



India Meteorological Department
FDP STORM Bulletin No.111 (24-06-2017)

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

- ◆ The southwest monsoon has further advanced into some more parts of north Arabian sea, some parts of Saurashtra, some more parts of Gujarat region, remaining parts of Madhya Maharashtra, Marathwada and Vidarbha, some parts of West Madhya Pradesh and some more parts of East Madhya Pradesh.
- ◆ The Northern Limit of Monsoon (NLM) passes through Lat. 22.0°N / Long. 60.0°E, Lat. 22.0°N / Long. 65.0°E, Dwarka, Vallabh Vidyanagar, Khandwa, Betul, Mandla, Patna and Lat.27.0°N / Long. 85.0°E.
- ◆ Favourable conditions are developing for further advance of southwest monsoon into some more parts of north Arabian sea, Gujarat state and Madhya Pradesh during next 24 hours and into remaining parts of Bihar and some parts of East Uttar Pradesh during next 2-3 days.
- ◆ The trough at mean sea level from northwest Rajasthan to north Bay of Bengal across Haryana, Uttar Pradesh, Jharkhand and Gangetic West Bengal, now runs from West Rajasthan to west-central Bay of Bengal across north Madhya Pradesh, Uttar Pradesh, Jharkhand, Gangetic West Bengal and northwest Bay of Bengal and extends upto 0.9 km above mean sea level.
- ◆ The off-shore trough at mean sea level from north Maharashtra coast to Kerala coast, now runs from south Gujarat coast to Kerala coast.
- ◆ The upper air cyclonic circulation over north Bay of Bengal & neighbourhood persists and now extends upto 7.6 km above mean sea level tilting south-westwards with height. Under the influence of this system, a low pressure area is likely to form over northwest Bay of Bengal & neighbourhood during next 48 hours.
- ◆ The north-south trough from eastern parts of Bihar to northwest Bay of Bengal extending upto 1.5 km above mean sea level has merged with the above system.
- ◆ An upper air cyclonic circulation lies over south Pakistan & neighbourhood between 0.9 & 2.1 km above mean sea level.
- ◆ Another upper air cyclonic circulation lies over southeast Rajasthan & neighbourhood between 5.8 & 7.6 km above mean sea level.
- ◆ The western disturbance as an upper air cyclonic circulation between 5.8 & 7.6 km above mean sea level over Himachal Pradesh & neighbourhood has moved away east-northeastwards.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

Convective Activity:

Cell No	Date/time (UTC)	Location/Area	MIN CTT (-DEG C)	Movement	Remarks
1	24/0200 0300	S Rajasthan do	61 60		Developing

Cloud Description:

Scattered low/medium clouds with embedded moderate to intense convection were seen over Coastal Odisha, E Meghalaya, S Assam, W Arunachal Pradesh and Bay Islands. Scattered low/medium clouds with embedded isolated moderate to intense convection were seen over S Rajasthan. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over rest Assam, rest Meghalaya, A Andhra Pradesh, South Interior Karnataka, Kerala, N Tamilnadu and Lakshadweep. Scattered low/medium clouds with embedded isolated weak convection were seen over E Gujarat adjoining Maharashtra. Scattered low/medium clouds were seen over J & K, Himachal Pradesh, Uttarakhand, Uttar Pradesh and rest parts of West, East and South India.

Arabian Sea:

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

Bay of Bengal & Andaman Sea:

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

Past Weather:**Convection:-**

Moderate to Intense convection was observed East Uttar Pradesh Rajasthan East Gujarat Madhya Pradesh Maharashtra Chhattisgarh Bihar Jharkhand Odisha West Bengal North East States Telangana Andhra Pradesh Kerala Tamilnadu.

OLR:-

Upto **200** wm^{-2} was observed over North East Odisha Coastal Andhra Pradesh South Kerala .

Upto **230** wm^{-2} was observed over East Gujarat Marathwara Chhattisgarh Jharkhand Rest Odisha Rest Gangetic West Bengal North East States North Interior Karnataka Telangana Rest Andhra Pradesh Tamilnadu

Westerly Trough & Jet-Stream:-

No Trough & Jet Stream 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 is observed over South India and Positive shear tendency is observed over rest parts of India.

Positive Vorticity field is observed over North West Rajasthan..

Negative low level convergence is observed over Rajasthan Gujarat Vidarbha and Positive low level convergence observed over rest parts of India.

Precipitation:**IMR:**

Rainfall Up to **70** mm was observed over North Chhattisgarh North East Odisha Gangetic West Bengal.

Rainfall Up to **50** mm was observed over East Gujarat East Jharkhand East Meghalaya South Assam adjoining Tripura Extreme North Tamilnadu.

Rainfall Up to **30** mm was observed over South Marathwada Vidarbha.

Rainfall Up to **20** mm was observed over South Andhra Pradesh.

Rainfall Up to **10** mm was observed over East Uttar Pradesh South Rajasthan

Extreme South Madhya Pradesh Rest Maharashtra Rest Jharkhand Bihar Rest Odisha

Rest North East States Telangana Rest Andhra Pradesh Karnataka Rest Tamilnadu Kerala.

HEM:.

Rainfall Up to **70** mm was observed over East Gujarat North Chhattisgarh North East Odisha East Jharkhand South Gangetic West Bengal South Assam Manipur.

Rainfall Up to **14** mm was observed over South Marathwada Kerala.

Rainfall Up to **07** mm was observed over South Rajasthan East Uttar Pradesh Madhya Pradesh Rest Maharashtra Rest Chhattisgarh Bihar Rest Jharkhand Rest Odisha Rest Gangetic West Bengal Rest North East States Karnataka Telangana Andhra Pradesh Rest Kerala Tamilnadu.

RADAR and RAPID Observation:

DWR composite at 1230hrs IST indicated significant echoes over North Konkan & Goa sub-division adjoining South Gujarat region, E Uttar Pradesh, N Madhya Pradesh, extreme SW Odisha, Telangana adjoining Coastal Andhra Pradesh.

RAPID RGB Satellite imagery at 1200hrs IST indicated significant convective clouds over South Odisha, adjoining North Coastal Andhra Pradesh, adjoining Chhattisgarh, S Rajasthan adjoining N Gujarat, S Gujarat adjoining N Maharashtra, C Assam adjoining Arunachal Pradesh, Coastal Karnataka, Kerala, Lakshadweep and Andaman & Nicobar Islands. It also indicated isolated convective clouds over E Uttar Pradesh, Bihar, Madhya Pradesh, South Kankan & Goa and Telangana.

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):-

Not Received

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

Not Received

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

Not Received

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

In association with the deepening of yesterday's upper air cyclonic circulation and the likely formation of a low pressure area over northwest Bay of Bengal & neighbourhood during next 48 hours, heavy rainfall is likely over East and North East India during the next 48 hours. With a likely westward movement of the low pressure area into Odisha, rainfall over the northeast peninsular coast region is likely to increase on day 2.

The presence of an upper air cyclonic circulation over south Pakistan & neighbourhood between 0.9 & 2.1 km above, coupled with moisture feeding into the Gujarat region from the low level westerly jet, indicates heavy rainfall over the Gujarat region on day 1 and 2.

In association with the off-shore trough at mean sea level from south Gujarat coast to Kerala coast, heavy rainfall is likely all along the west coast of India on day 1 and 2.

24 hour Advisory for IOP:

Rainfall:

Coastal Karnataka,
Kerala, Lakshadweep
Konkan and Goa
South Gujarat and Kutch
West Madhya Pradesh
Assam and Meghalaya
Nagaland, Manipur, Mizoram, Tripura
Arunachal Pradesh
Sub Himalayan West Bengal,
Gangetic West Bengal, Coastal Odisha

Thunderstorm with associated phenomena:

Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Bihar, Jharkhand,
Gangetic West Bengal
Odisha, Coastal Andhra Pradesh
Southern parts of East and West Rajasthan

48 hour Advisory for IOP:

Rainfall:

Coastal Karnataka,
Kerala, Lakshadweep
Konkan and Goa
South Gujarat and Kutch
Chhattisgarh
Assam and Meghalaya
Nagaland, Manipur, Mizoram, Tripura
Arunachal Pradesh
Sub Himalayan West Bengal,
Gangetic West Bengal, Coastal Odisha, Jharkhand
North Coastal Andhra Pradesh

Thunderstorm with associated phenomena:

East Uttar Pradesh, Bihar
Uttarakhand
Southern parts of East and 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

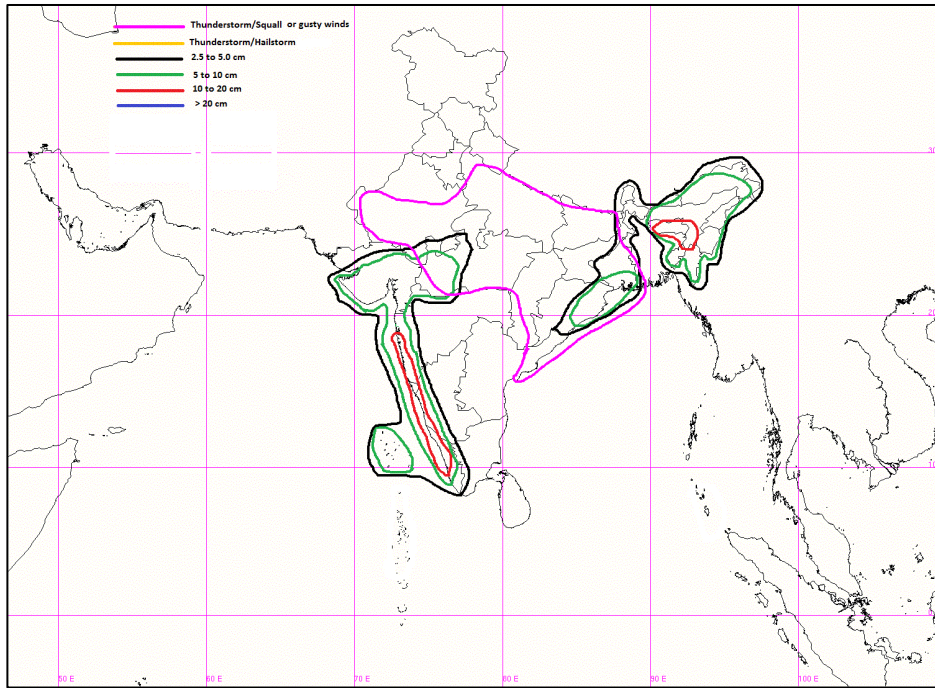
HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg

ForRadarimagesofthepast24hoursincludingmosaicofimages:

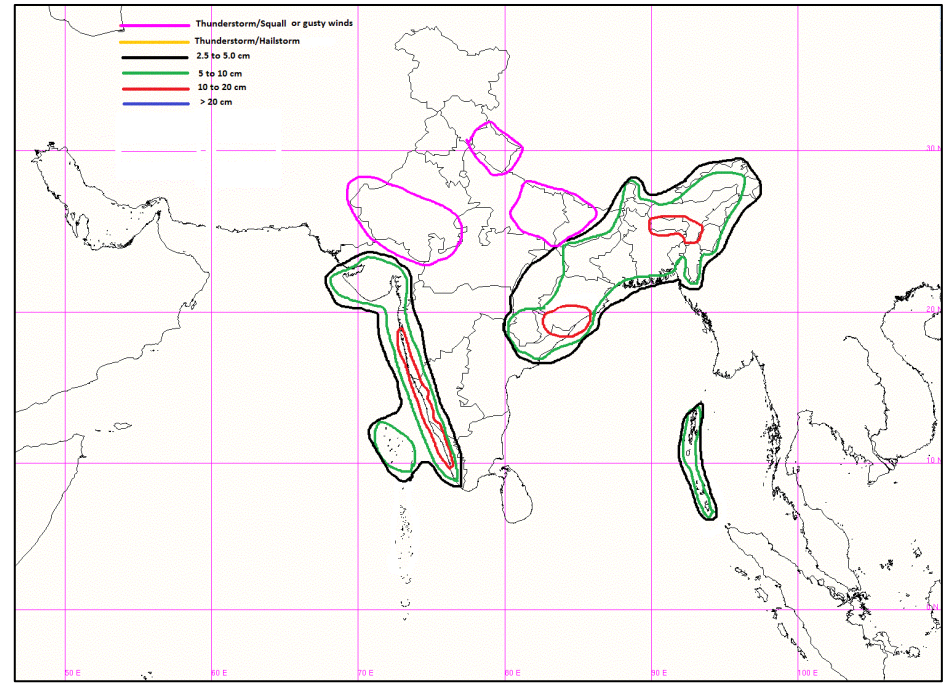
http://ddgmui.imd.gov.in/dwr_img/

Satellite sounder based T- Phigram

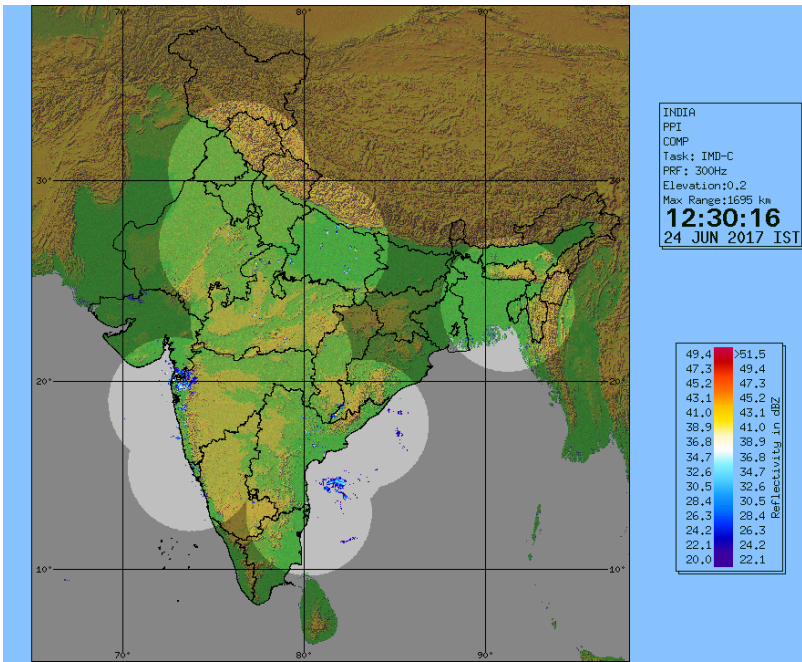
http://satellite.imd.gov.in/map_skm2.html



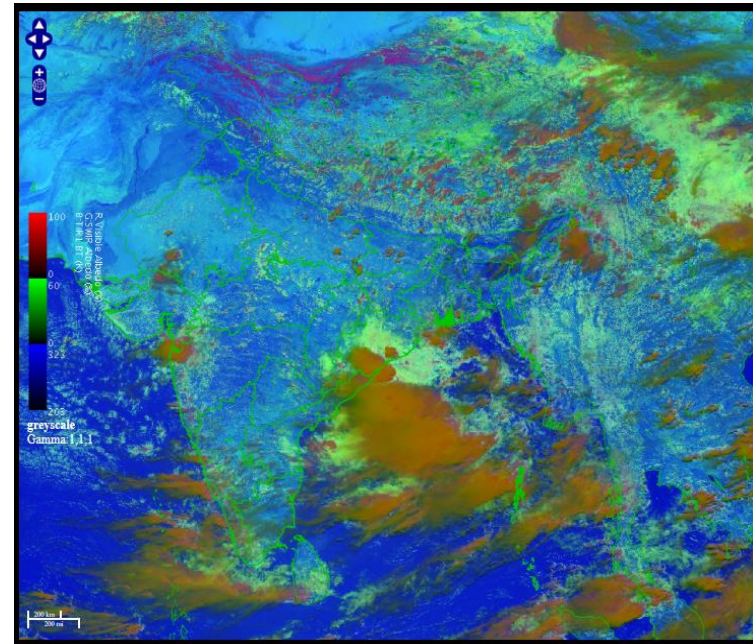
IOP Advisory for 24 hours



IOP Advisory for 48 hours



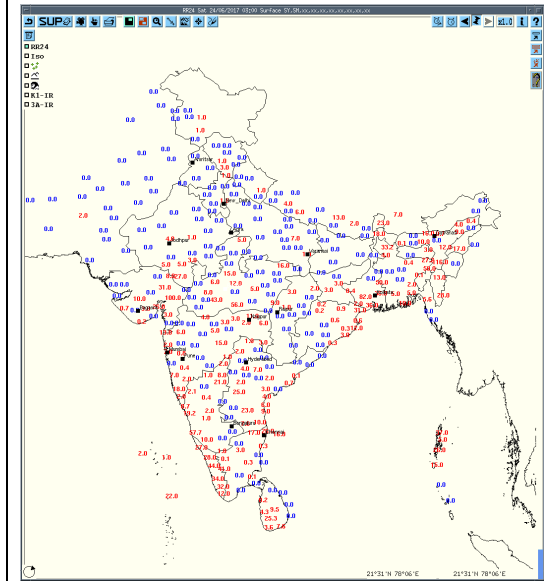
DWR composite at 1230hrs IST



RAPID RGB Satellite Imagery at 1200 hrs IST of today

Not Received

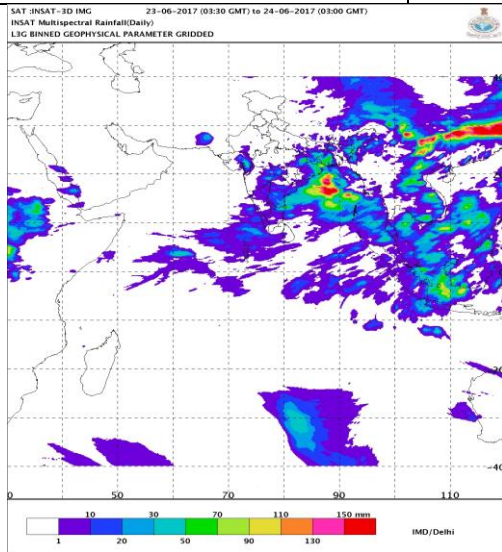
Not Received



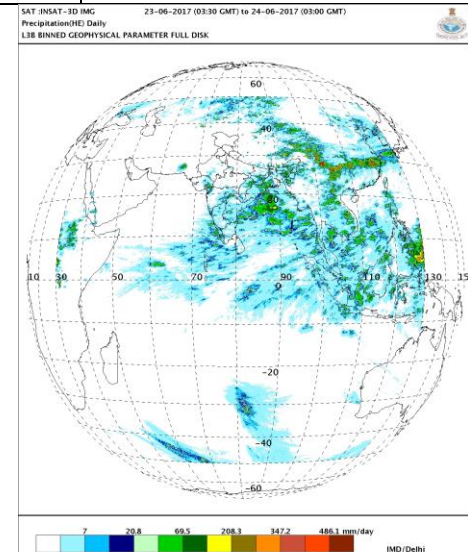
Forecast Dust Concentration

PM10 Forecast

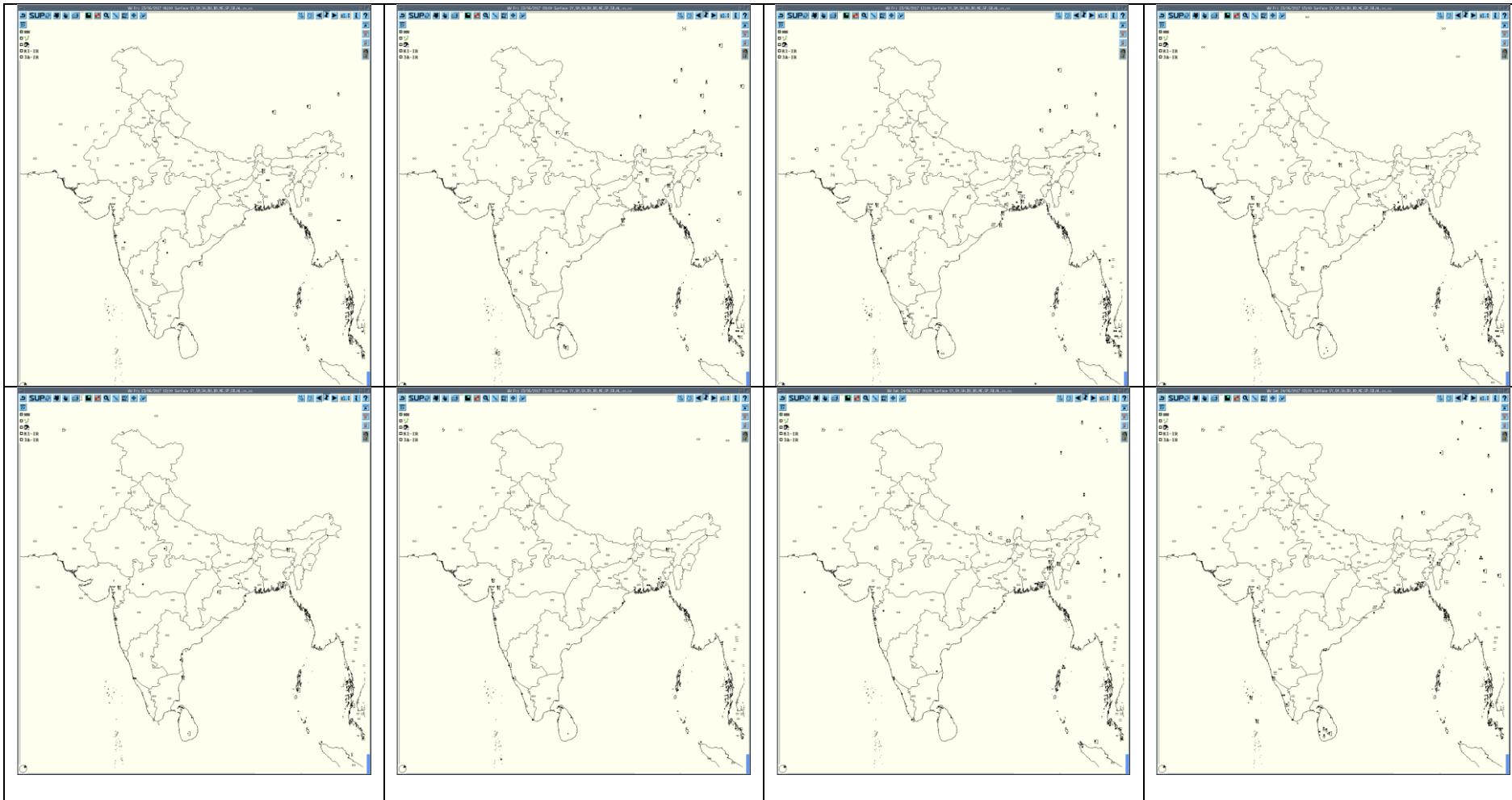
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



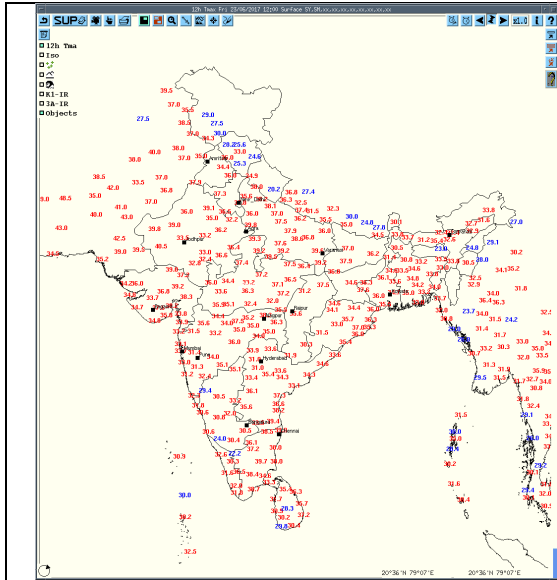
IMR Rainfall



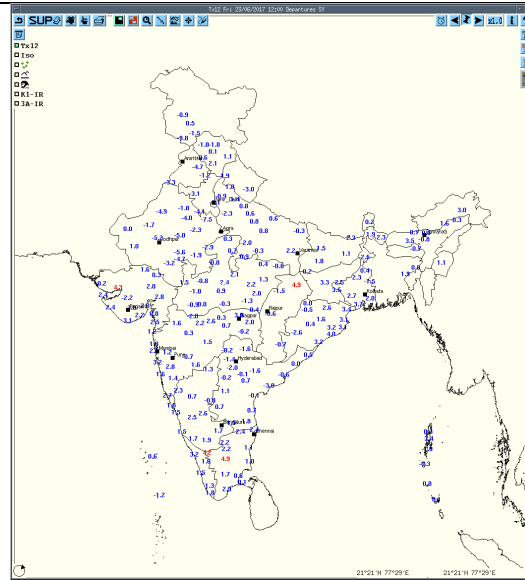
HEM Rainfall



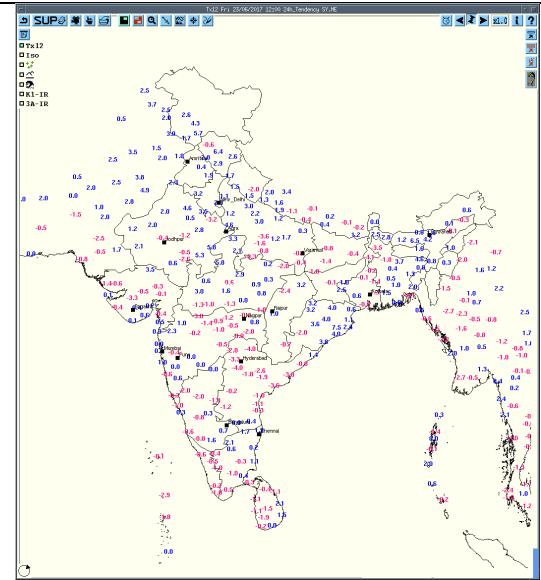
3hourly Past weather at 06, 09, 12, 15, 18, 21UTC of yesterday and 00 & 03 hrs UTC of today



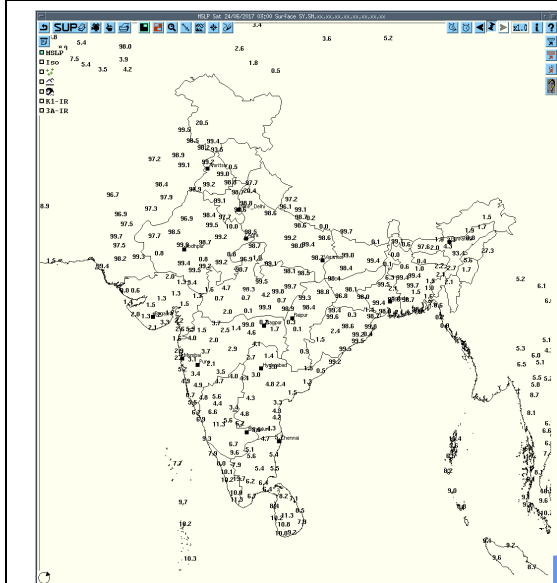
Tmax



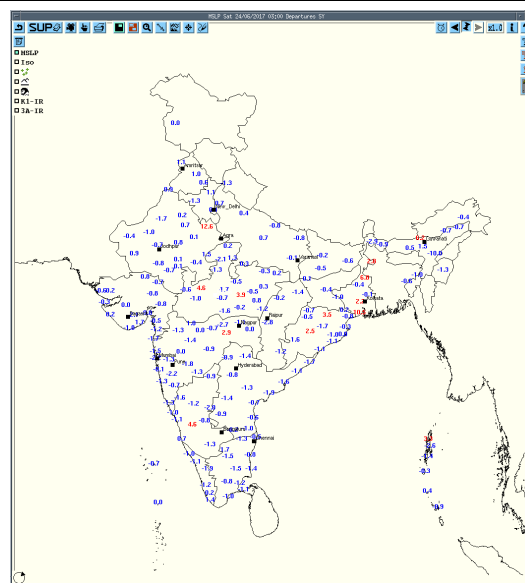
Departure Tmax



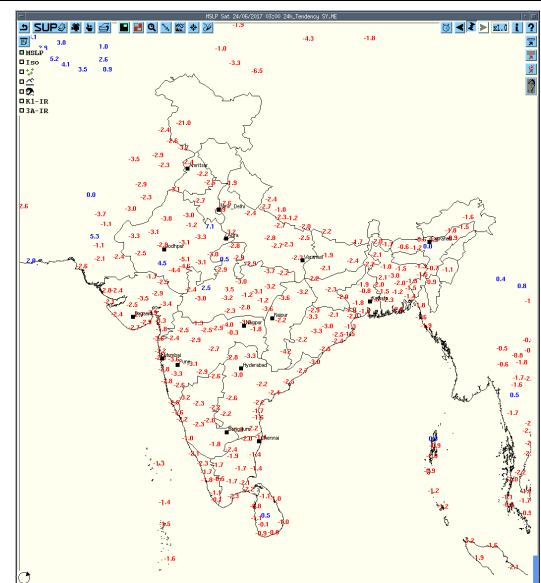
Tendency Tmax



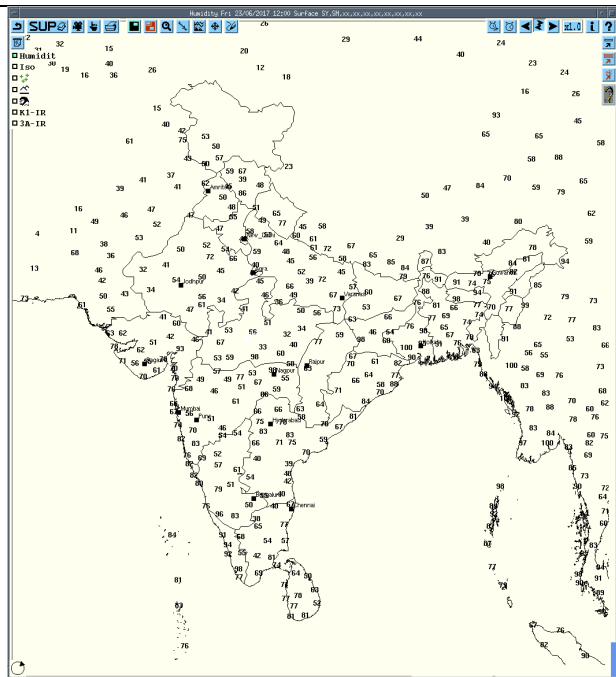
MSLP



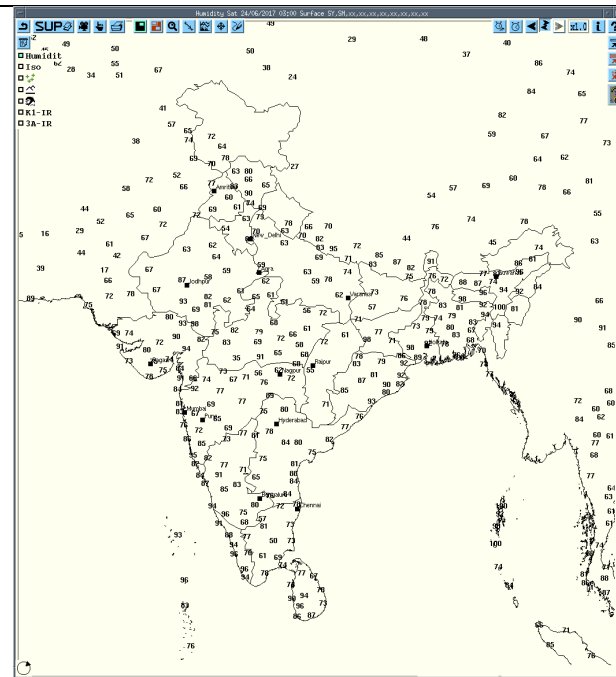
Departure MSLP



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
23-06-17	0600UTC	Diamond Harbour, Haldia	E India	West Bengal(GWB)	Thunderstorm
23-06-17	0900UTC	Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Kolkata, Canning, Diamond Harbour, Digha	E India	West Bengal(GWB)	Thunderstorm
		Chandbali	E India	Odisha	Thunderstorm
23-06-17	1200UTC	Lucknow, Varanasi	NW India	Uttar Pradesh	Thunderstorm
		Panagarh, Midnapore, Digha	E India	West Bengal (GWB)	Thunderstorm
		Balasore, Paradeep	E India	Odisha	Thunderstorm
		Ambikapur, Raipur	C India	Chhattisgarh	Thunderstorm
		Guwahati	NE India	Assam	Thunderstorm
		Baroda	W India	Gujarat (Gujarat Region)	Thunderstorm
		Bhavnagar	W India	Gujarat (Saurashtra & Kutch)	Thunderstorm
		Nagpur, Akola	C India	Maharashtra (Vidarbha)	Thunderstorm
23-06-17	1500UTC	Karipur AP	S India	Kerala	Thunderstorm
		Sultanpur	NW India	Uttar Pradesh	Thunderstorm
		Gaya	E India	Bihar	Lightening
		Ranchi	E India	Jharkhand	Thunderstorm
		Bankura	E India	West Bengal (GWB)	Lightening
		Guwahati	NE India	Assam	Thunderstorm
		Tezpur	NE India	Assam	Lightning
		Shillong	NE India	Meghalaya	Lightening
		Bapatla, Kurnool	S India	Andhra Pradesh	Thunderstorm
		Nagapattinam	S India	Tamilnadu	Lightening
		Bajpe	S India	Karnataka	Thunderstorm
23-06-17	1800UTC	Ahmedabad, Baroda	W India	Gujarat (Gujarat Region)	Thunderstorm
		Baroda	W India	Gujarat (Gujarat Region)	Thunderstorm
		Guwahati	NE India	Assam	Thunderstorm
		Jharsuguda	E India	Odisha	Thunderstorm
		Chennai	S India	Tamilnadu	Thunderstorm
		Bapatla	S India	Andhra Pradesh (CAP)	Lightening
		Thiruvananthapuram	S India	Kerala	Thunderstorm
		Kozhikode	S India	Kerala	Lightening
23-06-17	2100UTC	Kanyakumari	S India	Tamilnadu	Lightening
		Ahmedabad, Baroda	W India	Gujarat (Gujarat Region)	Thunderstorm
		Guwahati	NE India	Assam	Thunderstorm

24-06-17	0000UTC	Tezpur, Silchar	NE India	Assam	Thunderstorm
		Kailasahar	NE India	Tripura	Thunderstorm
		Jodhpur	NW India	Rajasthan	Thunderstorm
24-06-17	0300UTC	Silchar	NE India	Assam	Thunderstorm
		Bajpe	S India	Karnataka	Thunderstorm
		Agathi AP, Minicoy	S India	Lakshadweep Islands	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
Lucknow	24-06-17	230442-230822	Multiple cells with average height of 10KM and maximum Reflectivity of 48 dBZ	E(120-220km) moving inE'ly direction at speed of 21.6 km/hr	.....	TS,RAIN	Gonda,Faizabad,Basti
		230502-230812	Multiple cells with average height of 10KM and maximum Reflectivity of 40 dBZ	W(200km) moving inE'ly direction at speed of 5.6 km/hr	.....	TS,RAIN	Etawah,Maunpuri,Auraiya and adjoining areas.
		230512-230712	Multiple cells with average height of 12KM and maximum Reflectivity of 42 dBZ	NNE(100-150km) moving inE'ly direction at speed of 21 km/hr	.....	.....	.....

		230532-230712	Multiple cells with average height of 10KM and maximum Reflectivity of 40 dBZ	SE(100-150km) moving inSE'ly direction at speed of 21.6 km/hr	.....	.....	.....
		230632-231232	Multiple cells with average height of 13KM and maximum Reflectivity of 60 dBZ	W(95km),SW(55km),SSW(145km),SW(150 km) moving in E'ly direction at speed of 23 km/hr	.....	HAIL,TS,RAIN	KANPUR,U NNAO, KANNAUJ, LUCKNOW ,HARDOI, HAMIRPUR ,FATEHPUR, RAEBAREILY,BARAB ANKI
		230712-231222	Multiple cells with average height of 13KM and maximum Reflectivity of 54 dBZ	SSE(70km) moving in E'ly direction at speed of 21km/hr	.....	TS,RAIN	Allahabad,j aunpur,Var anasi, Sant Ravidas nagar,Mirza pur,pratapg arh and adjoining areas
		231212-231332	Single cells with average height of 13KM and maximum Reflectivity of 54 dBZ	E(70km) did not moved but matured in size	.....	TS,RAIN	Faizabad,A methi,Raeb areily
		231302-231452	Multiple cells with average height of 13KM and maximum Reflectivity of 51 dBZ	ESE(100) moving in E'ly direction at speed of 21km/hr	.....	TS,RAIN	Faizabad,S ultanpur,A methi
Nagpur	24-06-17	230302-230632	Single	72 km South dir.	39 dbz & cloud ht=1.2-4.7 km	<u>Thunderstorm warning</u> started at 0642 till 0652 in NW direction 200 Km away from Radar.	Rainfall in many places in Bhandara, , Brahmapuri , Umred,Amr aoti, Nagpur ,
		230452-231002	Multiple	82 km N dir.moving towards SE dir.	51 dbz &cloud ht.1.5-7.5 km.	1042-1232 in SW dir 150 km away from Radar.	

		230612-231822	Multiple	106 km NW dir.	43 dbz & cloud ht= 2.0-7.0 km	1042-1202 in NE dir 200 km away from Radar.	Akola
		230722-231402	Multiple	Moving towards South dir. 147 km W dir	45 dbz & cloud ht. 3.5-8.0 km.	1102-1412 in S dir 220 km. away from Radar.	Yeotmal, Chandrapur Hinganghat
		231912-232352	Multiple	Moving towards S dir. 207 km W dir moving towards South dir.	35 dbZ & cloud ht=4.7-7.0 km	1212-1242 in SE dir 200km away from Radar. 1252-1322 in NW dir 175 km away from Radar. <u>Hailstorm- NIL</u>	, Pusad,Adili bad, Balaghat, Ramtek, Kotal and isolated pleaces Goindia in , Wardha, Washim and Buldhana etc
		240002-240302	Single	230 km South dir.	27dbz & cloud ht,.5.0-6.0 km.		
Patiala	24-06-17	230300-231200	NO SIGNIFICANT ECHOS.	--	--	--	--
		231200-231500	Single cell Max dBZ=49.0 Ht.= 09-11 KMS	SOUTH SECTOR MOVEMENT EAST WARDS		TS/RA	JHAJJAR AND IT'S ADJOINIG AREAS.
		231500-240252	No Significant Echo	--	--	--	--
Machilipatnam	24-06-17	230731-231051	Isolated Multiple cells average height of 5.5km with maximum reflectivity of 56.5dBZ.	NW (167Km) and moving SE ly direction with average speed of 25.0 kmph.	Cell started forming at 0731 UTC, at NW(167 km) from Radar the maximum reflectivity during 0831 UTC to 1041 UTC and died down at 1051 UTC	Possibility of Thunder storm with rain and winds.	Warangal rural,Waran gal urban,Maha bubabad, , Khamma, Krishna Districts

		230651-231111	Isolated Multiple cells average height of 6.5 km with maximum reflectivity of 58.0dBZ.	NW (150Km) and moving SE ly direction with average speed of 25.0 kmph	Cell started forming at 0651UTC, at NW (150 km) from Radar the maximum reflectivity during 0801UTC to 1111 UTC and moved into the sea.	Possibility of Thunder storm with rain and winds.	Khammam, Krishna, West Godavari Districts
		231011-231311	Isolated Multiple cells average height of 5.7 km with maximum reflectivity of 55.5dBZ.	NW (220KM) and it is moving SE ly direction with average speed of 35.0 kmph	Cell started forming at 1011UTC, at NW(220km) from Radar the maximum reflectivity during 1051UTC to 1251 UTC and died down at 1311 UTC	Possibility of Thunderstorm with rain and winds.	Nalgonda, Suryapet, Khamma,Guntur, Krishna Districts
		231101-231351	Isolated Multiple cells average height of 5.8km with maximum reflectivity of 52.0dBZ.	NNW (200KM) and moving SE ly direction with average speed of 30.0kmph	Cell started forming at 1101UTC, at NNW (200Km) from Radar the maximum reflectivity during 1211UTC to 1341 UTC and died down at 1351 UTC	Possibility of Thunder storm with rain and winds.	Nalgonda, Guntur Districts
		231141-231601	Isolated Multiple cells average height of 5.0 km with maximum reflectivity of 50.5dBZ.	WNW (245KM) and moving SE ly direction with average speed of 35.0kmph	Cell started forming at 1141UTC, at WNW (245Km) from Radar the maximum reflectivity during 1151UTC to 1511 UTC and died down at 1601 UTC	Possibility of Thunder storm with rain and winds.	Nalgonda,Kurnool, Guntur,Pra kasam Districts
		231711-232021	Isolated Multiple cells average height of 4.0 km with maximum reflectivity of 50.0dBZ.	WNW (202KM) and moving SE ly direction with average speed of 30.0kmph	Cell started forming at 1711UTC, at WNW (202Km) from Radar the maximum reflectivity during 1711UTC to 2021 UTC and Moved into the sea	Possibility of Thunder storm with rain and winds.	Guntur, Prakasam Districts
		231451-232021	Isolated Multiple cells average height of 4.5 km with maximum reflectivity of 53.5dBZ.	WSW (240KM) and moving SE ly direction with average speed of 35.0kmph	Cell started forming at 1451UTC, at WSW (240Km) from Radar the maximum reflectivity during 1551UTC to 2001 UTC and died down at 2021 UTC	Possibility of Thunder storm with rain and winds.	Prakasam, Nellore Districts
Jaipur	24-06-17	230002-240742	Multiple cell with average height of 4.2 km & maximum reflectivity 57.0 dBZ	Multiple cell develop from 0002 UTC of 23/06/2017 towards S, SW, W, NW, & E of Jaipur and moved to South East Wards at speed 25-30 km/hr	Cell starts forming from 0002 UTC of 24/06/2017 towards S, SW, W, NW, & E of Jaipur and reaches maximum reffectivity during 0002-0732 UTC OF 23/06/2017 and died 0742 UTC	Thunderstorm/rain at a few places	CHITTORG ARH, BHILWARA , PALI, CHURU, KOTA, RAJSAMA ND, AJMER, NAGAU R,

							JHUNJHUN U, KARALI
		230742- 231432	Multiple cell with height 4.5 km and maximum reflectivity 53.0 dBZ	Multiple cell develop from 0742 UTC of 23/06/2017 towards NE, E, SE & NW of Jaipur and moved ,SE Wards at speed 20-25 km/hr	Cells starts from 0742 UTC of at 23/06/2017 at NE, E, SE & NW of Jaipur and reaches maximum reflecity during 0742-1412 UTC OF 23/06/2017 and died 1432 UTC	Thunderstorm/rain at few placeS	CHURU, SIKAR, JHUNJHUN U, JAIPUR, DAUSA, SAWAIMA DHOPUR, KARALI, ALWAR, BHARATP UR, DHOLPUR
		231502- 231822	Multiple cell with height 3.0 km and maximum reflectivity 28.0 dBZ	Multiple cell develop from 1502 UTC of 23/06/2017 towards South of Jaipur and moved E,SE Wards at speed 05-10 km/hr	Cells starts from 1502 UTC on 23/06/2017 at South of Jaipur and reaches maximum reflecity during 1502-1822 UTC OF 23/06/2017 and died 1902	Thunderstorm/rain at few placeS	JAIPUR, TONK
		231932- 240300	Multiple cell with height 3.7 km and maximum reflectivity 49.5 dBZ	Multiple cell develop from 1932 UTC of 23/06/2017 towards East of Jaipur and moved South Wards at speed 10-12 km/hr	Cells starts from 1932 UTC on 23/06/2017 at East of Jaipur and reaches maximum reflecity during 1932-0000 UTC OF 23/06/2017 and continue	Thunderstorm/rain at few placeS	PALI, NAGAU, AJMER, BHILWARA , RAJSAMA ND
Agartala	24-06-17	230302 - 230852	Multiple Cells at 250km w,nw from DWR Agartala with Maximum Height 92 km at 0612UTC and maximum reflectivity41.5 dBZ at 0712 UTC	Formed 250 km W,NW of DWR and moves NWrlly direction	Cells dissipated at 0850 UTC at 150 to 200 km from DWR Agartala	N/A	N/A
		230732 - 231012	Multiple Cells continued at 0730 UTC over10km N & 50km NE with Maximum Height 10.0 km at 0912 UTC and maximum reflectivity	Persist around Tripura and moves towards NW wards direction	Cells dissipated at 1010 UTC at Bangladesh	Thunder & Rain	

			46.5 dBZ at0902 UTC.				
		231212 - 240250	Multiple cells with Maximum Height 14.0 km at2012 UTC and maximum reflectivity45.00 dBZ at 2030 UTC	Persist around 200km from DWR AT Mizoram and moves towards NW wards direction	Cells dissipated at 240250 UTC over Meghalaya &Assam	Thunder & Rain	Dhalai &Notth districts of Tripura
Kolkata	24-06-17	230311-230431	Contd. From 0031 UTC, Isolated small cell developed and merge with another cells to form a multi cell system with maximum reflectivity of 54.5 dBz at 0151 UTC and maximum height of 10.39 km at 0151 UTC.	Cells formed in between N /157.6 km and N/181.9 km from Radar moving in NNW-ly direction.	Isolated small cells formed at 0031 UTC in between N /157.6 km and N/181.9 km and matured and later merged to form a multicelled system, dissipated at 0431 UTC in NNE/189.9 km from Radar.	Thunderstorm/Rain	N/A
		230441-231111	Multi cell merge and developed to form a big cell with maximum reflectivity of 60.0 dBz at 07.01 UTC and maximum height of 14.36 km at 0851 UTC.	Cells formed in NNE /115.3 km from Radar moving in SSW direction.	Isolated small cells formed at 0441 UTC in NNE /115.3 km from Radar and mature and dissipated at 1111 UTC in SSW / 65.2 km from Radar.	Thunderstorm/Rain	N/A
		230501-231011	Isolated small cell developed to form a big cell with maximum reflectivity of 58.5 dBz at 0711 UTC and maximum height of 11.11 km at 0711 UTC.	Cells formed in South /10.6 km from Radar moving in Southerly direction.	Isolated small cells formed at 0501 UTC in south /242 km from Radar and mature and dissipated at 1011 UTC in Southerly/134.0 km from Radar.	Thunderstorm/Rain	N/A
		230741-231301	Isolated small cell developed to a big cell with maximum reflectivity of 63.0 dBz at 1201 UTC and maximum height of 14.20 km at 1201 UTC.	Cells formed in SW/80.5 km from Radar moving in NW direction.	Isolated small cells formed at 0741 UTC in SW /80.5 km from Radar and mature and dissipated at 1301 UTC in NW/137.9 km from Radar.	Thunderstorm/Rain	N/A
		230941-231221	multiple cells developed to a big cell with maximum	Cells formed in SW/189.5 km from Radar moving in SE	multiple cells formed at 0941 UTC in SW /189.5 km from Radar and mature and	Thunderstorm/Rain	N/A

			reflectivity of 56.5 dBz at 1121 UTC and maximum height of 09.15 km at 1031 UTC.	direction.	dissipated at 1221 UTC in SW/175.5 km from Radar.		
		230951-231441	Isolated small cell developed to a big cell with maximum reflectivity of 63.5 dBz at 1241 UTC and maximum height of 14.91 km at 1231 UTC.	Cells formed in NW/246.6 km from Radar moving in NE direction.	Isolated small cells formed at 0951 UTC in SW /246.6 km from Radar and mature and dissipated at 1441 UTC in WNW/159.3 km from Radar.	Thunderstorm/Rain	N/A
		231001-231131	Isolated small cell developed to a big cell with maximum reflectivity of 58.00 dBz at 1101 UTC and maximum height of 08.73 km at 1051 UTC.	Cells formed in NW/243.6 km from Radar moving in NE direction.	Isolated small cells formed at 1001 UTC in NW /243.6 km from Radar and mature and dissipated at 1131 UTC in West/204.1 km from Radar.	Thunderstorm/Rain	N/A
		231101-231521	Isolated small cell developed to a big cell with maximum reflectivity of 53.0 dBz at 1421 UTC and maximum height of 13.68 km at 1421 UTC.	Cells formed in NW/242.4 km from Radar moving in SE direction.	Isolated small cells formed at 1101 UTC in NW/242.4 km from Radar and mature and dissipated at 1521 UTC in NW/164.4 km from Radar.	Thunderstorm/Rain	N/A
		231141-231451	Isolated small cell developed to a big cell with maximum reflectivity of 55.0 dBz and maximum height of 06.99 km at 1251 UTC.	Cells formed in NW/147.4 km from Radar moving in NW direction.	Isolated small cell formed at 1141 UTC in NW /147.4 km from Radar and mature and dissipated at 1451 UTC in NW/178.9 km from Radar.	Thunderstorm/Rain	N/A
		231531-240301	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
		240001-240301	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
Srinagar	24-06-17	230300-240300	Nil	Nil	--	--	--
Karaikal	24-06-17	230300-240300	--	--	DWR U/S	--	--



+ thunderstorm



+ heavy thunderstorm



sandstorm or dust storm



squall



hail shower



tropical storm

www.visualdictionaryonline.com



+ tornado



+ lightning



+ hurricane



haze



smoke



dust or sand storm



fog



drizzle



rain



snow



showers



hail



thunderstorm

Weather Symbols