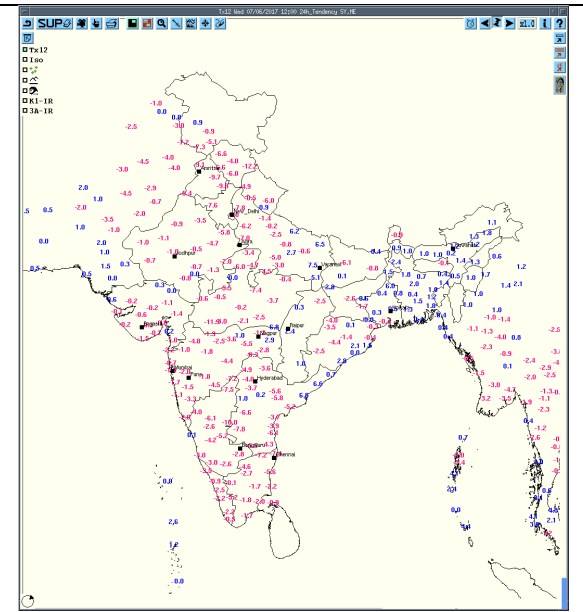




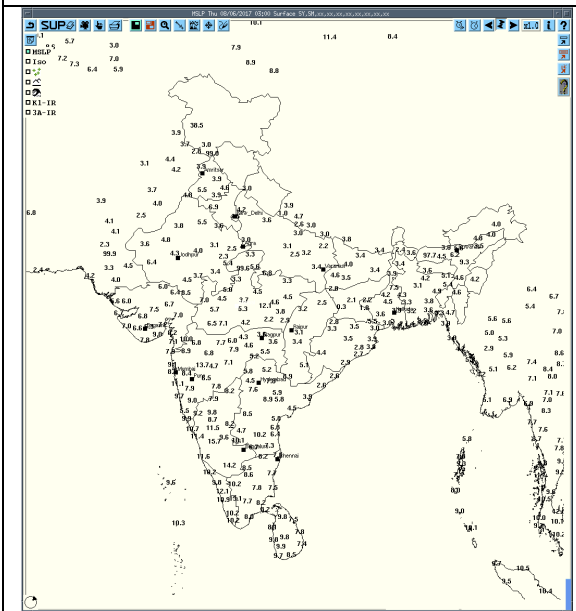
Tmax



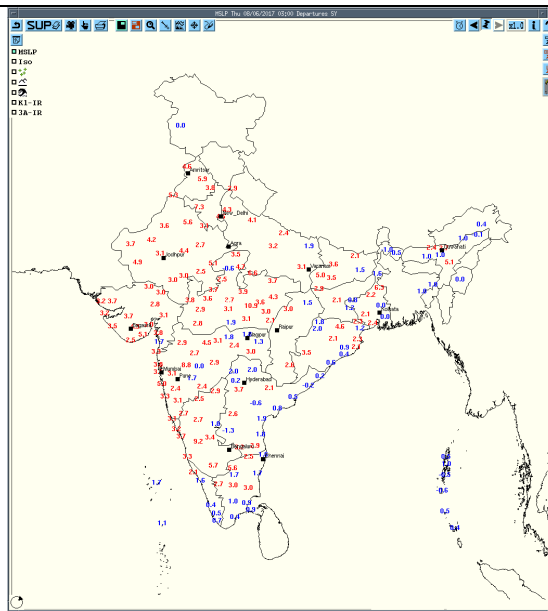
Departure Tmax



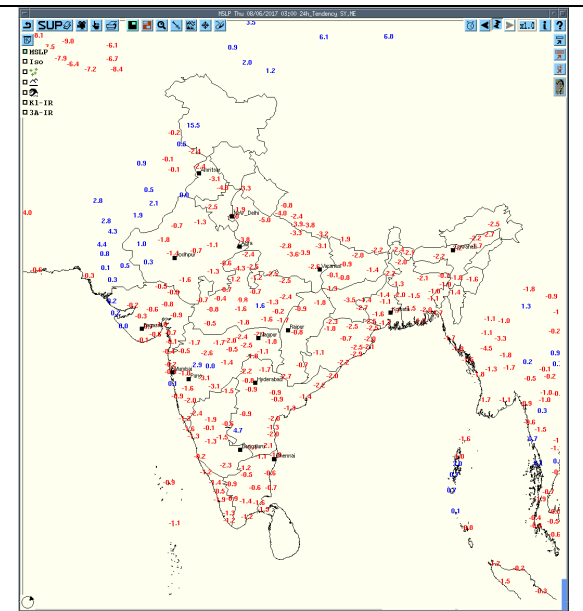
Tendency Tmax



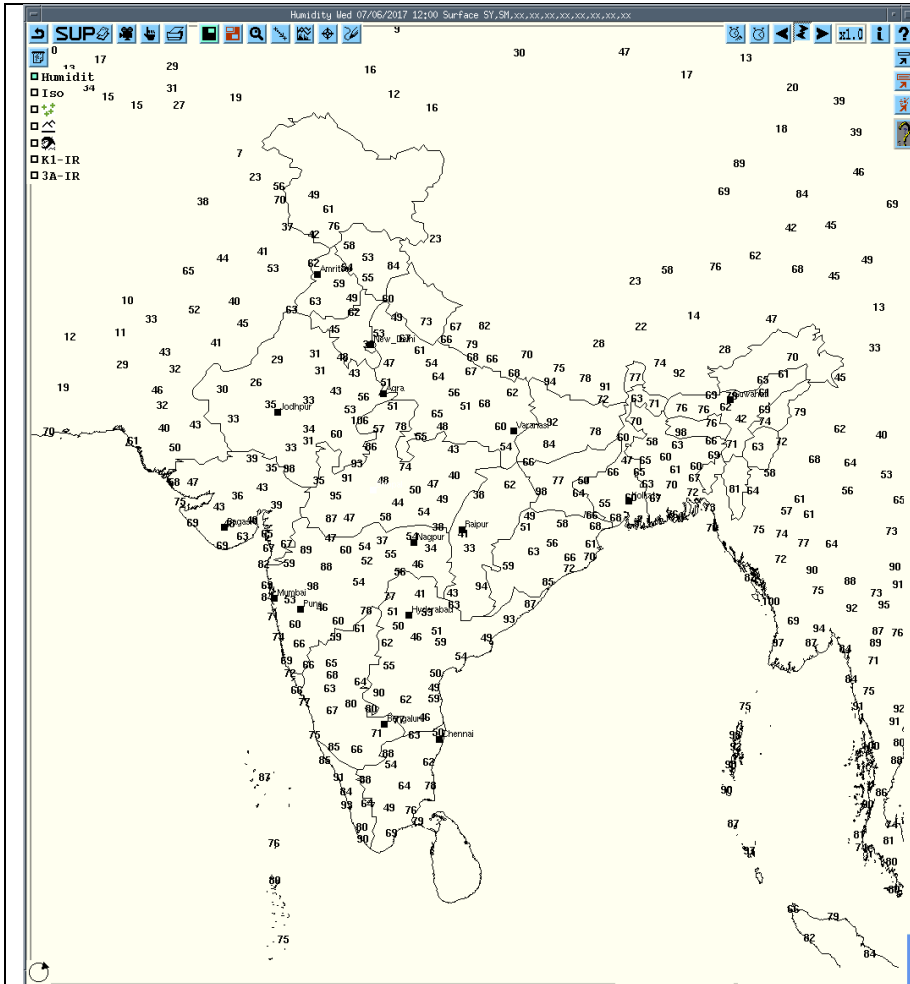
MSLP



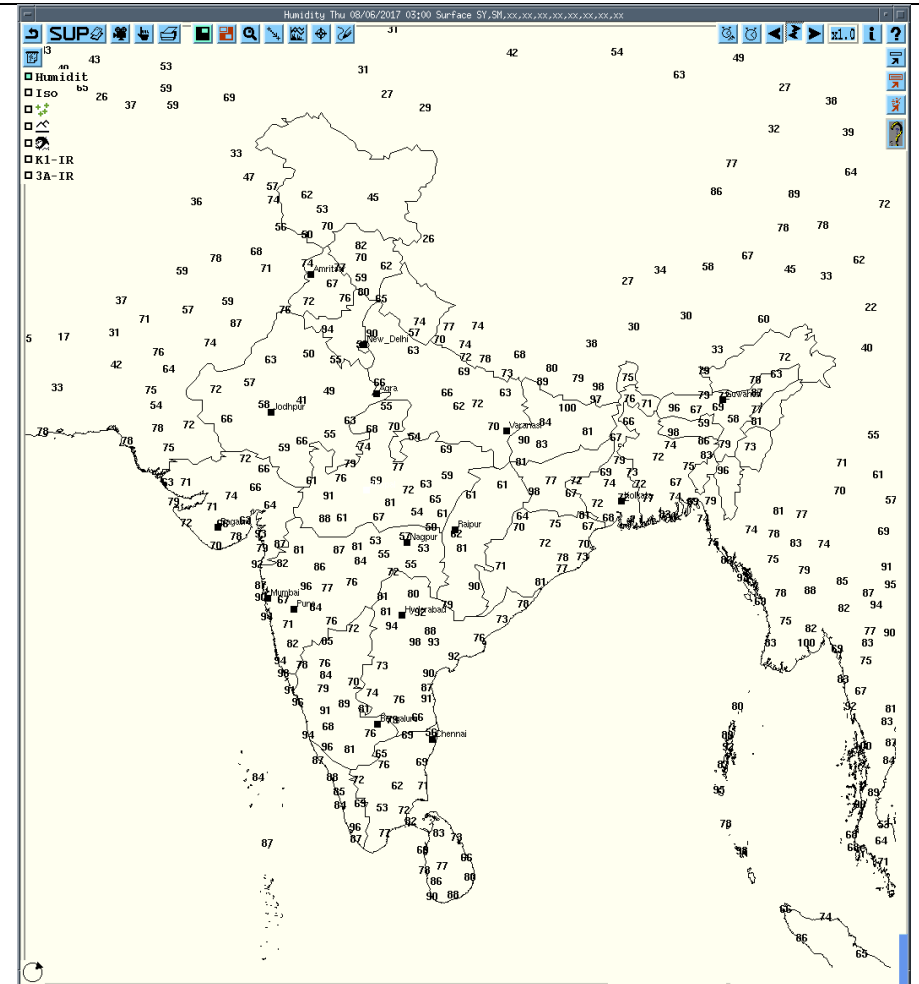
Departure MSLP



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
07-06-17	0600UTC	Shillong	Northeast India	Meghalaya	Thunderstorm
07-06-17	0900UTC	Gangtok	East India	Sikkim	Thunderstorm
		Gaya	East India	Bihar	Thunderstorm
		Guna/Jagdapur	Central India	Madhya Pradesh	Thunderstorm
		Jagdapur	Central India	Chhattisgarh	Thunderstorm
		Nasik	West India	Maharashtra	Thunderstorm
		Calingapatnam	South India	Andhra Pradesh	Thunderstorm
		Coimbatore	South India	Tamilnadu	Thunderstorm
07-06-17	1200UTC	Banihal, Bhaderwah	Northwest India	J & K	Thunderstorm
		Jalpaiguri/Bhagalpur	East India	West Bengal/Bihar	Thunderstorm
		Ujjain, Shajapur, Indore	Central India	Madhya Pradesh	Thunderstorm
		Jagdapur	Central India	Chhattisgarh	Thunderstorm
		Aurangabad	West India	Maharashtra	Thunderstorm
		Tuni, Kakinada	South India	Andhra Pradesh	Thunderstorm
		Puralur	South India	Kerala	Thunderstorm
07-06-17	1500UTC	Indore	Central India	Madhya Pradesh	Thunderstorm
		Akola	Central India	Vidarbha	Thunderstorm
		Narsapur, Machhlipatnam	South India	Andhra Pradesh	Thunderstorm
		Tondi, Pamban	South India	Tamilnadu	Thunderstorm
07-06-17	1800UTC	Indore/Akola	Central India	Madhya Pradesh/Vidarbha	Thunderstorm
		Bapatla, Ramagundam	South India	Andhra Pradesh	Thunderstorm
07-06-17	2100UTC	Nellore	South India	Andhra Pradesh	Thunderstorm
08-06-17	0000UTC	Bikaner	Northwest India	Rajasthan	Thunderstorm
		Kailasahar	Northeast India	Tripura	Thunderstorm
		Hyderabad	South India	Andhra Pradesh	Thunderstorm
08-06-17	0300UTC	Meerut	Northwest India	Uttar Pradesh	Thunderstorm
		Majbat	Northeast India	Assam	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)
Banihal	Northwest India	J & K	Thunderstorm	07-06-17	1300	1740
Batote	Northwest India	J & K	Thunderstorm	07-06-17	1605	1635
Bhaderwah	Northwest India	J & K	Thunderstorm	07-06-17	1545	1730
Hissar	Northwest India	Haryana	Thunderstorm	07-06-17	0830	0900
Chandigarh	Northwest India	Haryana	Thunderstorm	07-06-17	0830	0930
Ganganagar	Northwest India	Rajasthan	Thunderstorm	08-06-17	0340	0350
Bikaner	Northwest India	Rajasthan	Thunderstorm	08-06-17	0028	0045
Churu	Northwest India	Rajasthan	Thunderstorm	08-06-17	0125 0240	0140 0300
Muzaffarnagar	Northwest India	Uttar Pradesh	Thunderstorm	07-06-17	1100	1200
Meerut	Northwest India	Uttar Pradesh	Thunderstorm	07-06-17	0750	0830
Nagpur	Central India	Vidarbha	Thunderstorm	07-06-17	1517	1640
Akola	Central India	Vidarbha	Thunderstorm	07-06-17	2010 2120	2045 2240
Chhindwada	Central India	Madhya Pradesh	Thunderstorm	07-06-17	1315	1430
Jagdalpur	Central India	Chhattisgarh	Thunderstorm	07-06-17	1325	1800
Gangtok	East India	Sikkim	Thunderstorm	07-06-17	1320	1445
Alipore	East India	West India	Thunderstorm	07-06-17	1618	1721
Patna	East India	Bihar	Thunderstorm	07-06-17	1130	1255
Gaya	East India	Bihar	Thunderstorm	07-06-17	1140	1440
Bhagalpur	East India	Bihar	Thunderstorm	07-06-17	1235 1640	1240 1855
Purnia	East India	Bihar	Thunderstorm	07-06-17	1436 1555	1500 1610
Jamshedpur	East India	Jharkhand	Thunderstorm	07-06-17	1550	1710
Ranchi	East India	Jharkhand	Thunderstorm	07-06-17	1525	1655
Port Blair	East India	Andaman & Nicobar	Thunderstorm	07-06-17	1645	1735
Guwahati	Northeast India	Assam	Thunderstorm	07-06-17	1439	1520
Barapani	Northeast India	Meghalaya	Thunderstorm	07-06-17	1245	1545
Shillong	Northeast India	Meghalaya	Thunderstorm	07-06-17	1120	1240
Lengpui	Northeast India	Mizoram	Thunderstorm	07-06-17	2145	2300
Tondi	South India	Tamilnadu	Thunderstorm	07-06-17	1740	1940

## Past 24 hours DWR Report:

Radars 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	08/06/17	070612 - 071224	Multiple cells formed NNW & NNE OF DWR Agartala at a distance of 200km with Maximum cell Height 10.5 km at 0612 UTC and maximum reflectivity 41 dBZ at 0612 UTC	Formed NNW & NNE at 200 km respectively of DWR and moves West wards with around 8 kmph.	Cells dissipated at 1212 UTC over 200km in NNE Direction.	N/A	N/A
		071322 - 071812	Multiple cells formed SE OF DWR Agartala at a distance of 150 km with Maximum cell Height 14 km at 1322 UTC and maximum reflectivity 37.50 dBZ at 1322 UTC	Formed 150 km NE of DWR and moved North wards at around 23kmph	Cells dissipated at 1822 UTC over 80 km north Direction.	N/A	N/A
		072052 - 080252	Multiple cells formed NE OF DWR Agartala at a distance of 20 km with Maximum cell Height 14 km at 2202 UTC and maximum reflectivity 41.50 dBZ at 2202 UTC	Formed 20 km NE of DWR and moved NNW wards at around 30kmph	Cells dissipated at 0252 UTC over 80 km north Direction	N/A	N/A
Karaikal	07.06.17	1. 1333-1922	1)Cluster of cells in SW and NW direction S at 230 km range with max reflectivity of 55dBz and Average height of 10KM	1. Started merging from 1552Z and moving in SEly direction with a speed of 27 kmph	1.Cells started forming at 1333Z and intensity increased upto 1922	Station experienced DRIZZLE from 1845Z to 1850Z , 2045Z to 2047Z and 2315Z to 2325Z	Karaikal
	08.06.17			nil			

Radar station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/ multiple cells/ convective regions/squall lines) with height of 20 dBZ echo top and maximum reflectivity.	Formation w.r.t. Radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Jaipur	08/06/17	0132-0222 UTC	Single cell with average height of 4.0 km & maximum reflectivity 45 dBZ	Single Cell develop 0132 to 0212 UTC of 07/06/2017 towards NW of Jaipur and moved to W Wards at speed 45 -50 km/hr	Cell starts forming from 0132 UTC of 07/06/2017 at NW of Jaipur and reaches maximum reflectivity during 0132-0212 UTC and died down 0222 UTC.	Thunderstorm/ rain at isolate places	Churu, Jhunjhunu
		0242-0422 UTC	Multiple cells with average height of 4.5 km & maximum reflectivity 46.5 dBZ	Multiple Cells develop 0242 to 0412 UTC of 07/06/2017 towards N , NE of Jaipur and moved to NW Wards at speed 25 -30 km/hr	Cells starts forming from 0242 UTC of 07/06/2017 AT N, NE of Jaipur and reaches maximum reflectivity during 0242-0412 UTC and died down 0422 UTC.	Thunderstorm/ rain at isolate places	Jaipur, Dausa, Jhunjhunu, Alwar
		0432-0000 UTC	Multiple cells with average height of 5.3 km & maximum reflectivity 56.50 dBZ	Multiple Cells develop 0432 UTC of 07/06/2017 towards N ,NE, E, SW, SE, S , SSW, NW of Jaipur and moved to SE Wards at speed 10-14 km/hr	Cells starts forming from 0432 UTC of 07/06/2017 AT N ,NE, E, SW, SE, S , SSW, NW of Jaipur and reaches maximum reflectivity during 0432-0000 UTC and cells were continuously developed and dissipated.	Thunderstorm/ rain at isolate places	Jaipur, Jhunjhunu, Tonk, Dausa, Sawaimadhopur, Kota, Jhalawar, Baran, Bundi, Ajmer, Chittorgarh, Nagaur, Churu, Sikar
Srinagar	08/06/17	07 JUNE 03Z to 08JUNE03Z(24hrs)	Single cell developed in SW direction of DWR at 0530utc and grew in to multiple cells with max reflectivity 55-60dbz and height 9 kms moved se wards and dissipated there Another single cell developed in WNW direction of DWR and ESE wards at 830 UTC and dissipated at 1320 UTC max reflectivity 50-55 dBZ and height 8 kms	1.Moved SW of DWR and dissipated at 0820 UTC 2. mover ESE direction and dissipated at 1320 UTC	Thunderstorm observed at Banihal Bheaderwah and Batote	Light rain at isolated places	Doda

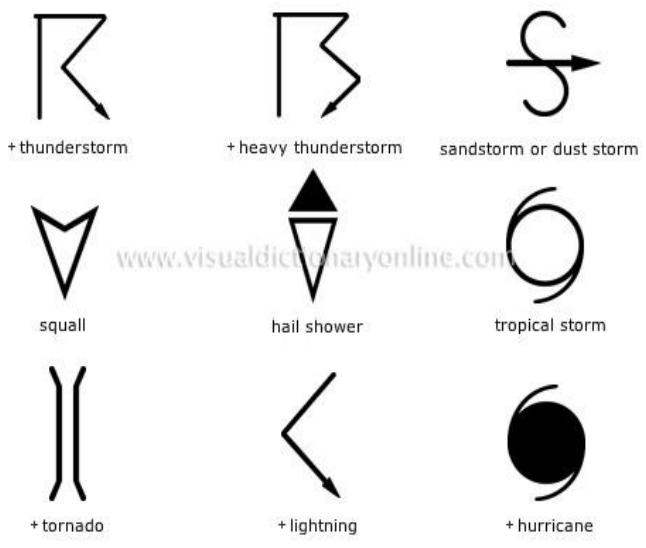
Radars Station Name	Date	Time Interval Of Observation (UTC)	Organisation Of The Cells(Isolated Single Cells/ Multiple Cells/ Convective Regions/ Squall Lines) With Height Of 20 dbZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Patna	08/06/17	070300 - 070615	Multi Cell. Maximum Reflectivity : 49.5 dBZ Echo Top : 10 KM	Range: 56 KM from DWR Patna in NE direction. Movement-NW	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMS	N/A	Siwan, Saran, Patna, Vaishali, Buxar, Bhojpur, Nalanda
		070545 - 070845	Multi Cell. Maximum Reflectivity : 51 dBZ Echo Top : 14 KM	Range: 99.9 KM from DWR Patna in SE direction. Movement-NE	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMS	N/A	Nawada, Nalanda, Jehanabad, Patna, Aurangabad, Rohtas, Bhabhua, Saran, Siwan, Gopalganj, Bhojpur, Buxargaya, Khagaria, Munger, Begusarai, Samastipur, Muzaffarpur
		070845 - 070915	NIL	NIL	N/A	N/A	N/A
		070915 - 071215	Multi Cell. Maximum Reflectivity : 44.5 dBZ Echo Top : 10 KM	Range: 28 KM from DWR Patna in E direction. Movement-N	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMS	N/A	Nalanda, Begusarai, Buxar, Darbhanga, Madhubani, Sitamari, Supaul, Saharsa, Madhepura, Samastipur And Muzaffarpur
		071030 - 071330	Multi Cell. Maximum Reflectivity : 42 dBZ Echo Top : 12 KM	Range: 65.1 KM from DWR Patna in E direction. Movement-NW	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMS	N/A	Patna, Vaishali, Saran, Khagaria, Purnia, Bhagalpur, Katihar And Lakhisarai
		071330 - 072245	NIL	NIL	N/A	N/A	N/A
		072245 - 080145	Multi Cell. Maximum Reflectivity : 41.5 dBZ Echo Top : 12 KM	Range: 174 KM from DWR Patna in NE direction. Movement-STATIONARY	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMS	N/A	East Champaran, West Champaran, Gopalganj, Siwan, Muzaffarpur, Sitamarhi And Madhubani
		080145 - 080300	NIL	NIL	N/A	N/A	N/A

Radar station name	Date	Time interval of observation (UTC)	Organization of the cell (isolated single cell/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
Bhuj	07 /06/17	0130 TO 1230	Isolated cells initially at Ht. of 2.0 Km to 12 Km with 47 dBZ Max. Z Successively at Ht. of 2 Km to 12 Km with 53 dBZ Max. Z successively at Ht. of 2.5 Km to 12 Km with 50dBZ Max. Z	Initially 120 KM to 150 KM E move towards NE to E successively at 120 KM ESE move towards NE.	Observed during 09:02 UTC to 11:17 UTC	TS or TSRA	(1) Rajkot (2) Surendra nagar
Machilipatnam	07/0300 to 08/0300	0931 to 0101 UTC	Convective region with average height of 8.5km with maximum reflectivity of 60 dBZ	NE (196KM) and moving initially SWly direction and later Sly with average speed of 35.0kmph	Cell started forming at 0931UTC, at NE(250km) from Radar the maximum reflectivity during 1001 to 1541 UTC and died down at 0101TC	Possibility of Thunder storm with Hail and rain with moderate winds.	Krishna, Guntur, Prakasam, Kurnool, Suryapet, Nalgonda, Khammam, Warangal (Rural & Urban), Yadadri-bhongir, Jangon, Mahabubabad, Bhadradri Kothagudum, Jayasankar Bhupalapalli Districts.
Paradeep	07/06/17	0300-2200 UTC	Isolated single cells seen in the western sector of the RADAR between 270-359 degrees and with av. Reflectivity value of 30 dBZ and heights of 09 km.	Position: Western sector of radar at a distance of 0-250 km approx. scattered in the zone. Movement: SEly	NIL	TS	Dhenkanal Bhadrak, Jajpur, Angul, Keonjhar, Mayurbhanj, Khorda, Cuttack, Puri and Ganjam.

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	08-06-17	07 /0300 - 0600	Multiple cells Max=44.5 Ht.=6-8km	-NW,E,SSE SECTOR, MOVEMENT E WARDS	-----	-RA	Panipat, Shamli, Mussorie,
		07 / 0600 - 0900	NO ECHO	-----	-----	-----	-----
		07 / 0900- 1200	NO ECHO	-----	-----	-----	-----
		07/ 1200 - 1500	NO ECHO	-----	-----	-----	-----
		07/ 1500 - 1800	NO ECHO	-----	-----	-----	-----
		07 / 1800 - 2100	NO ECHO	-----	-----	-----	-----
		07/ 2100- 08 /0000	Multiple cells Max=54.0 Ht.=10-12km	SW, SECTOR MOVEMENT SE WARDS	-----	TS/RA-	Barnala, Fatehabad, Bethanda, Elinabad.
		08 / 0000 - 0300	Multiple cells Max=52.0 Ht.=9-11 km	SW, SECTOR MOVEMENT SE WARDS	-----	-----	Fatehabad, Barnala, Sirsa, Jind, Fatehabad,
Kolkata	07-06-2017	0301-1000 UTC	NIL	NIL	NO ECHO	NIL	NIL
		1001-1110 UTC	Isolated single cell, developed with maximum reflectivity of 55.5 dBz at 1020 UTC and maximum height more than 10.21 km at 1030 UTC	WEST(230km) NEARLY STATIONARY	Isolated single cell developed at WEST at a distance of 230 km from Radar at 1001 UTC. Matured and dissipated at 1110 UTC in WEST at a distance of 230 km from Radar.	Thunderstorm / Hailstorm / Squall /Rain	N/A
		1111-2351 UTC	NIL	NIL	NO ECHO	NIL	NIL
	08-06-2017	0001-0301 UTC	NIL	NIL	NO ECHO	NIL	NIL

Radar Station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
DWRVSK	07/06/17	0300 UTC 0600 UTC	Single isolated cells in NEly and Convective region with CB cells in SEly with max reflectivity 60dbz and max. height of 16 kms	NE(200-250 KMS) & SE( 200-300 KMS) and moving SE ly	Forming one after another with max. reflectivity of 60dBz and after well matured start dissipating.		-
DWRVSK	07/06/17	0300 UTC 0600 UTC	Single isolated cells in NEly and Convective region with CB cells in SEly with max reflectivity 60dbz and max. height of 16 kms	NE(200-250 KMS) & SE( 200-300 KMS) and moving SE ly	Forming one after another with max. reflectivity of 60dBz and after well matured start dissipating.		-
DWRVSK	07/06/17	0600 UTC 0900 UTC	1)Convective region between NW to NE. CB Cells are forming one after one and fully developing and dissipating with max reflectivity 60dbz with 16km height and moving in SW direction towards station. 2) Convective region with CB cells in SEly with max reflectivity 55dbz and max height of 14 kms moving Wly	Between NW to NE 150 KMS & SE( 160-250 KMS) and moving	Forming one after another with max. reflectivity of 60dBz and after well matured start dissipating.		-
DWRVSK	07/06/17	0900 to 1200 UTC	1) Convective region between SW to NE upto 200km from station. Already formed CB Cells around station and newly forming CB cells and fully developing and dissipating with max reflectivity 55dbz with 14km height and moving in SW direction towards and away from station. 2) Convective region with CB cells in SEly with max reflectivity 38dbz and max height of 8 kms moving Wly	Between SW to NE 150 KMS & SE( 160-250 KMS).	Forming one after another with max. reflectivity of 55dBz and after well matured start dissipating.		-
DWRVSK	07/06/17	1200 UTC 1500 UTC	Convective region of isolated CB cells from NW TO SW with max reflectivity 53 dbz with average height 10kms.	Continued to be formed and moving SWly.	Reflectivity dies to 43 dbz at 14.51 UTC since the last observation.	-	-
DWRVSK	07/06/17	1500 UTC 1800 UTC	Convective region from W TO SW region with max reflectivity 48dbz and average height 8kms.	Continued formation and SW ly direction.	Cells formations are continuous and its reflectivity lasts for long time and dies in reflectivity.	-	-
DWRVSK	08/06/17	1800 UTC 0000 UTC	Small convective cloud at WSW with max reflectivity 36dbz and height 7kms.	SW	-	-	-
DWRVSK	08/06/17	0000 UTC 0300 UTC	Small convective cloud at SW with max reflectivity 36dbz and height 4kms and SE 240 km with max reflectivity 52dbz height 10 km.	SW and SE	Forming and dissipating quickly	-	-





∞	haze
⌋	smoke
⊕	dust or sand storm
≡	fog
⚡	drizzle
•	rain
✱	snow
▽	showers
△	hail
⌋	thunderstorm
<b>Weather Symbols</b>	