India Meteorological Department

FDP STORM Bulletin No.114 (27-06-2017)

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

The upper air cyclonic circulation over north Odisha & neighbourhood now lies over north Odisha and adjoining Jharkhand and extends upto 5.8 km above mean sea level and tilts south-westwards with height.

The trough at mean sea level from West Rajasthan to east central Bay of Bengal across north Madhya Pradesh, Chhattisgarh and Jharkhand extending upto 1.5 km above mean sea level persists.

The east west shear zone now runs roughly along latitude 20.0°N between 3.1 Km and 5.8 Km above mean sea level.

The off-shore trough at mean sea level from south Gujarat coast to Kerala coast persists.

The upper air cyclonic circulation over south Pakistan & adjoining Kutch now lies over coastal areas of Saurashtra and neighbourhood and extends upto 0.9 km above mean sea level.

The upper air cyclonic circulation over south Gujarat region & neighbourhood persists and now seen between 1.5 and 3.1 km above mean sea level.

The upper air cyclonic circulation over east Assam & neighbourhood persists and now extends upto 1.5 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 now runs roughly along Long 66.0°E and north of Lat 28.0 °N.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

Westerly Trough:

Trough in westerlies runs roughly along long 66.0E north of lat 30.0N

Cloud Description:

Scattered low/medium clouds with embedded moderate to intense convection were seen over Himachal Pradesh, Uttarakhand, extreme NE Haryana, adjoining NW Uttar Pradesh, E Odisha, Assam, Meghalaya, Nagaland, Manipur, Mizoram, Bangladesh, central parts of S Madhya Pradesh, N Coastal Andhra Pradesh, Kerala, Lakshadweep and Bay Islands. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over S Punjab, NE Uttar Pradesh, and rest parts of East and West India. Scattered low/medium clouds with embedded weak to moderate convection were seen over rest parts of South India. Scattered low/medium clouds were seen over J & K, rest Punjab, rest Haryana and rest Uttar Pradesh.

Convective Activity:

Cell No	Date/time (UTC)	Location/Area	MIN CTT (-DEG C)	Movement	Remarks
2 (old)	26/0800	NW Madhya Pradesh adjoining SW Uttar Pradesh, NE Rajasthan	80		Developing
	0900	DO	93		
	1000	NW Madhya Pradesh, E Rajasthan	93		
	1100	DO	93		
	1200	W Madhya Pradesh, E Rajasthan	93		
	1300	DO	93		
	1400	W Madhya Pradesh, S Rajasthan	85		
	1500	DO	89		
	1600	W Madhya Pradesh, Rajasthan, NE Gujarat	90		
	1700	DO	88		
	1800	DO	81		
	1900	Gujarat, W Rajasthan adjoining Pakistan	84		
	2000	DO	81		
	2100	DO	69		
	2200	DO	81	W-WARDS	
	2300	SE Pakistan adjoining Gujarat, SW Rajasthan	80		
	27/0000	DO	92		
	0100	NW Gujarat adjoining S Pakistan	80		
	0200	DO	60	SHIFTED TO S PAK ADJ NE- ARSEA	
	0300	DO	--		
1 (new)	27/0000	Himachal Pradesh, Uttarakhand	63		Developing
	0100	DO	70		
	0200	DO	78		
	0300	Himachal Pradesh, Uttarakhand , extreme NE Haryana	78		

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

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

Past Weather:

Convection:-

Moderate to Intense convection was observed Himachal Pradesh Uttarakhand Rajasthan Gujarat Madhya Pradesh Maharashtra Karnataka Kerala Tamilnadu Telangana Andhra Pradesh Chhattisgarh Jharkhand West Bengal Sikkim North-East States.

OLR:-

Upto **200** wm^{-2} was observed over South Rajasthan West Madhya Pradesh Konkan Vidarbha South Chhattisgarh South Odisha Telangana Coastal Andhra Pradesh Kerala Tamilnadu Meghalaya Assam Tripura Mizoram.

Upto **230** wm^{-2} was observed over Himachal Pradesh Uttarakhand Sikkim Rest North-East States Gujarat rest Madhya Pradesh Karnataka Tamilnadu.

Westerly Trough & Jet-Stream:-

Trough in Westerlies runs roughly along Longitude 66.0E 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.

Positive shear tendency is observed over India.

Positive Vorticity field is observed over South Gujarat Vidarbha South Chhattisgarh Odisha, North Coastal Andhra Pradesh.

Positive low level convergence is observed over Rajasthan Madhya Pradesh Chhattisgarh Odisha and Negative low level convergence observed over rest parts of India.

Precipitation:

IMR:

Rainfall Up to **110** mm was observed over North-East Gujarat South Rajasthan Central Madhya Pradesh. Rainfall Up to **70** mm was observed over West Assam Mizoram Vidarbha. Rainfall Up to **50** mm was observed over Coastal Odisha Tripura. Rainfall Up to 3**0** mm was observed over Rest Gujarat Rest Madhya Pradesh Central Chhattisgarh Rest Odisha Meghalaya . Rainfall Up to **20** mm was observed over Himachal Pradesh Uttarakhand Telangana Coastal Andhra Pradesh. Rainfall Up to **10** mm was observed over North Rajasthan Rest Maharashtra Rest Chhattisgarh Jharkhand West Bengal Sikkim Rest North-east States Karnataka Kerala Tamilnadu.

HEM:

Rainfall Up to **208** mm was observed over Central Madhya Pradesh Mizoram. Rainfall Up to **140** mm was observed over North-East Gujarat South Rajasthan Vidarbha Coastal Karnataka. Rainfall Up to **70** mm was observed over South Uttarakhand West Himachal Pradesh South Jharkhand Assam Meghalaya. Rainfall Up to **20** mm was observed over Telangana Central Chhattisgarh Odisha Kerala.

Rainfall from **07 -14** mm was observed over Rest Gujarat Rest Madhya Pradesh Rest Maharashtra Rest Karnataka Andhra Pradesh Tamilnadu Rest Chhattisgarh West Bengal Rest North-east States.

RADAR and RAPID Observation:

DWR Composite at 1200hrs IST indicated significant convection over South Haryana, West Uttar Pradesh, East Rajasthan, Northwest Madhya Pradesh, Northeast Maharashtra, Gangetic West Bengal and South Chhattisgarh adjoining Odisha.

RAPID RGB Satellite imagery at 1130hrs IST indicated significant convective clouds over South Himachal Pradesh adjoining Punjab & Haryana, West Uttar Pradesh, South Assam, Nagaland, Manipur, South Chhattisgarh, Odisha and West Maharashtra.

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

Higher dust concentration was observed over North Africa and Arabian Peninsula. Dust concentration is expected to decrease over north India for next five days.

High PM10 concentration was observed over north-west India. PM10 concentration is expected decrease over north India for next five days.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

12UTC Charts of Day 3-4 show heat low confined to Pakistan and adjoining Rajasthan with MSLP values lower than 992hPa.

00 UTC Charts of Day 0-5 show a trough at mean sea level from North Rajasthan/Punjab to Odisha across Uttar Pradesh, MP, Jharkhand. In Day-4 the tough is deepening with formation of a CYCIR over coastal Odisha. In Day 5 the CYCIR has enlarged and covers Jharkhand, UP and adjoining MP.

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

At 850 and 500 hPa: A CYCIR over Arabian Sea west of Gujarat are seen in Day-0 to Day-1. Another CYCIR is seen over Jharkhand and adjoining area seems to move NW-wards over UP in Day 2-3. System shows strong southward tilt with height.

Another CYCIR is seen to form near Odisha coast on Day-4 which persists until Day-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: TN Puducherry,
Day1: Nil
Day2: Nil
Day3: Nil
Day4: Nil

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

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

Day0: Assam Meghalaya, TN Puducherry,
Day1: TN Puducherry, Kerala,
Day2: Arunachal Pradesh, Assam Meghalaya, TN Puducherry, Kerala,
Day3: Arunachal Pradesh, Assam Meghalaya, TN Puducherry, Kerala,
Day4: Odisha, TN Puducherry, Kerala

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

Day0: Arunachal Pradesh, Sub Himalayan WB, East UP, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP, East MP, Saurashtra Kutch,
Day1: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Jharkhand, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP, East MP, TN Puducherry,
Day2: Arunachal Pradesh, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan,
Day3: Arunachal Pradesh, Sub Himalayan WB, Jharkhand, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, Gujarat region, Saurashtra Kutch, Chhattisgarh,
Day4: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP, Gujarat region, Saurashtra Kutch

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, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP, East MP, Saurashtra Kutch, Marathwada, Vidarbha, Chhattisgarh, Telangana,
Day1: Arunachal Pradesh, 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, Gujurat region, Saurashtra Kutch, Marathwada, Vidarbha, Chhattisgarh, Telangana,
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, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, TN Puducherry,
Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujurat region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI Karnataka,
Day4: 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, TN Puducherry, 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, 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, Himachal Pradesh, Jammu Kashmir,
Day4: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West Rajasthan,
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, Punjab, Himachal Pradesh, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Andaman Nicobar, Coastal AP, Telangana, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Andaman Nicobar, Coastal AP, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, 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, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Andaman Nicobar, Coastal AP, Telangana, 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, Punjab, Jammu Kashmir, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,,

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 and an associated a feeble low develop over Orissa coast. These features persist till day 5. A prominent off-shore trough is seen along west coast from Konkan and Goa up to Kerala. **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 foothills of Himalayas and around the cyclonic circulations and mainly prominent during morning hours.

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 Gujarat and south Rajasthan and adjoin areas for next 4 to 5 days. Over some parts of Andhra Pradesh, Telangana, and adjoining Chhattisgarh, Jharkhand and Orissa and sometimes over parts of GWB and Bihar.

Total-Total Index (> 50) : Above threshold value is not found over the country.

Sweat Index (> 300): Higher than threshold value over the areas similar to Lifted Index except it covers most parts of the peninsular India.

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 from day 1 onwards.

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 till day 5, Over Punjab, east UP and adjoining Delhi Haryana and Rajasthan on day 4.

20-40 mm: rainfall Over parts of Orissa and adjoining GWB, south Jharkhand, Chhattisgarh and MP on day 1 today 5.Over rest of Chhattisgarh and adjoining Telangana, Vidarbha and Andhra Pradesh from day 2 to day 5, Along foothills of Himalayas from day 2 to day 5.

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

1. Model Reflectivity (Max.dBz):

15-40 dBz model reflectivity over West coast of India mainly over northern ends today and next three days, over southern peninsula in evening hours of today. Over parts of Punjab and adjoin areas on day 2.

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.

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. It covers many parts of Central India during evening hours.

CIN (50-150): Over western India including Rajasthan and Gujarat and some pockets of central India during morning hours.

3. Rainfall and thunderstorm activity:

40-70 mm and more: along west coast of India and Gujarat 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 on day 2.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

Yesterday's upper air cyclonic circulation has decreased in intensity and moved slightly northwards to over north Odisha and adjoining Jharkhand. The western disturbance as a trough in mid tropospheric westerlies also persists almost in the same location since yesterday. The upper air cyclonic circulation over coastal areas of Saurashtra and neighbourhood and the other upper air cyclonic circulation over south Gujarat region & neighbourhood also persist in nearly the same location. The associated rainfall is likely to continue over central India and the hills of Northwest India on day 1. The persistence of easterlies over North India in the lower levels in IMD GFS 1534 and ECMWF model on day 2, indicates that with the increased moisture feeding, and the interaction of easterly and westerly wind regimes, heavy rainfall is expected to extend to over the entire north Indian region on day 2. This will also be aided by the position of the east west shear zone, which now runs roughly along latitude 20.0°N.

The offshore trough continues to be active and will bring heavy rainfall all along the west peninsular coast of India on day 1 and 2. The two upper air cyclonic circulations over coastal Saurashtra and south Gujarat region are likely to extend the heavy rainfall belt to over the Gujarat region on day 1 and 2.

In association with the upper air cyclonic circulation over east Assam in the lower levels, rainfall is also likely over the north-eastern states on day 1, which is likely to decrease thereafter.

24 hour Advisory for IOP:	48 hour Advisory for IOP:
Rainfall: Kerala, Coastal Karnataka, South and North Interior Karnataka, Telangana, Konkan and Goa Gujarat, Saurashtra and Kutch Madhya Maharashtra, Vidarbha, Chhattisgarh Madhya Pradesh Odisha, Jharkhand West Uttar Pradesh, Southern parts of East and West Rajasthan Assam and Meghalaya Nagaland, Manipur, Mizoram, Tripura Arunachal Pradesh Uttarakhand, Himachal Pradesh, Jammu and Kashmir **Thunderstorm with associated phenomena:** Uttar Pradesh Punjab, Haryana, Delhi, Uttarakhand, Himachal Pradesh, Jammu and Kashmir East and West Rajasthan	**Rainfall:** Kerala, Coastal Karnataka, South Interior Karnataka Telengana, Konkan and Goa Gujarat, Saurashtra and Kutch Madhya Pradesh Vidarbha, Chhattisgarh Odisha, West Uttar Pradesh, Southern parts of East and West Rajasthan Punjab, Haryana, Delhi, Uttarakhand, Himachal Pradesh **Thunderstorm with associated phenomena:** West Rajasthan

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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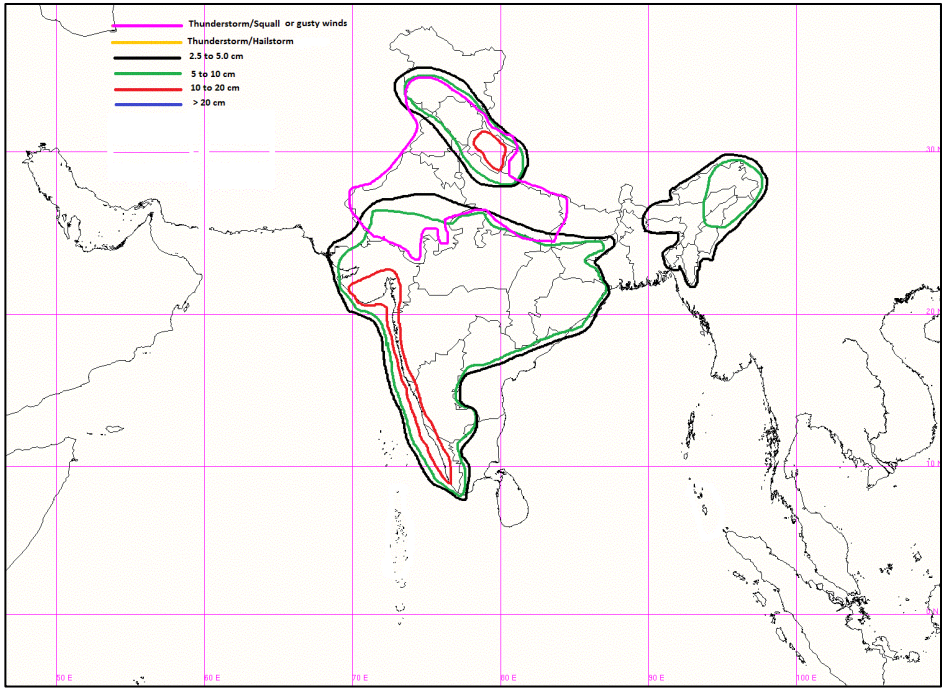
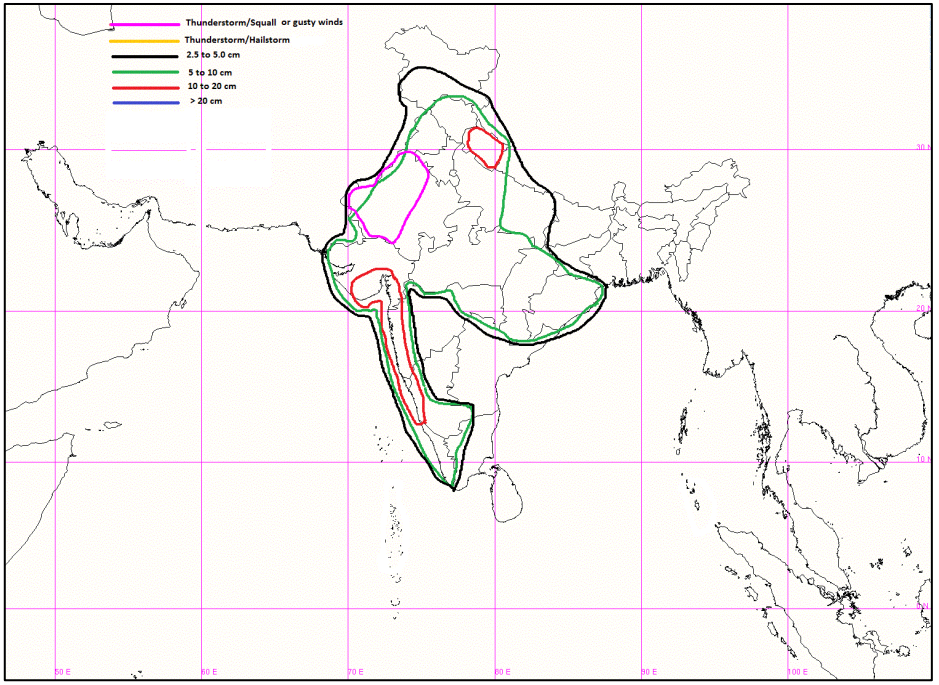
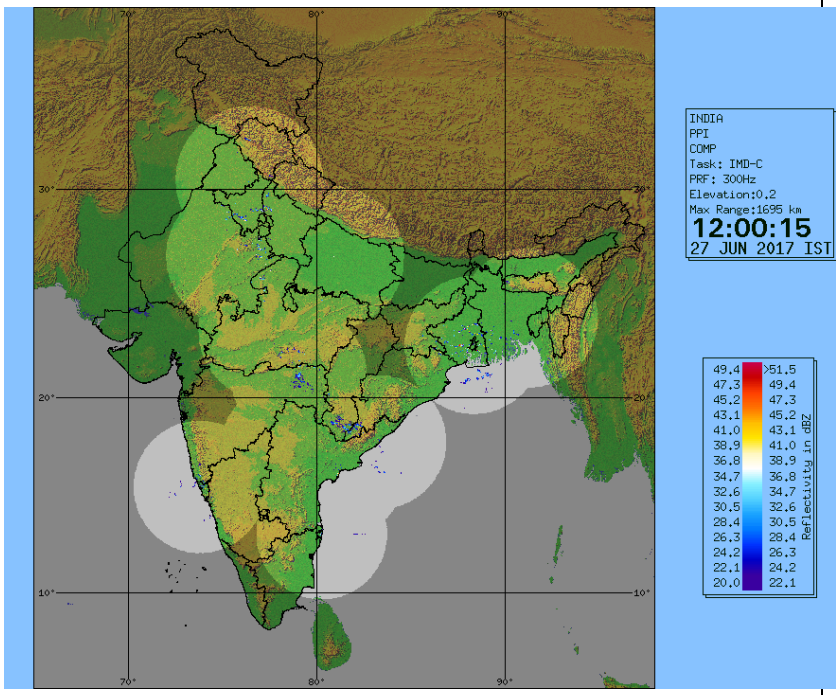
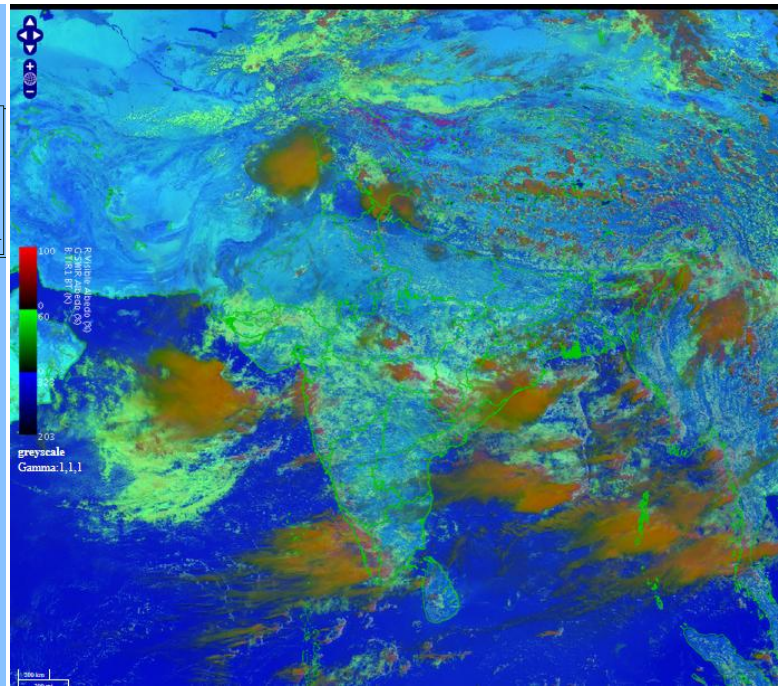
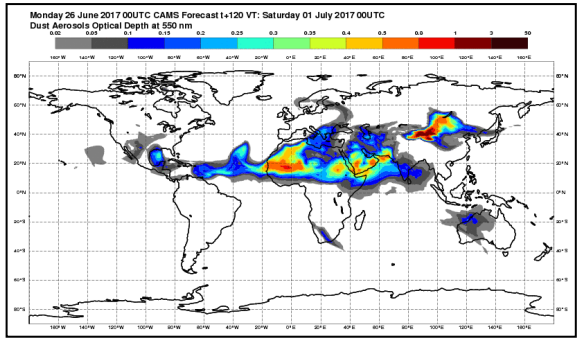


IOP Advisory for 24 hours

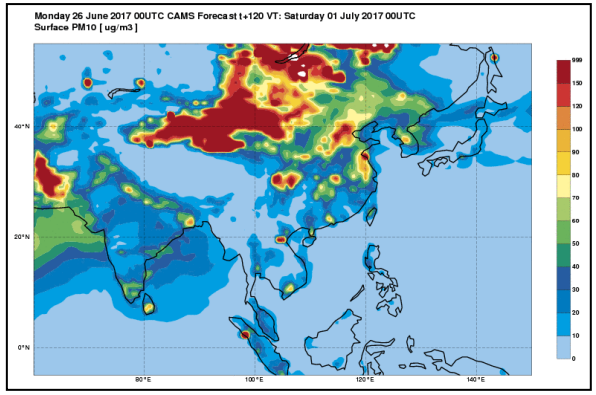


IOP Advisory for 48 hours

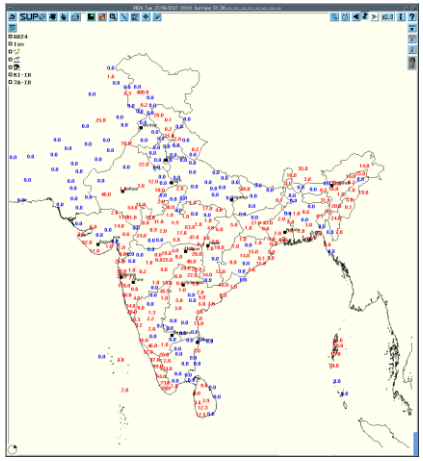
	
DWR composite at 1200hrs IST	**RAPID RGB Satellite Imagery at 1130 hrs IST of today**



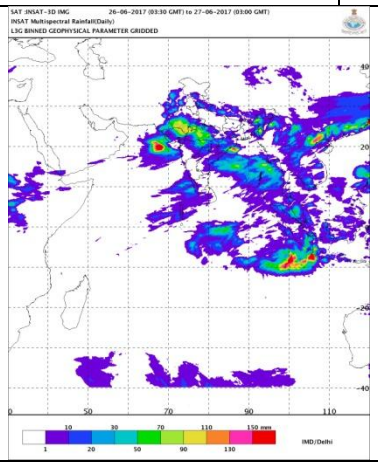
Forecast Dust Concentration for 1st July



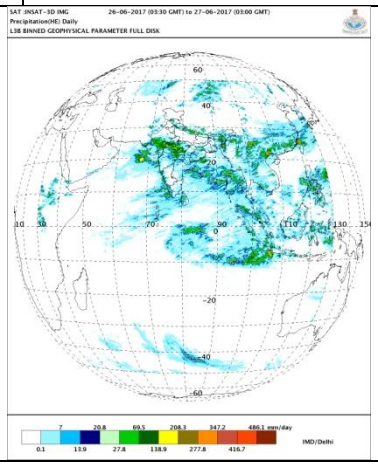
PM10 Forecast for 1st July



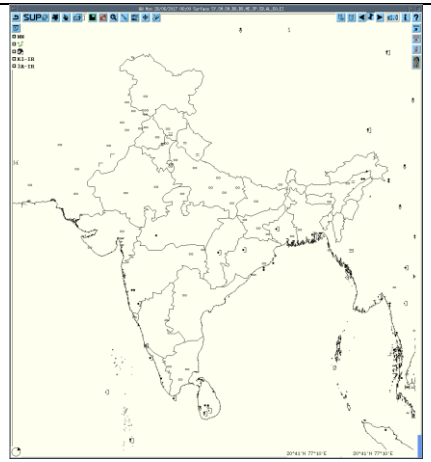
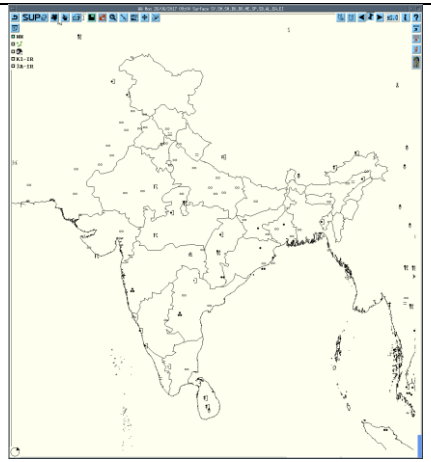
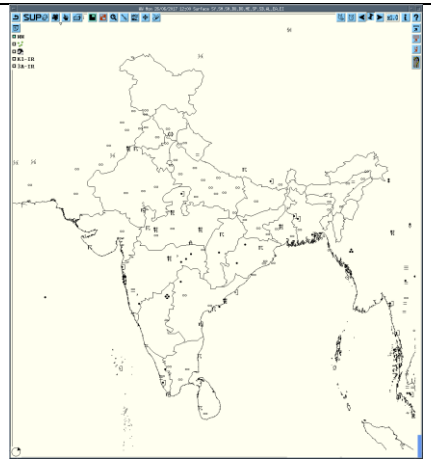
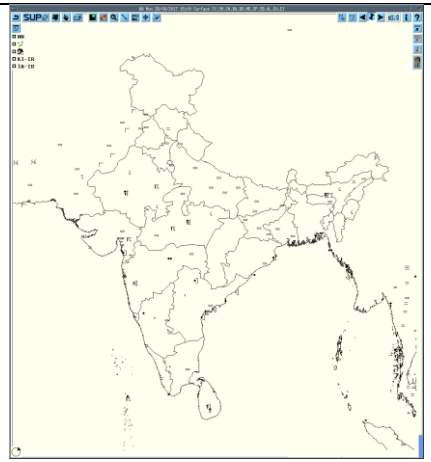
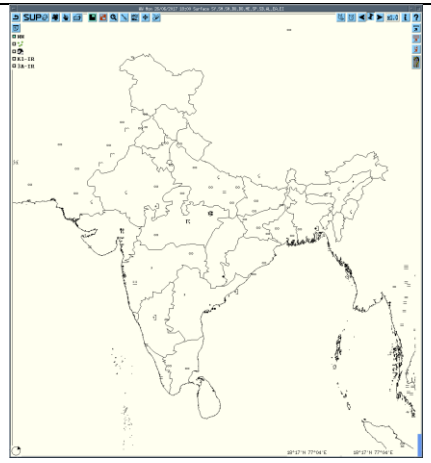
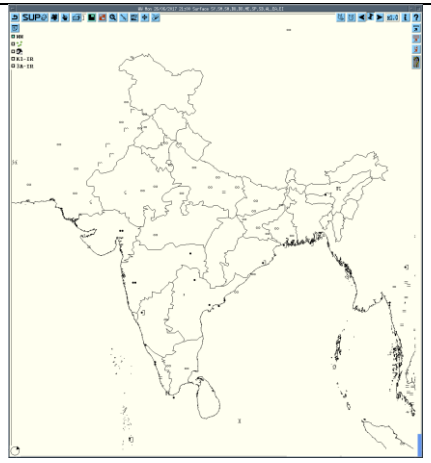
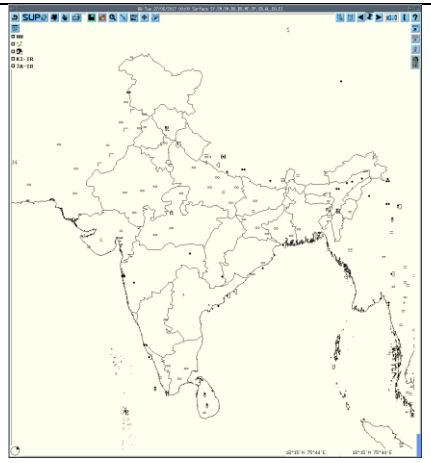
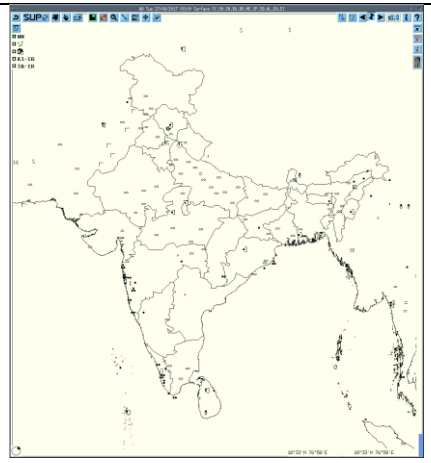
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



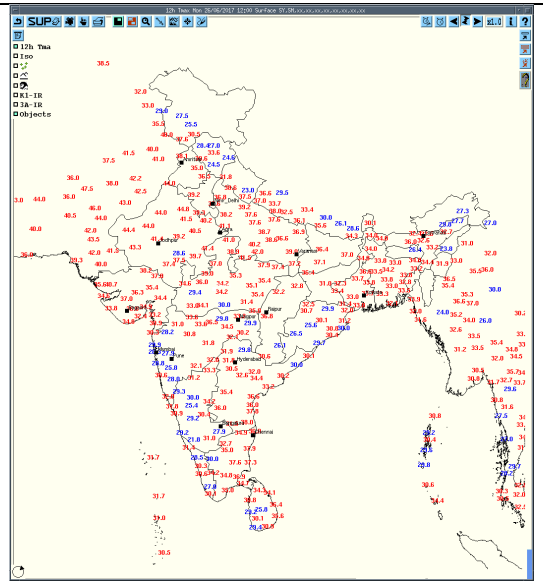
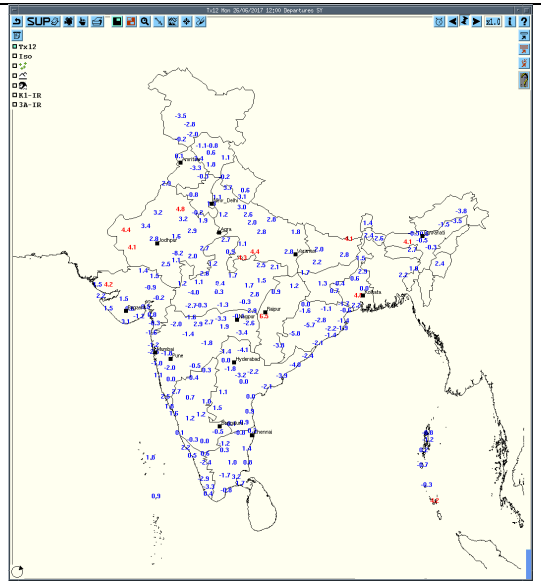
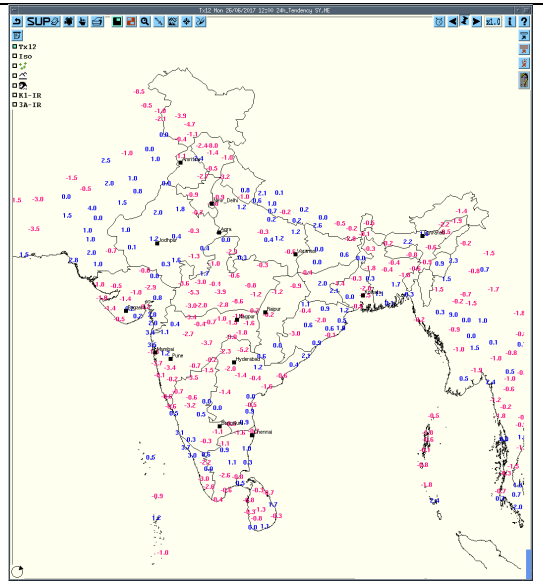
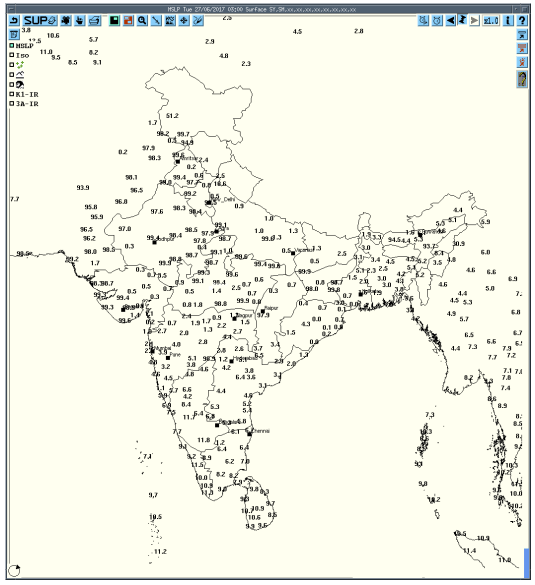
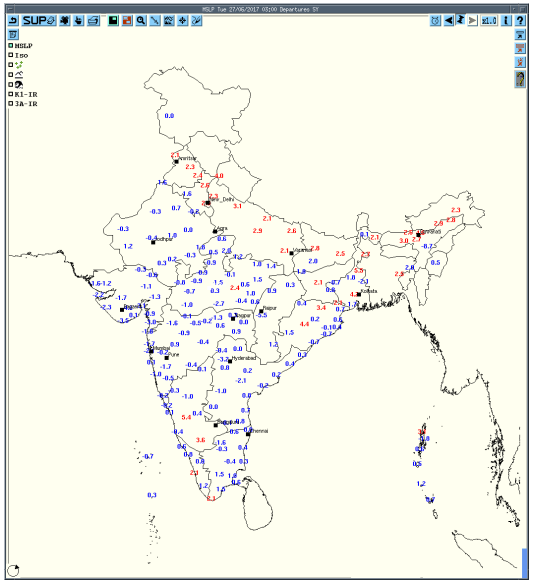
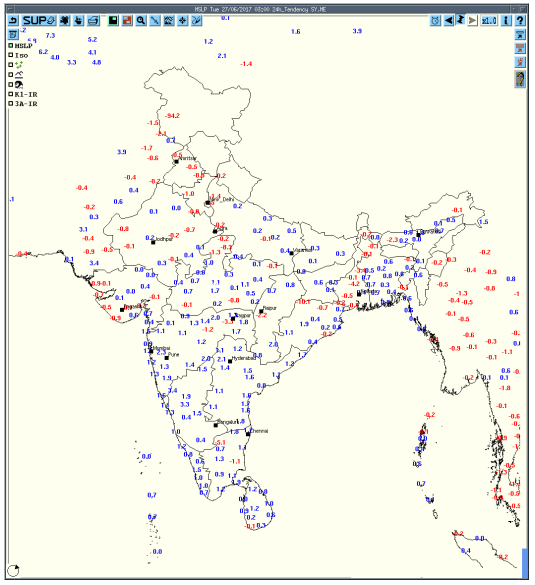
IMR Rainfall

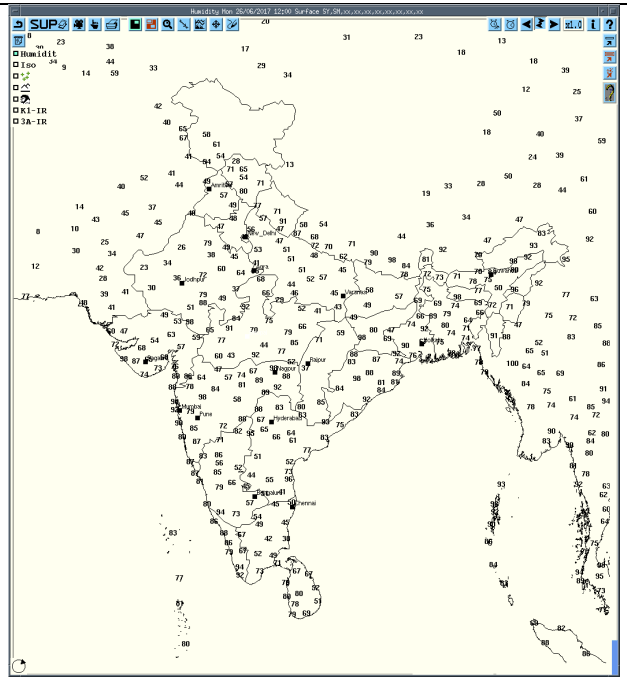


HEM Rainfall

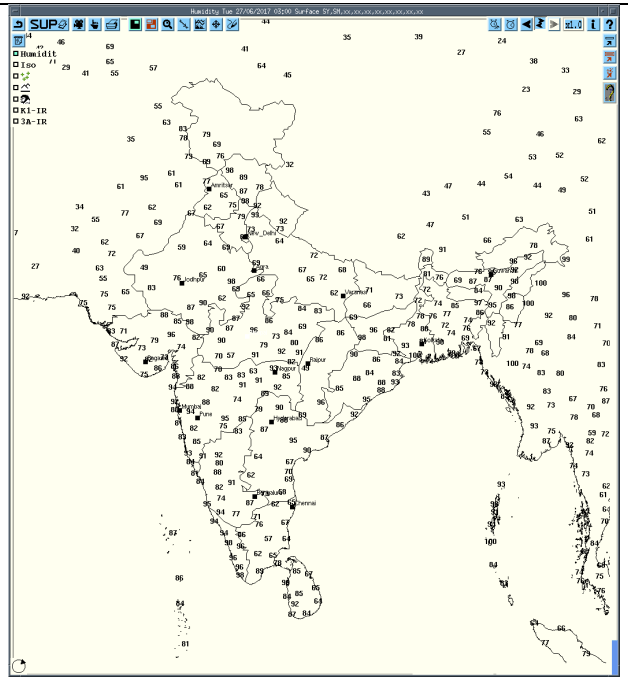









3hourly Past weather at 06, 09, 12, 15, 18, 21UTC of yesterday and 00 & 03 hrs UTC of today

		
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**
26-06-17	0600UTC	Bajpe	S India	Karnataka	Thunderstorm
26-06-17	0900UTC	Jaipur/ Jhansi	NW India	Rajasthan/ Uttar Pradesh	Thunderstorm
		Indore	C India	Madhya Pradesh	Thunderstorm
		Nagpur	**C India**	**Maharashtra (Vidarbha)**	**Thunderstorm with Hail**
		Raipur	C India	Chhattisgarh	Thunderstorm
		Veraval	W India	Gujarat	Thunderstorm
26-06-17	1200UTC	Ratlam, Guna, Ujjain, Jabalpur/ Pendra Road	C India	Madhya Pradesh/ Chhattisgarh	Thunderstorm
		Chhindwada	**C India**	**Madhya Pradesh**	**Thunderstorm with hail**
		Panagarh/ Keonjhargarh	E India	West Bengal (GWB)/ Odisha	Thunderstorm
		Porbandar	W India	Gujarat	Thunderstorm
		Akola	C India	Maharashtra(Vidarbha)	Thunderstorm
		Kakinada, Machilipatnam, Kavali/ Pondicherry	S India	Andhra Pradesh(CAP)/ Pondicherry	Thunderstorm
		Thiruvananthapuram	S India	Kerala	Thunderstorm
26-06-17	1500UTC	Jodhpur, Jaipur/ Bikaner, Kota	NW India	Rajasthan	Thunderstorm/ Lightening
		Bhopal, Sagar/ Satna	C India	Madhya Pradesh	Thunderstorm/ Lightening
		Baroda	W India	Gujarat	Thunderstorm
		Pune	W India	Maharashtra	Thunderstorm
		Guwahati	NE India	Assam	Thunderstorm
		Tezpur	NE India	Assam	Lightening
		Imphal	NE India	Manipur	Lightening
		Agartala	NE India	Tripura	Lightening
		Machilipatnam, Bapatla	S India	Andhra Pradesh (CAP)	Thunderstorm
26-06-17	1800UTC	Jodhpur	NW India	Rajasthan	Lightening
		Bahraich	NW India	Uttar Pradesh (East)	Lightening
		Ahmedabad	W India	Gujarat	Thunderstorm
		Sagar, Satna	C India	Madhya Pradesh	Thunderstorm
		Tezpur	NE India	Assam	Lightening
		Imphal	NE India	Manipur	Lightening
26-06-17	2100UTC	Jodhpur	NW India	Rajasthan	Lightening
		Tezpur	NE India	Assam	Thunderstorm
		Thiruvananthapuram	S India	Kerala	Thunderstorm
27-06-17	0000UTC	Sundernagar	NW India	Himachal Pradesh	Thunderstorm
		Dehradun	NW India	Uttarakhand	Thunderstorm

		Guna	**C India**	**Madhya Pradesh**	**Thunderstorm with hail**
		Rajkot	W India	Gujarat	Lightening
		Silchar	NE India	Assam	Thunderstorm
		Thiruvananthapuram	S India	Kerala	Thunderstorm
27-06-17	0300UTC	Sundernagar	NW India	Himachal Pradesh	Thunderstorm
		Dehradun	NW India	Uttarakhand	Thunderstorm
		Ambala	NW India	Haryana	Thunderstorm
		Jorhat	NE India	Assam	Thunderstorm

Past 24 hours DWR Report:

Radar Station name	Date	Time interval of observation (UTC)	Organization of the cells	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Nagpur	26.06.17	0522-1200 0612-0900 0652-0900 0842-1000 1302-1400	Multiple Multiple Multiple Multiple Multiple	200 km in NE moving SE 100 km in N, moving in S 50 KM IN E moving Towards S 25 km S, moving S 150 km NNE, moving towards W	45.50 dbZ cloud ht.= 2.0-6km 41 dbZ, cloud ht.=2 -7 km 43 dbZ, cloud ht= 1.5-5.8 km 46 dbZ, cloud ht.=1.5 -7 km 49.5 dbz, cloud ht=3.0-5.8 km	Thunderstorm warning started at 0722 and continues mostly in NE & N region,	Rainfall occured in many places in the region except some parts of Chhattisgarh.
	27.06.17	0002-0302	NIL				
Jaipur	27.06.17	0522 to 1702	Multiple cell with average height of 7.0 km & maximum reflectivity 53.5 dBZ	Multiple cell develop from 0522 UTC of 26/06/2017 towards N, SW, W, NW, & S of Jaipur and moved to South West Wards at speed 35-45 km/hr	Cell starts forming from 0522 UTC of 26/06/2017 towards N, SW, W, NW, & S of Jaipur and reaches maximum reflectivity during 1012-1032 UTC OF 26/06/2017 and died 1702 UTC	Thunderstorm/rain at a Isolated places	Chittorgarh, Bhilwara, Pali, Churu, Kota, Rajsamand, Ajmer, Nagaur, Jhunjhunu, Jaipur, Sikar
		0652 to 1432	Multiple cell with height 6.0 km and maximum reflectivity 51.5 dBZ	Multiple cell develop from 0652 UTC of 26/06/2017 towards SE, & S of Jaipur and moved ,SW Wards at speed 25-30 km/hr	Cells starts from 0652 UTC of at 26/06/2017 at SE & S of Jaipur and reaches maximum reflectivity during 0752 UTC OF 26/06/2017 and died 0952 UTC	Thunderstorm/rain at Isolated places	Baran, Jhalawar
Srinagar	27.06.17	260300-270300	Nil	Nil	Nil	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
Agartala	27/06/17	261140 - 261432	Multiple cells formed w.r.t DWR Agartala in the direction of N & SE at a distance around 120km with Maximum cell Height 14 **km at 1142 UTC** and maximum reflectivity 40 **dBZ**	Formed N & SE of DWR Agartala at a distance around 120km and moves N-wards direction at 25 kmph speed.	Dissipated at 130km in N direction 1432 UTC.	N/A	N/A
		261322 - 270207	Multiple cells formed w.r.t DWR Agartala in the direction of East at a distance around 100km with Maximum cell Height 12.7 **km at 1322 UTC** and maximum reflectivity 32 **dBZ**	Formed in the East of DWR Agartala at a distance around 100km and moves N-wards direction at 42kmph speed..	Dissipated at 150km in NNE direction 0207 UTC.	N/A	N/A
Patiala	27.06.17	26/0300 26/2100	Nil	Nil	Nil	Nil	Nil
		26/2100 27/0000	Multiple cells cell Max dBZ=49.5 Ht.= 09-12 KMS	W; NNW & EAST SECTOR; MOVENENT-SE–WARD	----------	TS/RA	Fazilka, Hamirpur, Mussoorie, Behat adjoining areas.
		27/0000 27/0300	Multiple cells cell Max dBZ=52.0 Ht.= 09-12 KMS	N; & EAST SECTOR; MOVENENT- E– WARD	----------	TS/RA	Fazilka, Nadaun; Hamirpur, Ambala; Chandigarh; Mussoorie, Behat adjoining areas.

Radar Station name DWR Machilipatnam	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
	03Z of 26.06.2017 to 03Z of 27.06.2017	0821 to 1201UTC	Isolated Multiple cells average height of 5.5km with maximum reflectivity of 52.0dBZ.	N (100Km) and moving SE ly direction with average speed of 30.0 kmph.	Cell started forming at 0821 UTC, at N(100 km) from Radar the maximum reflectivity during 0921 UTC to 1041 UTC and died down at 1201 UTC	Possibility of Thunder storm with rain and winds.	Bhadradri-Kothagudem, West Godavari, East Godavari, Districts
	03Z of 26.06.2017 to 03Z of 27.06.2017	0811to 1231UTC	Isolated Multiple cells average height of 5.0 km with maximum reflectivity of 54.0dBZ.	WNW (123Km) and moving E ly direction with average speed of 30.0 kmph	Cell started forming at 0811UTC, at WNW (123 km) from Radar the maximum reflectivity during 0911UTC to 1141 UTC and died down at 1231 UTC	Possibility of Thunder storm with rain and winds.	Guntur, Krishna, West Godavari, East Godavari Districts
	03Z of 26.06.2017 to 03Z of 27.06.2017	1051 to 1231UTC	Isolated Multiple cells average height of 4.8 km with maximum reflectivity of 48dBZ.	N (185KM) and it is moving SE ly direction with average speed of 30.0 kmph	Cell started forming at 1051UTC, at N(185km) from Radar the maximum reflectivity during 1121UTC to 1201 UTC and died down at 1231 UTC	Possibility of Thunderstorm with rain and winds.	Bhadradri-Kothagudem, West Godavari, East Godavari, Districts
	03Z of 26.06.2017 to 03Z of 27.06.2017	0951 to 1111UTC	Isolated Multiple cells with average height of 5.1 km with maximum reflectivity of 51.0dBZ.	SW (234KM) and moving E ly direction with average speed of 25.0kmph	Cell started forming at 0951UTC, at SW (234Km) from Radar the maximum reflectivity during 1031UTC to 1101 UTC and moved into the sea.	Possibility of Thunder storm with rain and winds.	Nellore District
	03Z of 26.06.2017 to 03Z of 27.06.2017	1201 to 0051UTC	Convective region with average height of 5.3 km with maximum reflectivity of 54.0dBZ.	WSW (170KM) and moving E ly direction with average speed of 35.0kmph	Cell started forming at 1201UTC, at WSW (170Km) from Radar the maximum reflectivity during 1211UTC to 1621 UTC and died down at 0051 UTC	Possibility of Thunder storm with rain and winds.	Prakasam, Guntur, Krishna, West Godavari, East Godavari, Nalgonda, Suryapet, Mahabubabad, Bhadradri-Kothagudem Districts

Radar Station Name	Date	Time Interval of Observation (UTC)	Organisation of cells (Isolated single cells/multiple cells/convective regions /squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radarstation and Direction of movement	Remarks	Associated Severe Weather if any	Districts affected
Kolkata	26.06.17	0312-0711	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
		0711-0931	Small isolated cells developed and merged to form multi cell system with maximum reflectivity of 58.0 dBz at 0801 UTC and maximum height of 17.5 km at 0821 UTC.	Formation started at 0711 UTC in between S/23 km and SW /66 km from Radar, moving in NW/WNW –ly direction with a speed of 34.6 kmph.	Small isolated cells developed at 0711 UTC in between S/23 km and SW /66 km from Radar and merged at 0731 UTC to form multi cell system. Matured. Dissipated at 0931 in WNW /89 km from Radar.	Thunderstorm / Rain	N/A
		0831-1231	Small isolated cells developed and merged to form multi cell system with maximum reflectivity of 55.0 dBz at 1011 UTC and maximum height of 16.4 km at 1001 UTC.	Formation started at 0831 UTC in between WSW/97 km and WSW /147 km from Radar, moving in WNW –ly direction with a speed of 29.9 kmph.	Small isolated cells developed at 0831 UTC in between WSW/97 km and WSW /147 km from Radar and merged at 0941 UTC to form multi cell system. Matured. Dissipated at 1231 in W /221 km from Radar.	Thunderstorm / Rain	N/A
		1241-2351	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
	27.06.17	0001 - 0301	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL