



**India Meteorological Department**  
**FDP STORM Bulletin No.117 (30-06-2017)**

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

- ◆ The Northern Limit of Monsoon (NLM) continues to pass through Lat. 26.0 °N / Long. 70.0°E, Barmer, Chittorgarh, Guna, Satna, Siddhi, Patna and Lat.27.0°N / Long. 85.0°E.
- ◆ Favourable conditions are developing for the further advance of southwest monsoon into remaining parts of Bihar and some more parts of Madhya Pradesh, East Uttar Pradesh during next 48 hours and subsequently towards West Uttar Pradesh, National Capital Region (NCR) and some parts of Uttarakhand and Haryana during next 72 hours.
- ◆ The low pressure area over Saurashtra and neighbourhood, now lies over Kutch & neighbourhood and associated upper air cyclonic circulation extends upto 5.8 km above mean sea level.
- ◆ An upper air cyclonic circulation lies over northeast Rajasthan & neighbourhood and extends upto 2.1 km above mean sea level.
- ◆ A fresh western disturbance as an upper cyclonic circulation lies over northeast Afghanistan & adjoining north Pakistan between 3.1 & 5.8 km above mean sea level.
- ◆ An upper air cyclonic circulation lies over northwest & adjoining westcentral Bay of Bengal off south Odisha-north Andhra Pradesh coast between 1.5 & 3.1 km above mean sea level.
- ◆ The upper air cyclonic circulation over Jharkhand & adjoining Bihar, now lies over Bihar & adjoining Uttar Pradesh and extends upto 0.9 km above mean sea level.
- ◆ The trough at mean sea level from center of low pressure area over Saurashtra & neighbourhood to westcentral Bay of Bengal now runs from center of low pressure area over Kutch & neighbourhood to east Assam across south Uttar Pradesh, Bihar and extends upto 0.9 km above mean sea level.
- ◆ The feeble off-shore trough at mean sea level from south Gujarat coast to Kerala coast persists.
- ◆ The upper air cyclonic circulation over northwest Bay of Bengal & adjoining coastal areas of West Bengal, now lies over Jharkhand & adjoining Gangetic West Bengal between 1.5 & 3.1 km above mean sea level.
- ◆ The western disturbance as a trough in mid-tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 71.0°E and north of Lat. 30.0°N has moved away east-northeastwards.

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

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

**Convective Activity: Nil**

**Low Level Circulation(LLC):**

Scattered low/med clouds with embedded intense to very intense convection were seen over NE Arabian Sea & N/Hood in association with LLC over the area.

**Westerly Trough:**

Trough in westerlies runs roughly along long 71.0°E north of lat 30.0°N.

**Cloud Description:**

Broken low/medium clouds with embedded moderate to intense convection were seen over extreme S Uttar Pradesh (minimum CTT minus 70deg C), Haryana, N Bihar, adjoining Nepal, Sub Himalayan West Bengal adjoining Assam, adjoining Bangladesh, N Chhattisgarh, Arunachal

Pradesh and NE Odisha. Broken low/medium clouds with embedded isolated moderate to intense convection were seen over Gujarat, Kutch, E Madhya Pradesh, Madhya Maharashtra and Konkan. Scattered low/medium clouds with embedded moderate to intense convection were seen over N Telangana, North Coastal Andhra Pradesh and Bay Islands. Scattered low/medium clouds with embedded weak to moderate convection were seen over rest parts of North and West India. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over rest Andhra Pradesh, Lakshadweep and rest parts of East India. Scattered low/medium clouds were seen over rest parts of South India.

**Arabian Sea:**

Broken low/medium clouds with embedded moderate to intense convection were seen over NE adjoining EC Arabian Sea. Scattered low/medium clouds with embedded moderate to intense convection were seen over SE Arabian Sea, N Kerala & Karnataka coasts. **Bay of**

**Bengal & Andaman Sea:**

Broken low/medium clouds with embedded intense to very intense convection were seen over WC and adjoining EC Bay of Bengal. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over N Bay of Bengal, Andaman Sea and N Arakan coast.

**Past Weather:**

**Convection:-**

Intense to v intense convection over GUJ & KUTCH RAJ MP N CHTGH.

Moderate to Intense convection was observed over UTRKND, HARY DLH ORS S CHTGH BHR JHRKND ORS WB & SKM KKN MAHA NE STATES (.).

OLR:-

Upto 200 wm-2 was observed over J&K UTRKND RAJ MP CHTGH N CAP NE STATES.

Upto 230 wm-2 was observed over rest India except E UP W BHR TN.

**Westerly Trough & Jet-Stream:-**

Trough in Westerlies runs roughly along Longitude 71.0E North of Latitude 30.0N

& no Jet Stream is observed over India

**Dynamic Features:-**

Medium to High wind shear is observed over North & South India and Low wind shear is observed over Central India.

Negative shear tendency over NE STATES and Positive shear tendency is observed over GUJ.

**Precipitation:**

**IMR:**

Rainfall upto 150 mm was observed over E MP. Rainfall upto 110 mm was observed over W GUJ & KUTCH some parts of E MP S UP. Rainfall upto 70 mm was observed over some parts of GUJ RAJ UTRKND CHTGH ORS NE STATES SHWB W UP VID N CAP. Rainfall upto 50 mm was observed over HARY some parts of RAJ N KKN GUJ.

Rainfall up to **20** mm was observed over J&K HP rest parts of W UP HARY N PJB JHRKND GWB TLNGN CAP MRTHWD M MAHA(.).

**HEM:**

Rainfall from **208** mm was observed over some parts of GUJ & KUTCH E MP N CHTGH.

Rainfall from **139** mm was observed over some parts of J & K UTRKND RAJ GUJ E MP COT KRNTK N KKN RAJ VID S CHTGH S UP NE STATES.

Rainfall upto **14** mm was observed over rest INDIA except E UP W BHR TN.

## RADAR and RAPID Observation:

DWR composite of DWR Delhi, Jaipur and Lucknow at 1322 hrs IST indicated multiple convection over Uttar Pradesh adjoining North Madhya Pradesh, Haryana, Punjab and Rajasthan.

RAPID RGB Satellite imagery at 1230hrs IST indicated significant convective clouds over Rajasthan, Haryana, Punjab, W Uttar Pradesh, N Coastal Andhra Pradesh adjoining Telangana & S Chhattisgarh, E Madhya Pradesh, N Chhattisgarh, Jharkhand, Odisha, E Assam, E Arunachal Pradesh and Coastal Karnataka.

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

**Not Received.**

## **2. NWP MODEL GUIDANCE:**

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

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

**12 UTC Charts of Day 2-4** show heat low confined to Pakistan and adjoining Rajasthan with MSLP values lower than 990hPa

**00 UTC Charts of Day 1 -2** show a trough at mean sea level from Gujarat to Odisha across Uttar Pradesh, MP, Jharkhand. **In Day 3 -5** the trough is seen from Rajasthan to WB across UP, MP, Bihar/Jharkhand. An embedded CYCIR in **Day 5** is seen over UP and adjoining Bihar.

Another NW –SE trough at Gujarat and adjoining MP and Maharashtra in Day 1-2

Some isolated regions of wind discontinuity can be seen as embedded features in monsoon trough on all days.

**00 UTC Charts of Day 1** A CYCIR over Bihar/Jharkhand at 850 hPa is seen moving westward over UP in day 2.

**00 UTC Charts of Day 1-2** A CYCIR over Gujarat at 850 and 500 hPa

**00 UTC Charts of Day 1-4** Offshore trough off east coast from WB to Tamilnadu

**12 UTC Charts of Day 0-1** Western Disturbance as a trough is seen over Pakistan adjoining Punjab moving eastward in Day 1. In day 2-4 western disturbance is seen 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:**

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

Day0: Assam Meghalaya

Day1: Nil

Day2: Nil

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: Arunachal Pradesh, Assam Meghalaya, Odisha, Guj Reg, Coastal AP, TN Puducherry, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, East RJ, Guj Reg, Saurashtra Kutch, TN Puducherry, Kerala,

Day2: Jharkhand, Bihar, East UP, East RJ, TN Puducherry, Kerala,

Day3: Arunachal Pradesh, Sub Himalayan WB, Bihar, East UP, Himachal Pradesh, TN Puducherry, Kerala,

Day4: East UP, 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, Jharkhand, Bihar, East UP, Uttarakhand, Hry Chd Delhi, Himachal Pradesh, Jammu Kashmir, West MP, East MP,

Day1: Arunachal Pradesh, Sub Himalayan WB, Bihar, East UP, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ,

Day2: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ,

Day3: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, East UP, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, East MP, Coastal AP,

Day4: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ.

**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, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, East MP, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Rayalseema, TN Puducherry,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Saurashtra Kutch, Marathwada, Vidarbha, Chhattisgarh, Telangana, NI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, Saurashtra Kutch, Vidarbha, Coastal AP,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, TN Puducherry,

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, East RJ, Odisha, West MP, East MP, Marathwada, Vidarbha, Chhattisgarh, Telangana, TN Puducherry.

**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, Himachal Pradesh, Jammu Kashmir,

Day1: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir,

Day2: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir,

Day3: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ,

Day4: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ

**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, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, East MP, Guj Reg, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Andaman Nicobar, Coastal AP, Rayalseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, West RJ, Odisha, East MP, Guj Reg, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day3: 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, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Andaman Nicobar, 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, Hry Chd Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Guj Reg, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Coastal 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, Jammu Kashmir, East RJ, Odisha, East MP, Guj Reg, Konkan Goa, Madhya Maharashtra, Chhattisgarh, Andaman Nicobar, Coastal AP, Coastal Karnataka, NI Karnataka, SI Karnataka,

\*\*\* **Rainfall > 16cm/day over some parts of Gujarat in Day 1-2**

### 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 these features persist till day 5 and an associated a feeble low over Orissa coast persist next 3 to 4 days. A prominent off-shore trough is seen along west coast from Konkan and Goa up to Kerala persists up to day 5

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

No presence of jet core over the Indian region except Northern part of J & K on day 4 and day 5.

#### **3. Low level Vorticity:-Positive Vorticity 850hPa (>12 x 10<sup>-1</sup>/s):**

Mostly along foothills of Himalayas and along west coast from Konkan and Goa up to Kerala and mainly prominent during morning hours for 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):** Not exceeded threshold over the country.

**Lifted Index (< -2):** Less than threshold value in different pockets over most parts of the Delhi, UP, Bihar, GWB and adjoin areas for next 3 to 4 days. Over some parts of Gujarat and south Rajasthan next 2 to 3 days.

**Total-Total Index (> 50):** Above threshold value is not found over the country except over J & K region for next 3 to 4 days.

**Sweat Index (> 300):** Higher than threshold value over the areas similar to Lifted Index except it covers most parts of the peninsular India and J & K, H.P region.

**CAPE (> 1000):** Mostly western India over Rajasthan and Gujarat and over SHWB, GWB, Bihar, isolated pockets of coastal Orissa and Andhra Pradesh. It also appears over Northwest India along the monsoon trough over UP, Punjab, Haryana and adjoining areas.

**CIN (>150):** Consistently over Gujarat and adjoining Rajasthan and over some parts of Central India, extreme south parts of peninsular India during morning hours

#### **5. Rainfall and thunderstorm activity:**

40-70 mm rainfall and more over many parts of west coast and over a few pockets of NE states and along foothills of Himalayas till day 5.

20-40 mm rainfall Over parts of Orissa and adjoining GWB, south Jharkhand, Chhattisgarh and MP for next 4 to 5 days. Over Punjab, east UP and adjoining Delhi Haryana and Rajasthan from day 1 to day 5.

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

### **1. Model Reflectivity (Max.dBz):**

15-40 dBz model reflectivities over West coast of India mainly over northern ends today and next three days, over eastern coast of country along with GWP and adjoin areas for morning hours of today. Over parts of Punjab, Delhi and adjoin areas on today and tomorrow

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

**Total-Total Index ( > 50) :** Above threshold value mainly over parts northwest India and extending south-eastward over UP and over MP in central India during evening hours during next 2 days. Over eastern parts of peninsular India next 1 to 3 days.

**CAPE (> 1000):** Mostly over eastern parts of India, NE states and over North-west India mainly over western part of Rajasthan and Gujarat during next 2 days. Over eastern cost of country shows very high value on day 1 and day 3.

**CIN (50-150):** Analysis shows threshold value of CIN over Rajasthan, Haryana, Delhi and adjoining place India during morning hours..

### **3. Rainfall and thunderstorm activity:**

40-70 mm and more along west coast of India and Gujarat, UK and west UP, NE states for the next three days.

20-40 mm along foothills of the Himalayas, GWB, Jharkhand and Chhattisgarh for next two days. Over most parts of Punjab, Delhi and adjoining areas for next three days

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

#### Summary and Conclusions:

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

In association with the off-shore trough at mean sea level from south Gujarat coast to Kerala coast, rainfall is likely to persist along the west coast of India. The low pressure area over Kutch & neighbourhood and the upper air cyclonic circulation over northeast Rajasthan & neighbourhood will result in the main rainfall zone to be concentrated over North Konkan coast and Gujarat region on day 1 and 2.

The moisture feeding into North India from the Arabian Sea on account of the above systems and from the Bay of Bengal through low level easterlies on account of the upper air cyclonic circulation over Jharkhand & adjoining Gangetic West Bengal is likely to cause heavy rainfall over most of the Indian region, excluding east peninsular India.

#### 24 hour Advisory for IOP:

##### Rainfall:

Kerala, Coastal Karnataka, Konkan and Goa, Gujarat, Saurashtra and Kutch  
Madhya Maharashtra, East Madhya Pradesh, Chhattisgarh, Odisha, Bihar, Jharkhand, Sub Himalayan West Bengal, West and East Uttar Pradesh, Punjab, Haryana, East and West Rajasthan  
Uttarakhand, Himachal Pradesh, Jammu and Kashmir  
Assam Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Arunachal Pradesh

##### Thunderstorm with associated phenomena:

NIL

#### 48 hour Advisory for IOP:

##### Rainfall:

Kerala, Coastal Karnataka, Konkan and Goa, Gujarat, Saurashtra and Kutch  
Madhya Maharashtra, East Madhya Pradesh, Chhattisgarh, Odisha, Bihar, Jharkhand, Sub Himalayan West Bengal, West and East Uttar Pradesh, Punjab, Haryana, East and West Rajasthan  
Uttarakhand, Himachal Pradesh, Jammu and Kashmir  
Assam Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Arunachal Pradesh

##### Thunderstorm with associated phenomena:

NIL

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)

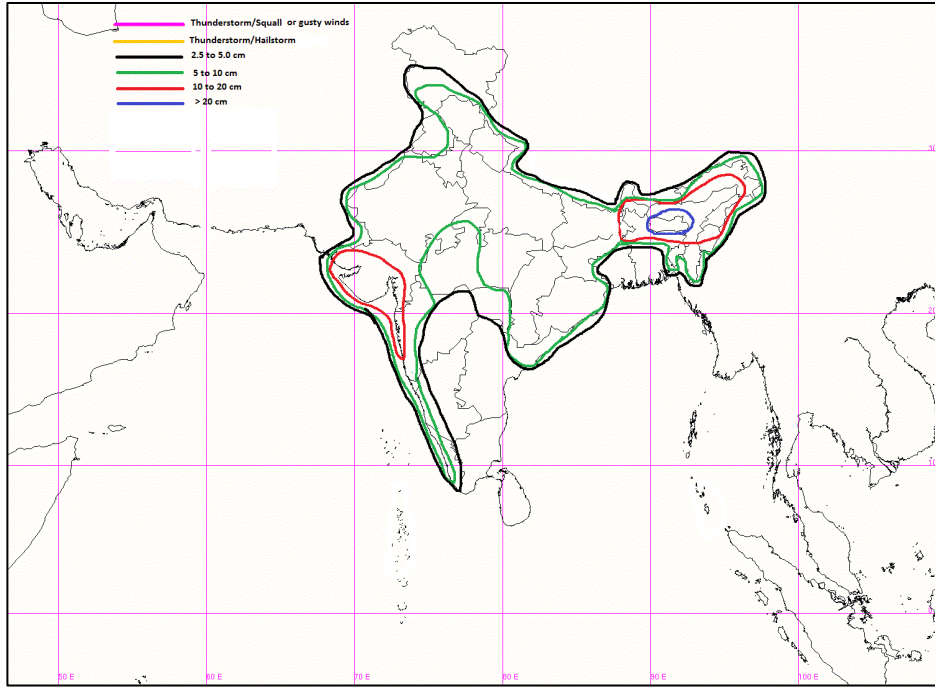
ForRadarimagesofthepast24hoursincludingmosaicofimages:

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

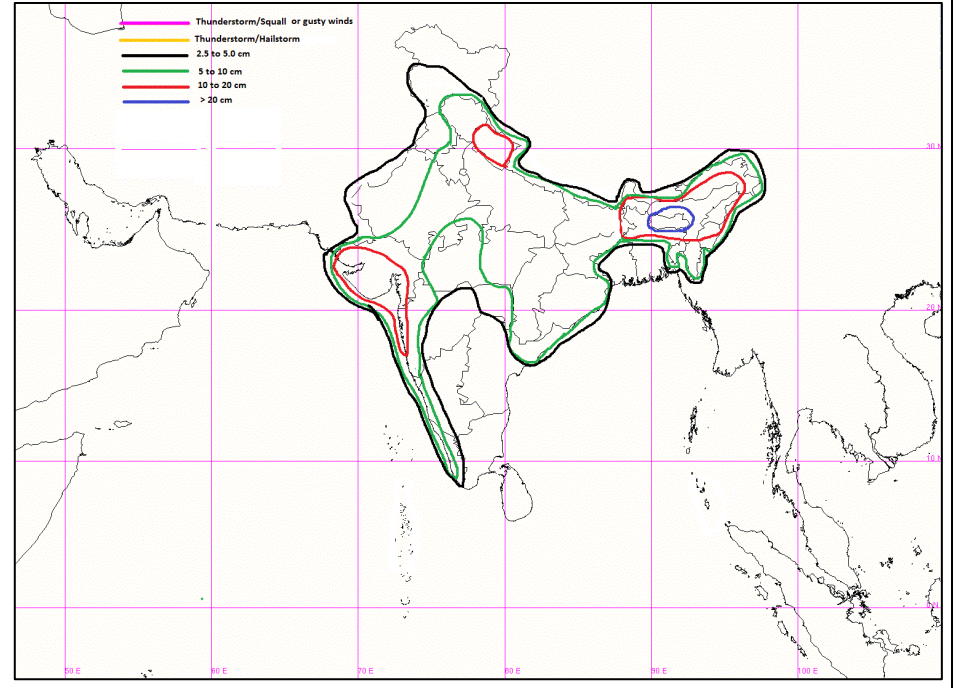
Satellite sounder based T- Phigram

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

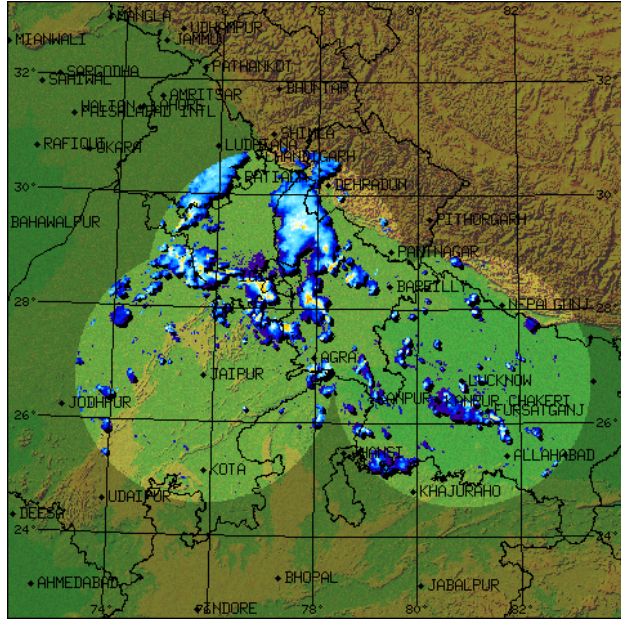




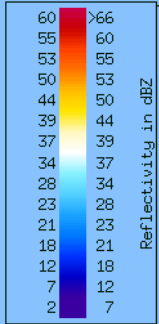
**IOP Advisory for 24 hours**



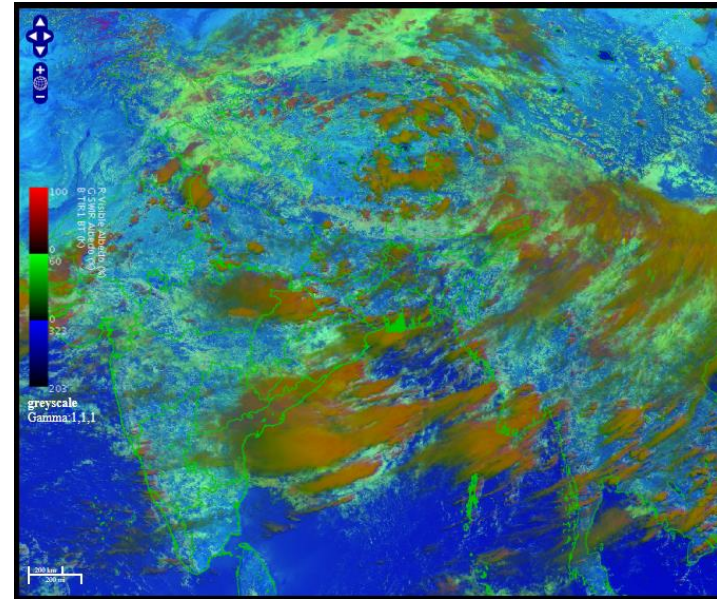
**IOP Advisory for 48 hours**



NORTH INDIA  
 Max with panels  
 COMP-MAX-ND  
 Task: IMD-B  
 Min Hgt:0.0 km  
 Max Hgt:15.0 km  
 Max Range:600 km  
**13:22:29**  
**30 JUN 2017 IST**



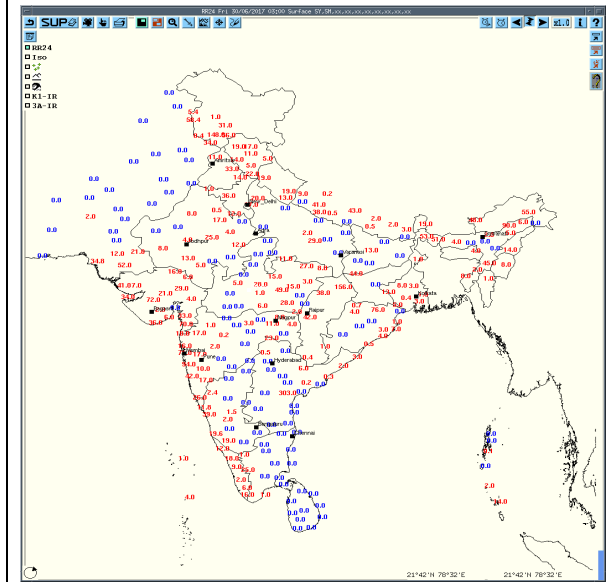
**DWR composite of DWR Delhi, Jaipur and Lucknow at 1322hrs IST**



**RAPID RGB Satellite Imagery at 1230 hrs IST of today**

Not Received

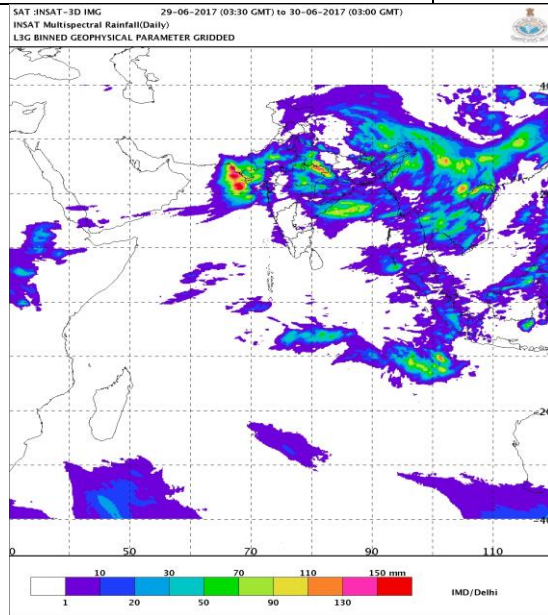
Not Received



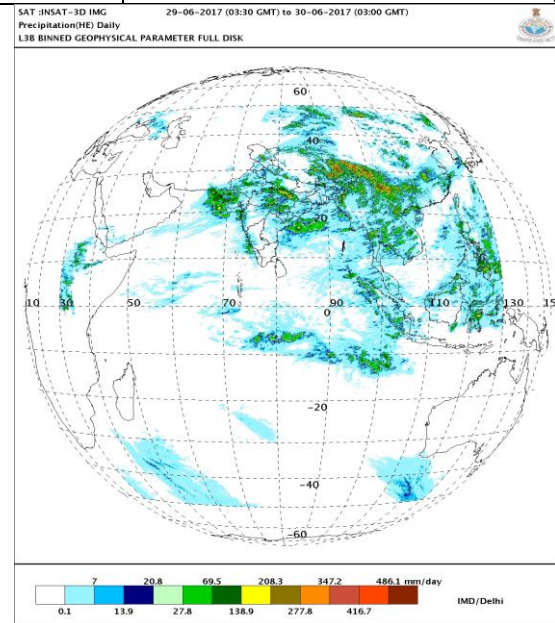
Forecast Dust Concentration

PM10 Forecast

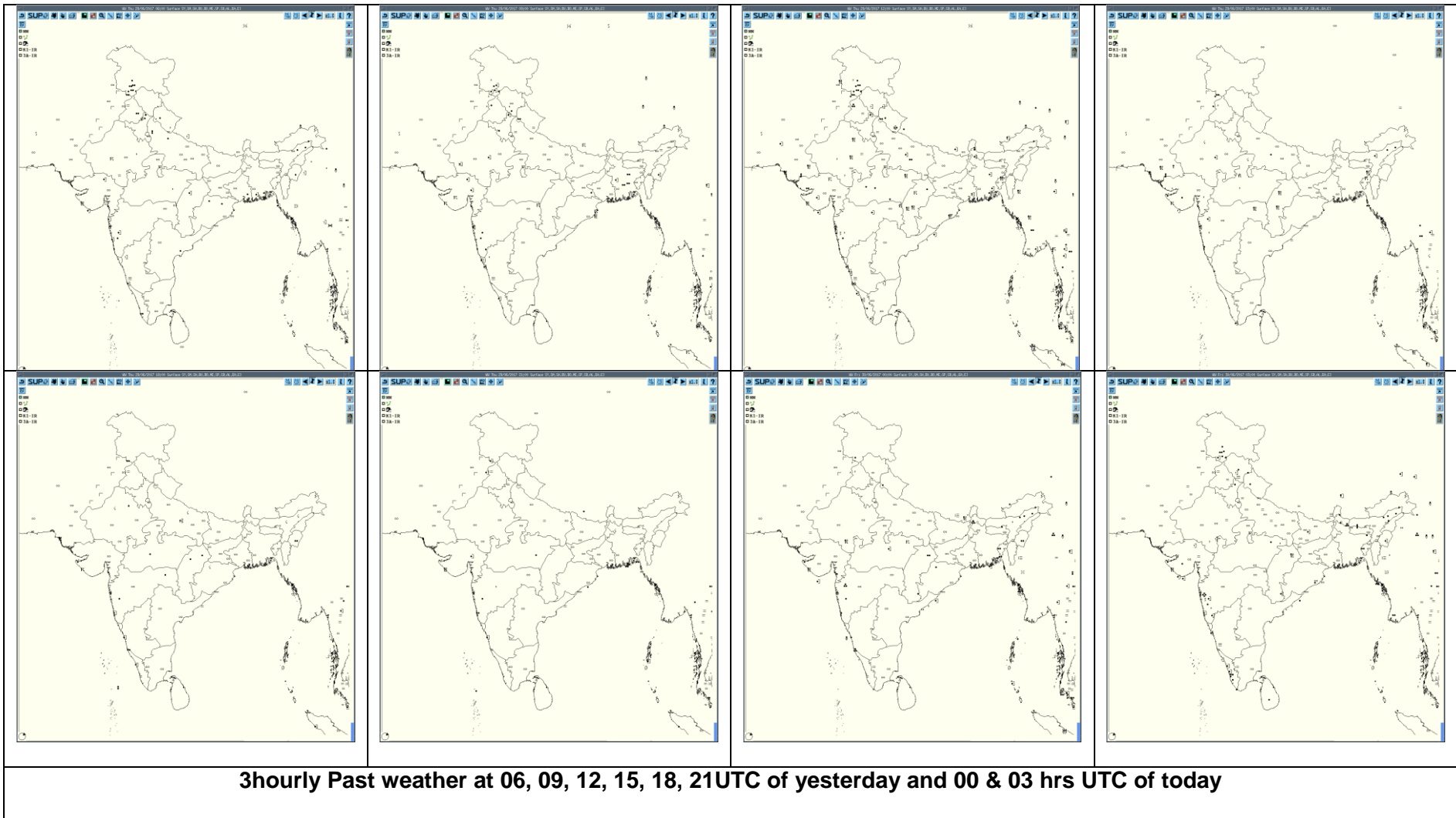
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today

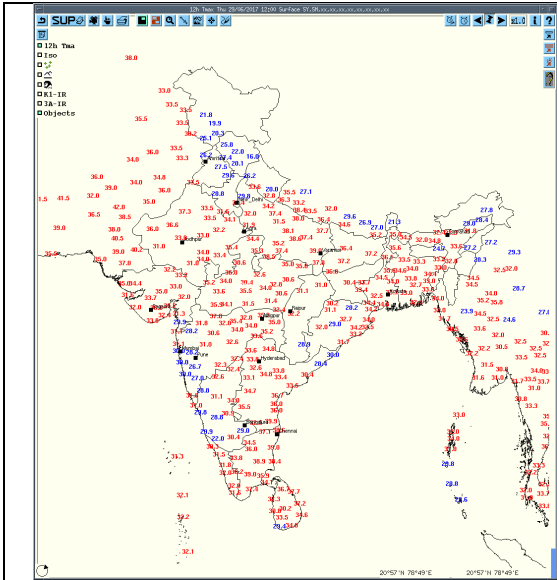


IMR Rainfall

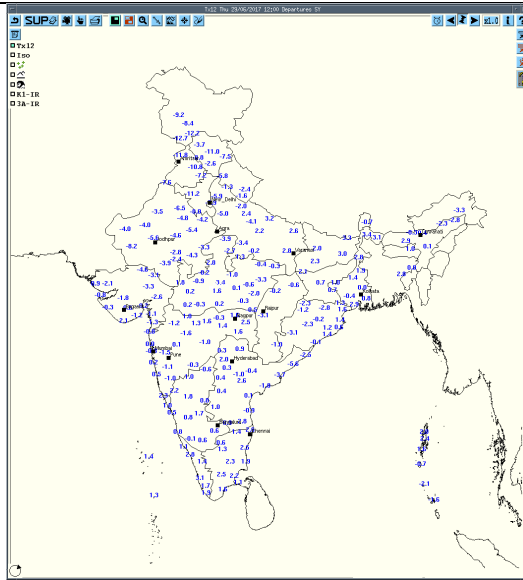


HEM Rainfall

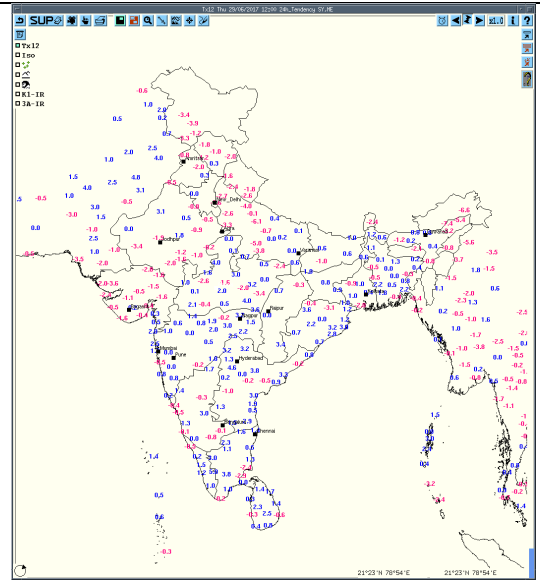




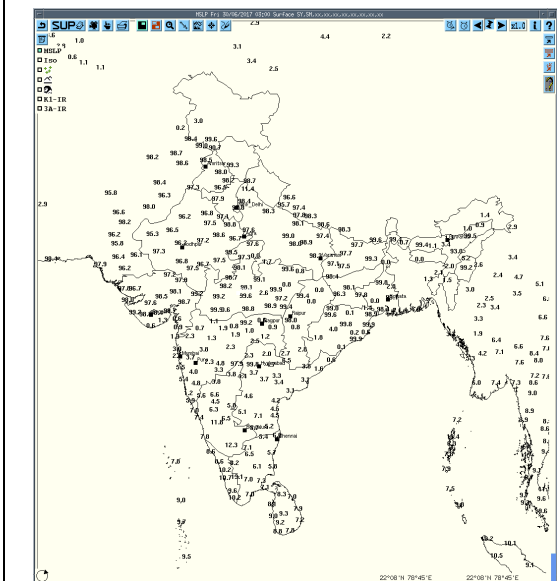
Tmax



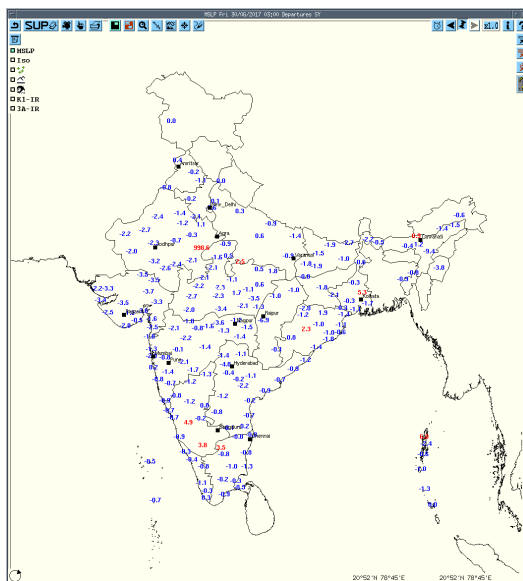
Departure Tmax



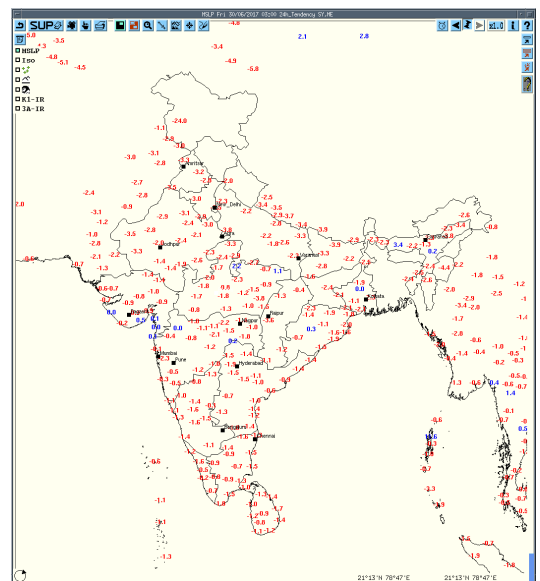
Tendency Tmax



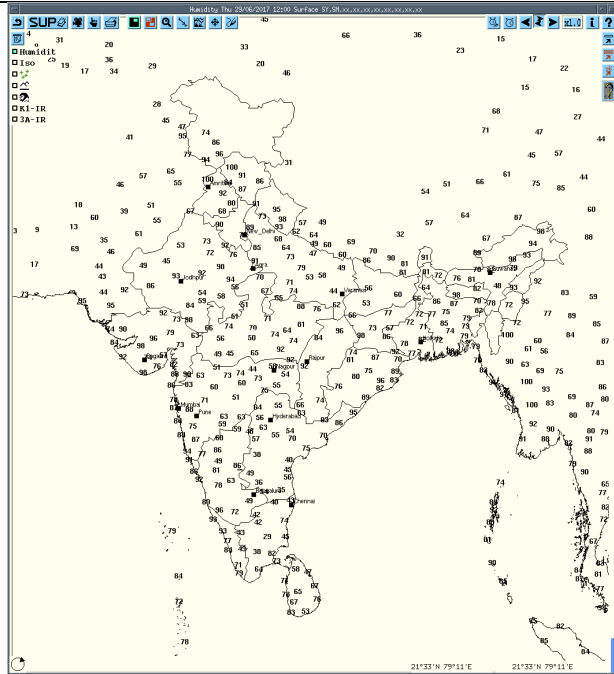
MSLP



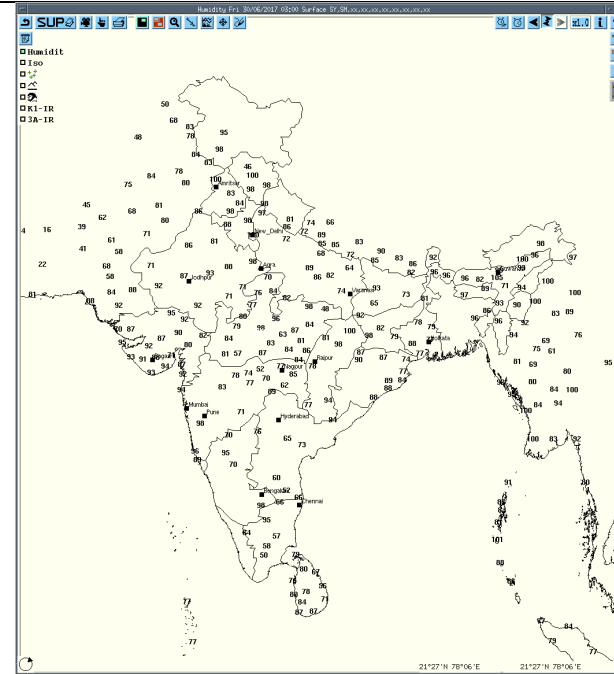
Departure MSLP



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
29-06-17	0600UTC	Jodhpur	NW India	Rajasthan	Thunderstorm
		Porbandar	W India	Gujarat	Thunderstorm
29-06-17	0900UTC	Barmer	NW India	Rajasthan	Thunderstorm
		Gondia	C India	Maharashtra (Vidarbha)	Thunderstorm
		Rajkot, Porbandar	W India	Gujarat	Thunderstorm
		Chandbali, Paradeep	E India	Odisha	Thunderstorm
29-06-17	1200UTC	Churu, Ajmer	NW India	Rajasthan	Thunderstorm
		Satna	C India	Madhya Pradesh	Thunderstorm
		Pendra Road, Raipur (AP), Rajnandgaon	C India	Chhattisgarh	Thunderstorm
		Bhubaneshwar	E India	Odisha	Thunderstorm
		Deesa, Porbandar	W India	Gujarat	Thunderstorm
		Kolkata	E India	West Bengal (GWB)	Thunderstorm
		Kailasahar	NE India	Tripura	Thunderstorm
29-06-17	1500UTC	Bikaner	NW India	Rajasthan	Lightening
		Guna	C India	Madhya Pradesh	Thunderstorm
		Pendra Road, Raipur(PBO)	C India	Chhattisgarh	Thunderstorm
		Nagpur	C India	Maharashtra (Vidarbha)	Thunderstorm
29-06-17	1800UTC	Bikaner	NW India	Rajasthan	Lightening
		Lucknow	NW India	Uttar Pradesh	Thunderstorm
		Porbandar	W India	Gujarat	Thunderstorm
		Jharsuguda	E India	Odisha	Lightening
29-06-17	2100UTC	Porbandar	W India	Gujarat	Thunderstorm
30-06-17	0000UTC	Udaipur	NW India	Rajasthan	Thunderstorm
		Satna	C India	Madhya Pradesh	Thunderstorm
		Porbandar	W India	Gujarat	Thunderstorm
30-06-17	0300UTC	Ambikapur	C India	Chhattisgarh	Thunderstorm
		Porbandar	W India	Gujarat	Thunderstorm

**Past 24 hours DWR Report:**

Radar Station Name	Date of Report	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
Machilipatnam	30-06-17	291501-300201	Convective region(Avg.ht of cells=5.1Km, and maximum reflectivity=55.0 d BZ)	NW (250Kmm) and moving SE ly direction with average speed of 40.0 kmph.	Cell started forming at 1501 UTC, at NW(250 km) from Radar the maximum reflectivity during 1541 UTC to 2311 UTC and died down at 0201UTC	Possibility of Thunder storm with rain and winds.	Suryapet, Mahabubabad, Khammam, Jangaon, Warangal-rural&urban, Jayasankar-Bhupalpalli, Bhadrakothagudem,, Dantewada, Malkangir, East& west Godavari, Visakhapatnam and Krishna Districts
Nagpur	30-06-17	0652-1332 0752-1442 0842-2342	Multiple Multiple Multiple	100-150 km in NE moving towards E 150 km in NE, moving in NE 100-150 KM IN WWN to SSW, moving towards E	46 dbZ cloud ht= 3.5-5.8km 46 dbZ, cloud ht.=2.5-5 km 45 dbZ, cloud ht= 3.5-5 km	<u>Thunderstorm warning</u> – 1132 UTC=110 km NE 1222UTC=80 km WWS 1332UTC=60 km SW 2012UTC=180 km NE	Rainfall occured in many places in Ramtek, Seoni, Balaghat, Jabalpur, Bhandara, Gadchiroli, Brahmapuri, and Yeotmal, Pusad, Adilabad, durg, umred, Nagpur, akola, amrawati, betul, chindwara,



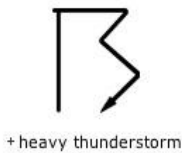
							kato;,ramtek, gondia,hinga nghat.
		0002-0302	NIL				
Patiala	30-06-17	290300-290600	Multiple cells cell Max dBZ=46.0 Ht.= 7-9 KMS	W,NW, & E,SE SECTOR; MOVENENT-N- WARD	-----	TS/RA	BARNAL,MO GA,PATIALA, LUDHIANA,J ALANDHAR, ADAMPUR,H OSIARPUR, PHAGWARA, DDN,RISIKE SH,HARIDW AR AND ITS ADJOINING ARES.
		290600-290900	Multiple cells cell Max dBZ=45.5 Ht.= 8-10 KMS	N, SE, &S,N SECTOR; MOVENENT-N- WARD	-----	TS/RA	JIND, BARWALA, KURKSHET RA, YAMUNANA GER, BEHAT, SAHARENP UR, DDN, PALAMPUR AND ITS ADJOINING ARES.
		290900-300252	No Significant Echo	--	--	--	--
Jaipur	30/06/17	290302-292112	Multiple cell with average height of 4.0 km & maximum reflectivity 48.0 dBZ	Multiple cell continueing from previosus day from 0302 UTC of 29/06/2017 towards E,NW of Jaipur and moved to North Wards at speed 15-20 km/hr	Multiple cell continueing from previosus day from 0302 UTC of 29/06/2017 towards E,NW of Jaipur and reaches maximum refelectivity during 0742- 1352 UTC OF 29/06/2017 and died down 2112 utc	Thunderstorm/rain at a Isolated places	Churu,pali,na gaur,bhilwara ,ajmer,bundi, kota,tonk,jaip ur,dausa,swa imadhampur,jh alawar,baran, karauli,alawa r,bharatpur,ci ttorgarh

Agartala	30-06-17	290302 - 290542	Multiple cells formed NNW OF DWR Agartala with Maximum Height cell height 9.2 km at 0302 UTC and maximum reflectivity 29.50 dBZ at 0302 UTC.	Formed about 130 km NNW of DWR Agartala and moves N wards with around 11 kmph	Cells dissipated at 0542 UTC 160 km of NNE	N/A	N/A
		290832 - 291202	Multiple Cells SSE of DWR Agartala with Maximum cell Height 9.2 km a t0832 UTC and maximum reflectivity 25 dBZ .	Formed about 48 km SSE of DWR Agartala at SSE and moves N wards with around 37.6 kmph	Cells dissipated at 1202UTC 80 km NNE at Bangladesh	N/A	N/A
		291212 - 2291632	Multiple cell formed with Maximum cell Height 10.4 km at 1212 UTC and maximum reflectivity 42 dBZ.	Formed 80 km NE of DWR Agartala. And moves North-East Wards at about 30Kmph.	Cells dissipated at 1622UTC 160 km NE .	N/A	N/A
		292152 - 300302	Multiple cell formed with Maximum cell Height 9.0 km at 2152 UTC and maximum reflectivity 36 dBZ.	Formed 40 km NNW of DWR Agartala. And moves North Wards at about 14Kmph.	Persist	Rain	N/A
Srinagar	30-06-17	28-JUNE 03Z to 29-JUNE03 Z(24hrs)	1. Single cells developed in SE & Multiple cells SE direction of DWR at 1030 UTC and grew into multiple cells in SE-direction with max. reflectivity of 45-50 dbz and average height 6km. 2. Single cells developed in NW direction of DWR at 2040UTC and grew into multiple cells in SE direction with max. reflectivity of 45-50 dbz and average height 6 Km	Dissipated at 0210 with SE direction.	Moderate Heavy rain. in Batote/Jammu/Katra/Kukernag / Bheaderwah/PAHLAGAM/Qazigund/Banihal/	NIL	All districts

Lucknow	30-06-17	0300UTC To 0612UTC	Multiple Cells with average height of 12 km and maximum reflectivity of 46dBZ	W (50Km) moving in N'ly direction at speed of 60kmph.	---	TS/Rain	KNJ,HRD
		0712 UTC TO 1332 UTC	Isolated Cell with average height of 13 km and max. reflectivity of 48dBZ	South(50km) moving in NNW'ly direction at speed of 50kmph.	New cells formed at 0722UTC in KNP,LKN, UNO,HRD	TS/Rain	KNP,LKN, UNO,HRD
		0822UTC TO 1242UTC	Isolated Cells with average height of 12km and max. reflectivity of 46dbZ	W (30 km) moving in NNW'ly direction at speed of 30kmph	New cells formed in ALB,PTG, RBL,LKN, HRD during the period	TS/Rain	ALB,PTG, RBL,LKN, HRD
		1412UTC TO 1652UTC	Isolated Cells with average height of 12km and max. reflectivity of 48dbZ	N (50Km) moving in NNW'ly direction at speed of 30kmph	---	TS/Rain	HRD Sitapur
		1912UTC TO 2122UTC	Isolated Cells with average height of 10km and max. reflectivity of 45dbZ	N (50Km) moving in SW'ly direction at speed of 30kmph	---	TS/Rain	BRC
		2122UTC TO 2302UTC	Isolated Cells with average height of 11km and max. reflectivity of 46dbZ	N (50Km) moving in N'ly direction at speed of 30kmph	---	TS/Rain	Sitapur
		Bhuj	30-06-17	290400-291230	multiple cells at Ht. of 1.5 Km to 18 Km with 50 dBz Max.Z	10 KM to 200 KM initially in WNW to S move anti clockwise full round	Observed during 04:30 UTC to 12:00 UTC
Karaikal	30-06-17	290300-300300	--	--	DWR U/S	--	--



+ thunderstorm



+ heavy thunderstorm



sandstorm or dust storm



squall



hail shower



tropical storm

[www.visualdictionaryonline.com](http://www.visualdictionaryonline.com)



+ tornado



+ lightning



+ hurricane

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