India Meteorological Department

FDP STORM Bulletin No.97 (10-06-2017)

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

Southwest monsoon has further advanced into some more parts of central Arabian Sea, Konkan, Interior Karnataka and some parts of Madhya Maharashtra. The Northern Limit of Monsoon (NLM) passes through Lat. 18°N / Long. 60°E, Lat 18°N/Long 65°E, Lat. 18°N / Long 70°E, Harnai, Kolhapur, Gadag, Anantapur, Nellore and Lat. 15°N / Long 85°E, Lat 17°N/Long. 90°E, Lat 20°N/Long 91°E, Agartala, William Nagar, Kokrajhar and Lat. 27°N/Long 90°E.

Favorable conditions are developing for further advance of southwest monsoon into some more parts of central Arabian, Konkan, Madhya Maharashtra, Interior Karnataka and remaining parts of Rayalaseema, some parts of Telangana and some more parts of Coastal Andhra Pradesh, central & North Bay of Bengal, Tripura, Assam & Meghalaya and some more parts of West Bengal & Sikkim during next 2-3 days.

The low pressure area over west central Bay of Bengal & adjoining north Bay of Bengal off north Andhra Pradesh - south Odisha coast, now lies over northern parts of central Bay of Bengal and adjoining north Bay of Bengal and the associated upper air cyclonic circulation extending upto mid tropospheric levels tilts southwest wards with height. It is very likely to become well marked during next 48 hours.

The trough at mean sea level from north Rajasthan to southeast Bay of Bengal now runs from north Rajasthan to north Andaman Sea across Madhya Pradesh, Chhattisgarh, Odisha and centre of the low pressure area and extends upto 0.9 Km above mean sea level.

The shear zone now runs roughly along Lat.17.0°N between 3.1 & 5.8 Km above mean sea level.

The upper air cyclonic circulation over central Pakistan & adjoining West Rajasthan extending upto 2.1 Km above mean sea level persists.

The upper air cyclonic circulation over southeast Bihar & neighbourhood extending upto 1.5 Km above mean sea level persists. However, the trough from this system upto interior Odisha extending upto 0.9 km above mean sea level has become less marked.

The western disturbance as an upper air cyclonic circulation at 3.1 km above mean sea level over north Pakistan & neighbourhood now lies over north Pakistan and adjoining Jammu & Kashmir with the trough aloft now runs roughly along longitude 73.0°E and north of latitude 32°N with its axis at 5.8 Km above mean sea level.

A feeble off shore trough runs from south Maharashtra coast to north Kerala coast.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

WESTERN DISTURBANCE (WD):

Scattered multi-layered clouds were seen over Black Sea and neighbourhood in association with WD over the area.

Cloud Description:

Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over J & K.

Scattered low/medium clouds were seen over Himachal Pradesh, Haryana, Delhi, Uttarakhand, Uttar Pradesh and Rajasthan.

Scattered low /medium clouds with embedded moderate to intense convection were seen over Odisha Coast, Gujarat and North Konkan.

Broken low/medium clouds with embedded moderate to intense convection were seen over Coastal Andhra Pradesh, Lakshadweep and Bay Islands.

Scattered low/medium clouds with embedded isolated weak convection were seen over Sikkim and rest parts of the country.

Arabian Sea:

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

Bay of Bengal & Andaman Sea:

Broken low/medium clouds with embedded intense convection were seen over C Bay. Broken low/medium clouds with embedded moderate to intense convection were seen over North Andaman sea.

Past Weather:

Convection:-

Moderate to Intense convection was observed over J&K Gujarat South West Madhya Pradesh Maharashtra South Chhattisgarh Telangana Andhra Pradesh Odisha Jharkhand East Bihar South West Bengal and North East States.

OLR:-

Upto **200** wm^{-2} was observed over North East J&K Extreme South Gujarat Extreme South West Madhya Pradesh Madhya Maharashtra South Vidarbha South Chhattisgarh South Odisha South West Bengal Manipur Mizoram North Interior Karnataka Telangana Andhra Pradesh South Kerala .

Upto **230** wm^{-2} was observed over Rest J&K North Himachal Pradesh North Uttarakhand Rest Gujarat Rest Maharashtra Jharkhand East Bihar Rest Odisha Rest West Bengal Sikkim North East States Rest Karnataka Tamilnadu North Kerala.

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

Dynamic Features:

Medium to High wind shear is observed over N & S India while low . wind shear is observed over central India .

Positive shear tendency is observed over the India.

A positive Vorticity field is observed over North Tamilnadu.

Negative low level convergence is observed over Gujarat and Odisha and Positive low level convergence observed over rest parts of India

Precipitation:

Rainfall Up to **110** mm was observed over Mizoram. Rainfall Up to **90** mm was observed over South Vidarbha S Chhattisgarh South Odisha. Rainfall Up to 7**0** mm was observed over Telangana South East West Bengal Manipur North Tripura.

Rainfall Up to **50** mm was observed over East Gujarat South West Madhya Pradesh South East Bihar Rainfall Up to **30** mm was observed over Rest Maharashtra.

Rainfall Up to **20** mm was observed over North Interior Karnataka.

Rainfall Up to **10** mm was observed over J&K North East Bihar South Assam Rest Gujarat Andhra Pradesh Rest Odisha Jharkhand Central Tamilnadu.

HEM:
Rainfall Up to **208** mm was observed over Mizoram Extreme South Odisha adjoining Andhra Pradesh.
Rainfall Up to **70** mm was observed over extreme East Gujarat West Madhya Pradesh Maharashtra South Chhattisgarh Coastal Odisha South East West Bengal East Manipur Meghalaya Telangana
Rainfall Up to **14** mm was observed over South Himachal Pradesh Rest Gujarat North Interior Karnataka South Kerala.
Rainfall Up to **07** mm was observed over Rest Andhra Pradesh Rest Karnataka Tamilnadu North Kerala North East Jharkhand East Bihar Rest Odisha Rest West Bengal Assam Nagaland

RADAR and RAPID Observation:
DWR Composite at 1310hrs IST indicated strong convection over Northwest Rajasthan and significant convection over Odisha.
RAPID RGB Satellite imagery at 1230hrs IST indicated significant convective clouds over East Uttar Pradesh, East Madhya Pradesh, Meghalaya, Nagaland, South Mizoram, coastal Odisha, North coastal Andhra Pradesh, Northwest Maharashtra and Lakshadweep.

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: 12UTC Charts of Day 1-4 show evolution of heat low over NW India and adjoining Pakistan with MSLP values lower than 992hPa on Day-2 to Day-4.
12UTC charts on days from Day 0 to Day 2: show a zone of wind discontinuity at 925 hPa; NW-SE extending from Rajasthan-MP to Jharkhand
CYCIR: over Head Bay of Bengal near 20N/91E in Day0. It is seen to persist, move northwards initially and then eastwords and intensify in Day-2
Feeble Western Disturbance is seen over northern parts of J&K in Day 0-4
2. Location of jet and jet core at 500hPa:-**500hPa Jet core (>60kt)**: Weaker core winds at 12 UTC on all days over India.
3. Convergence at 850 hPa:
Day0: Arunachal Pradesh,
Day1: Assam Meghalaya, NE NMMT, Jharkhand, Chhattisgarh,
Day2: NE NMMT, East UP,
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: Himachal Pradesh, TN Puducherry, Kerala,
Day1: Assam Meghalaya, West UP, Uttarakhand, Himachal Pradesh, West MP, TN Puducherry, Kerala,
Day2: Assam Meghalaya, NE NMMT, Uttarakhand, Himachal Pradesh, Konkan Goa, TN Puducherry, Kerala,
Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Uttarakhand, Punjab, Konkan Goa, Madhya Maharashtra, TN Puducherry, Kerala,
Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Uttarakhand, Gujarat region, Konkan Goa, Madhya Maharashtra, TN Puducherry, Kerala

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

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, East UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana,

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

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Chhattisgarh,

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

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, East UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka,

Day1: 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, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, NI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, TN Puducherry,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Madhya Maharashtra, Chhattisgarh, Coastal AP, Rayalaseema, TN Puducherry,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East Rajasthan, Odisha, West MP, East MP, Gujarat region, Saurashtra Kutch, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI 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, West UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan,
Day1: Arunachal Pradesh, Sub Himalayan WB, East UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP,
Day2: Arunachal Pradesh, Sub Himalayan WB, East UP, Uttarakhand, Haryana Chandigarh Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West Rajasthan, East Rajasthan, West MP, East MP, Madhya Maharashtra,
Day3: Arunachal Pradesh, Sub Himalayan WB, Bihar, East UP, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, East Rajasthan, West MP, East MP, Gujarat region, Chhattisgarh,
Day4: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East Rajasthan, Odisha, West MP, Gujarat region, Saurashtra Kutch
8. Rainfall and thunder storm activity: (Day/Index: Subdivisions with Precipitation > 2 cm):
Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, West MP, Gujarat region, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, Marathwada, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir, Gujarat region, Konkan Goa, Madhya Maharashtra, Marathwada, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir, Gujarat region, Konkan Goa, Madhya Maharashtra, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, Himachal Pradesh, Jammu Kashmir, Gujarat region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

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

1. Weather Systems:
The analysis based on 00 UTC show a low level CYCIR over north Bay of Bengal and a trough extends from Bihar to the CYCIR. Forecasts show that the CYCIR over north Bay of Bengal moves northward and lies over Bangladesh on day3 and the trough extends from west UP to the centre of CYCIR.
2. Location of jet and jet core at 500 hPa:-500 hPa Jet core (>60kt): No presence of jet core over the Indian region for the next 5 days.
3. Low level Vorticity:-Positive Vorticity 850hPa (>12 x 10^{-1}/s):
The high vorticity belts are mainly over the Gangetic plains, foot hills of Himalaya, south peninsula and parts of the north eastern states.
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): Over parts of Rajasthan, Odisha and Gangetic West Bengal during day3 and day5.
Lifted Index (< -2): Less than threshold value over most parts of the country except J&K, HP, Uttarakhand, parts of central India and south peninsula during next 5 days.
Total Total Index (> 50) : Greater than threshold value over northwest India during next 5 days.
Sweat Index (> 300): Higher than threshold value almost all over the country except Gangetic plain.
CAPE (> 1000): Mostly over parts of Rajasthan and adjoining Gujarat, West Bengal, Bihar and parts of Odisha.
CIN (50-150): Mostly all over the country except Gujarat, south peninsula and J&K during next 48 hours.

5. Rainfall and thunderstorm activity:

10-40 mm: rainfall over Sub- Himalayan West Bengal and parts of NE states during next five days with very heavy rainfall (70-130 mm) over Sub- Himalayan West Bengal and adjoining areas on day3 and day4.

20-70 mm: rainfall over parts of Maharashtra, Telangana and coastal Andhra Pradesh during next 48 hours.

40-70 mm: rainfall over west coast, coastal Maharashtra and adjoining Gujarat and Karnataka during next 5 days with very heavy rainfall (70-130 mm): over coastal Karnataka and adjoining Kerala on day2.

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

1. Model Reflectivity (Max. dBz):

15-35 dBZ Model reflectivity over south peninsula, AP and Odisha during next 24 hours, over Telangana on day2 and over west coast during next 72 hours.

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

Total Total Index (> 50) : Above threshold value over northwest and central parts of India and Gangetic plain during next 72 hours.

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

CAPE (> 1000): Mostly over Rajasthan, Gujarat, parts of AP, Telangana, central India and NE states during next 3 days.

CIN (50-150): Over North West parts of India, Gangetic plain, Parts of central India, Telangana and AP during next three days.

Rainfall and thunderstorm activity:

70-130 mm: over Maharashtra and Karnataka coast during next 48 hours.

20-70 mm: over Kerala coast and parts of NE states during next 3 days.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:
Day-1 & Day-2:

In association with low level westerly wind convergence along the west coast, heavy to very heavy with isolated extremely heavy rainfall is expected all along the west peninsular coast of India, from Kerala to Gujarat, on day 1 and day 2. This is aided by the feeble off shore trough which runs from south Maharashtra coast to north Kerala coast

The shear zone in the middle troposphere, running roughly along Lat.17.0 N is also likely to trigger thunderstorms with gusty winds all over Central India on day 1 and day 2. The accompanying moisture inflow is likely to result in isolated heavy to very heavy rainfall episodes over south Madhya Maharashtra on day 1 as well as day 2.

The deepening of the low pressure area over northern parts of central and adjoining north Bay of Bengal, and its likely intensification and northward movement during the next 48 hours is likely to increase the rainfall over the east central coast of peninsular India on day 1 and East and Northeast India on day 2.

24 hour Advisory for IOP:
Konkan and Goa
Gujarat, Madhya Maharashtra, Coastal Karnataka
Saurashtra, Kerala, Lakshadweep
Coastal Andhra Pradesh, South Interior Karnataka, Telengana
Assam, Meghalaya,
Nagaland, Meghalaya, Mizoram and Tripura
Coastal Orissa
Marathwada, Madhya Maharashtra, Madhya Pradesh, Vidarbha, Chhattisgarh

48 hour Advisory for IOP:
Konkan and Goa
Gujarat, Madhya Maharashtra, Coastal Karnataka
Saurashtra, Kerala, Lakshadweep
Coastal Andhra Pradesh
Assam, Meghalaya,
Nagaland, Meghalaya, Mizoram and Tripura
Coastal Orissa, Gangetic West Bengal
Marathwada, Madhya Maharashtra, Madhya Pradesh, Vidarbha, Chhattisgarh

For NCMRWF NWP products:(http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php)
For IMD NWP products:(http://nwp.imd.gov.in/diagpro new.php)
For Synoptic plotted data and charts
http://amssdelhi.gov.in/
http://www.amsskolkata.gov.in/
For RAPID tool:
http://rapid.imd.gov.in/
Low Level Winds
http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR 2017/?C=M;O=D
Upper level winds
http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/HLW/MAR 2017/?C=M;O=D
Past24hourHEMandIMRrainfall(upto03UTCoftoday)
IMR: http://satellite.imd.gov.in/img/3Ddaily imr.jpg
HEM: http://satellite.imd.gov.in/img/3Ddaily he.jpg
ForRadarimagesofthepast24hoursincludingmosaicofimages:
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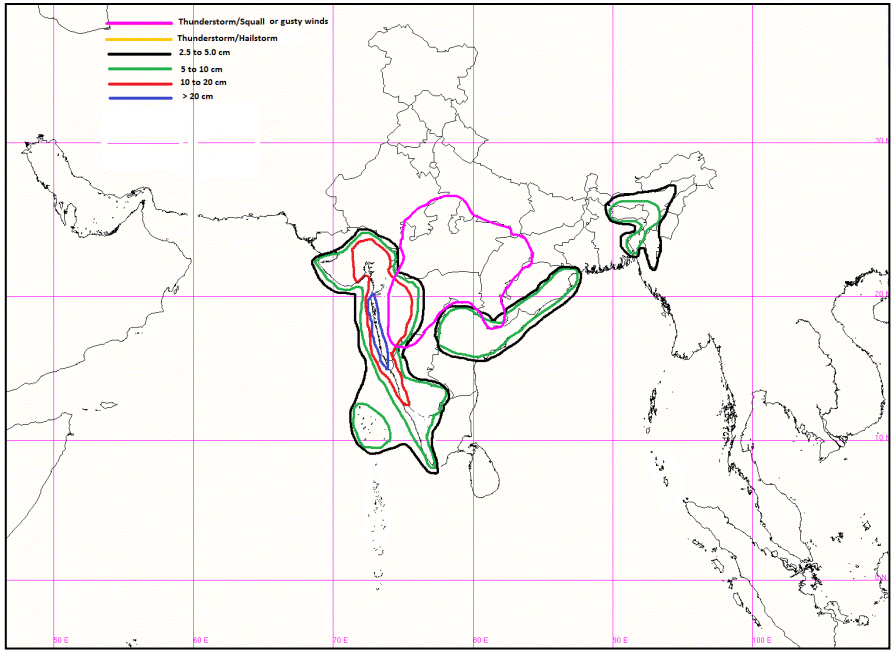
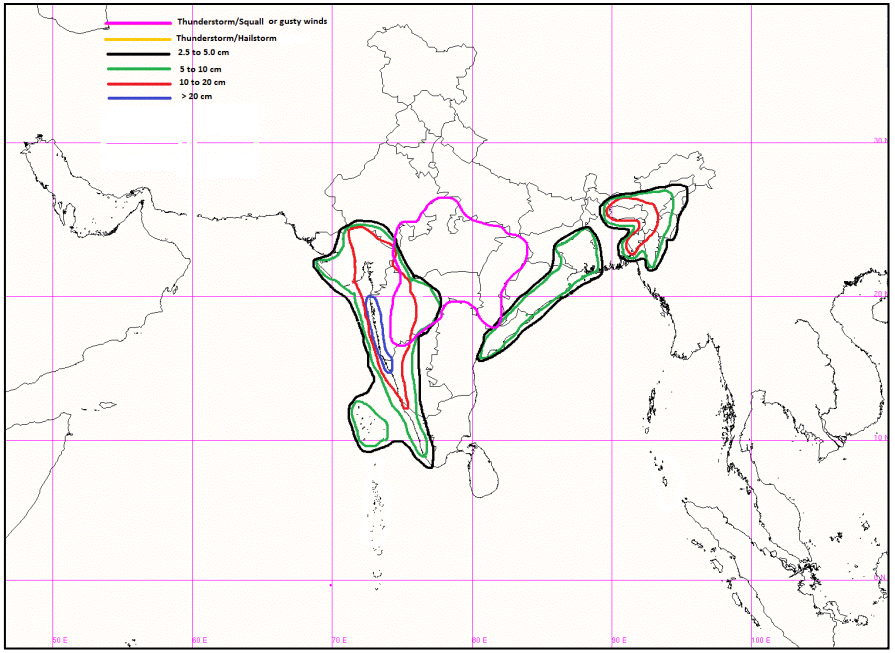
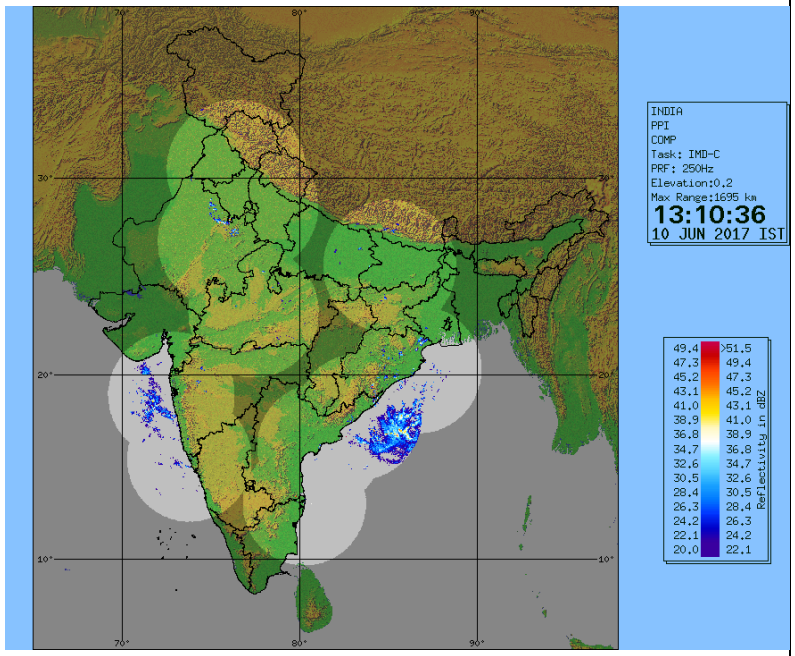
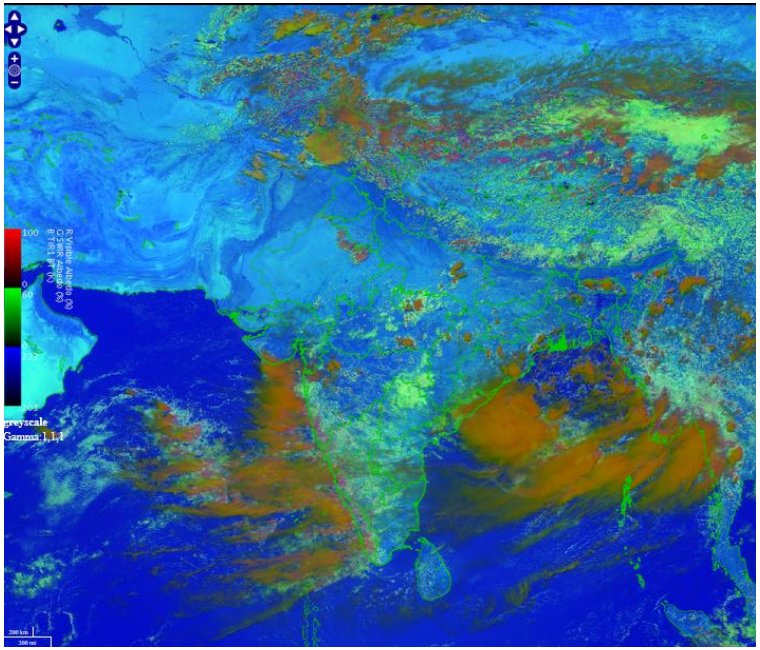
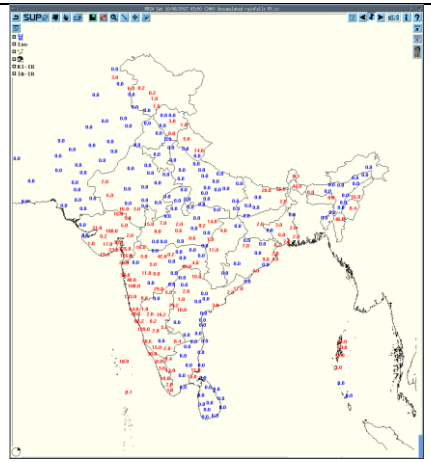


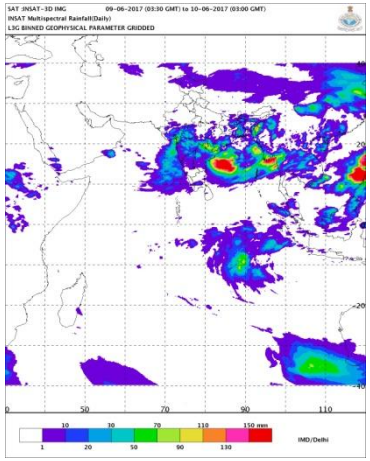
IOP Advisory for 24 hours



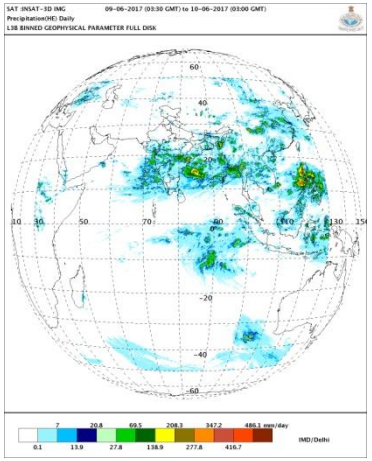
IOP Advisory for 48 hours

	
DWR composite at 1310 hrs IST	**RAPID RGB Satellite Imagery at 1230 hrs IST of today**

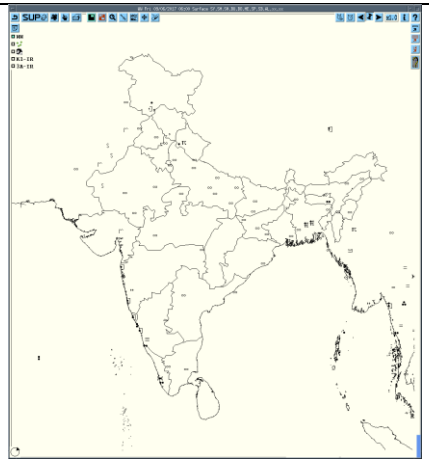
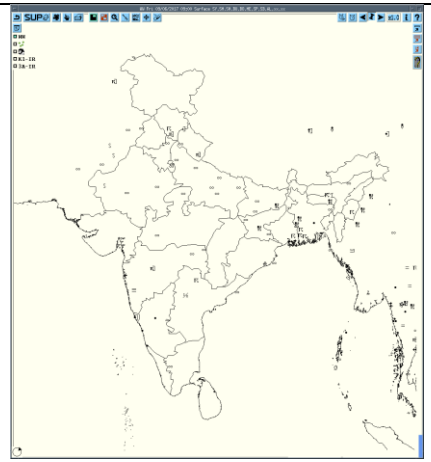
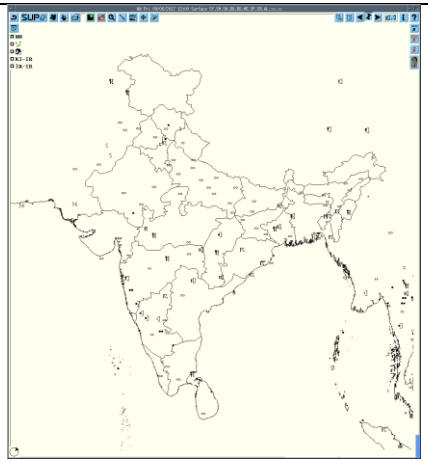
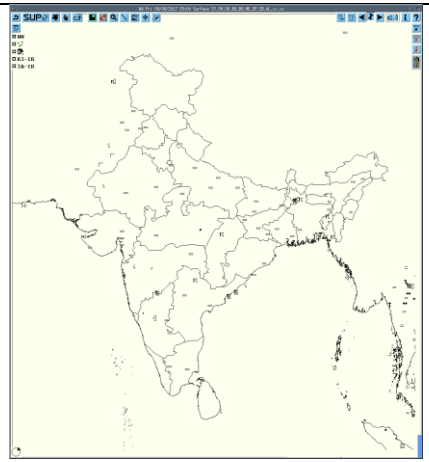
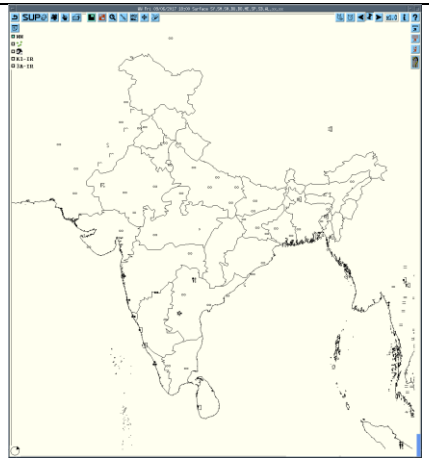
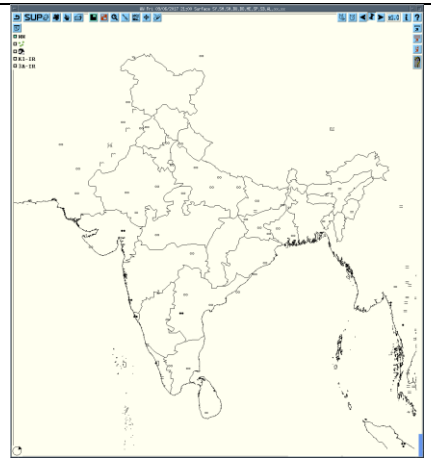
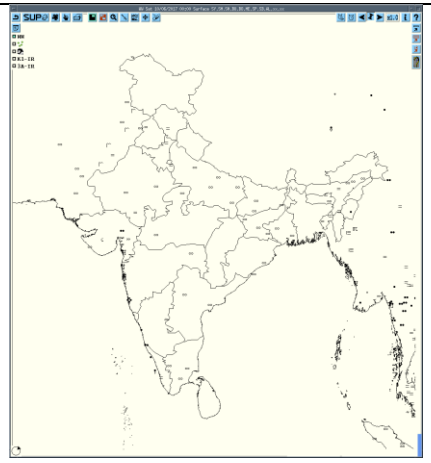
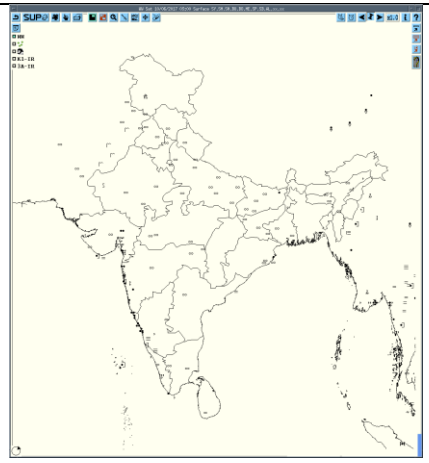
Not Received	Not Received	
Forecast Dust Concentration for 00UTC of 13th June	**PM10 Forecast for 00UTC of 13th June**	**Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today**



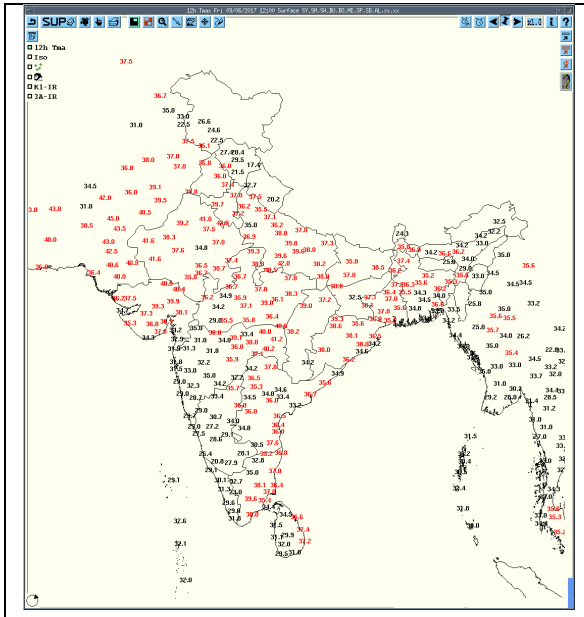
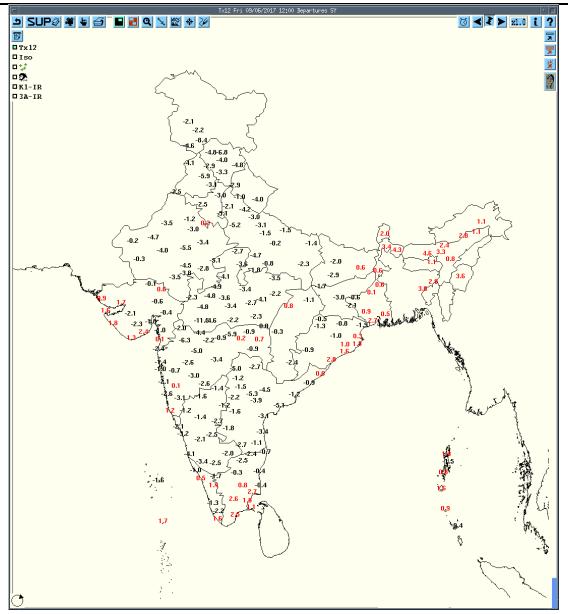
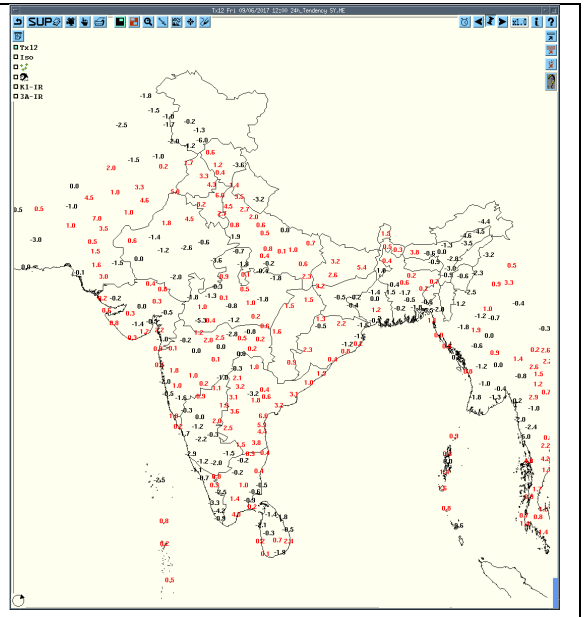
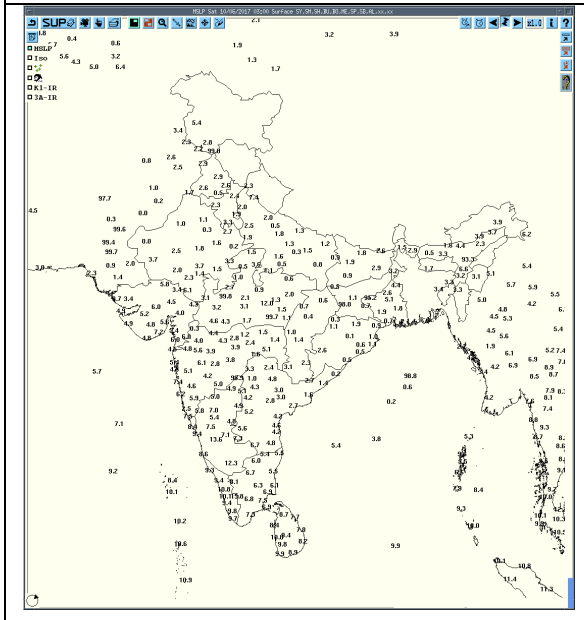
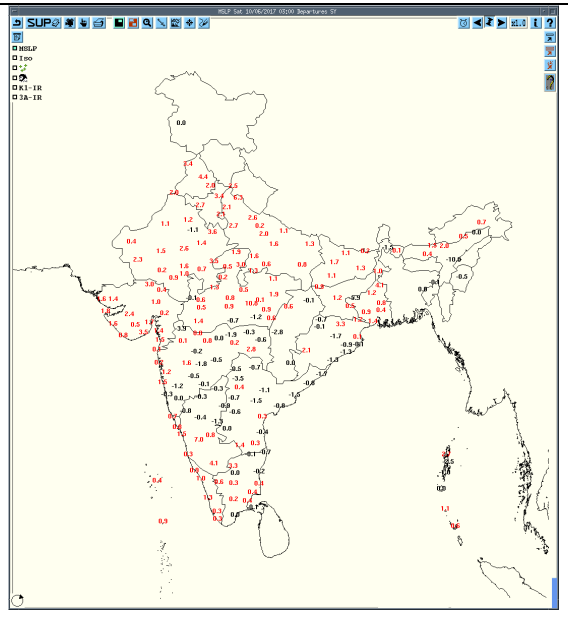
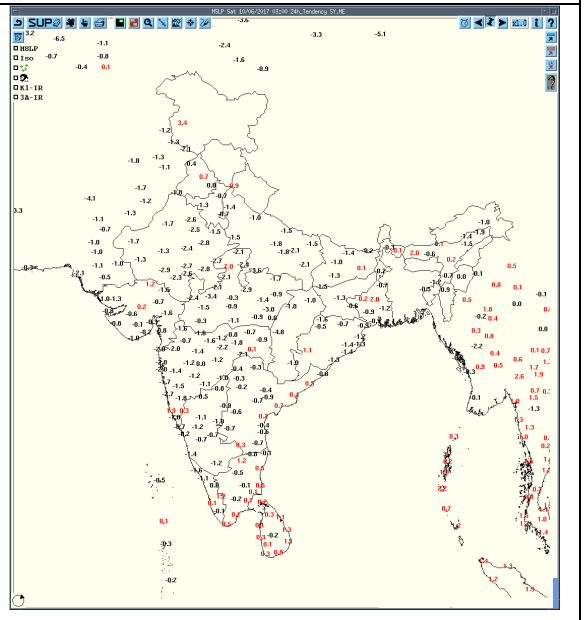
IMR Rainfall

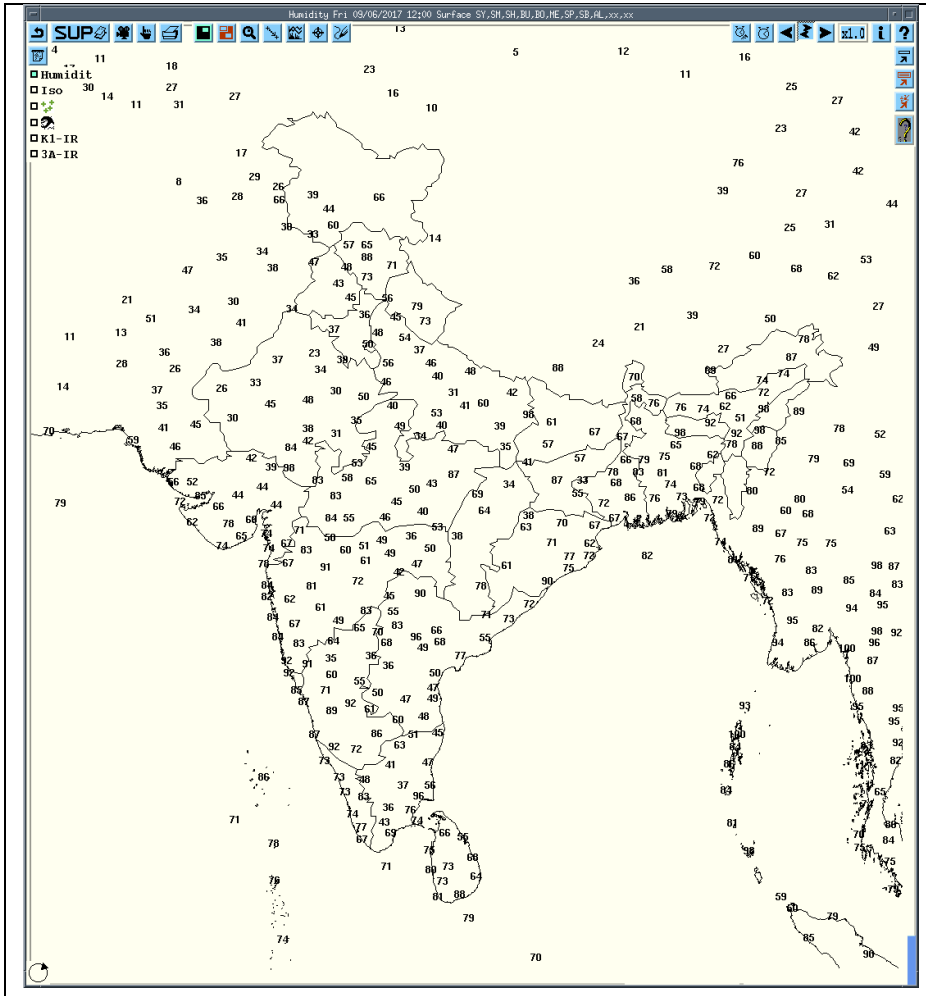


HEM Rainfall

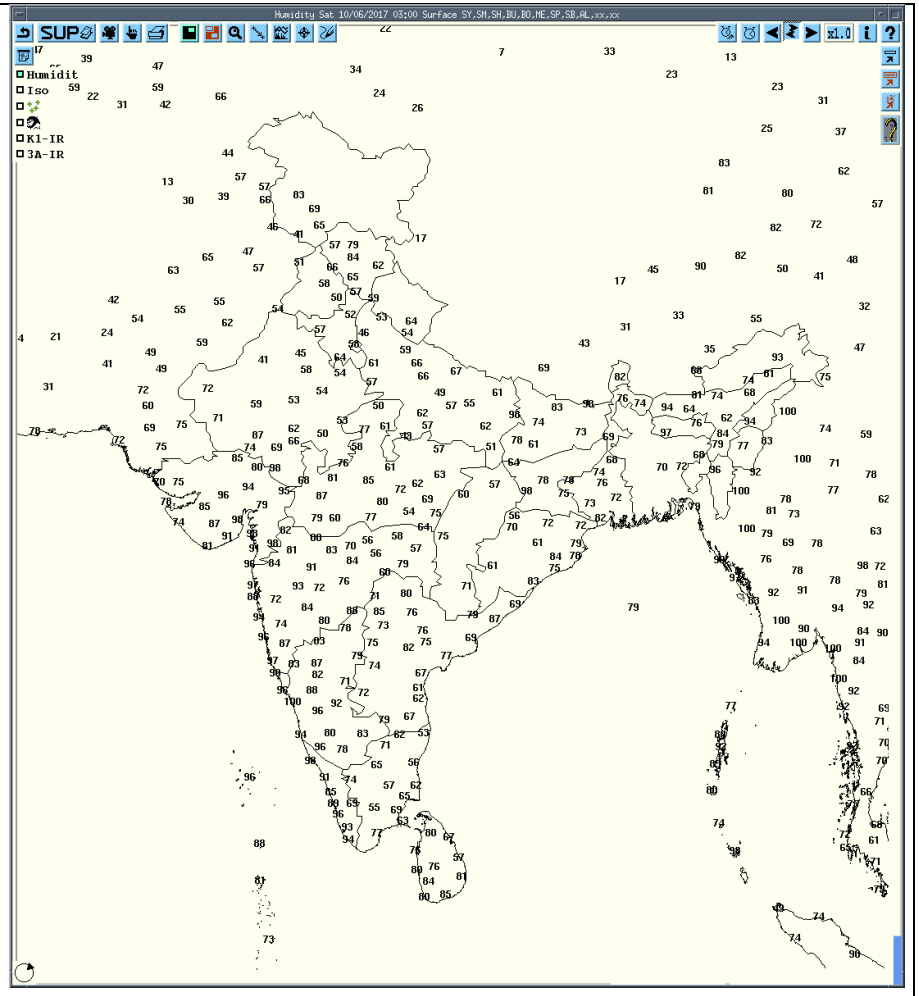









3hourly Past weather at 06, 09, 12, 15, 18, 21UTC of yesterday and 00 & 03 hrs UTC of today

		
Tmax	**Departure Tmax**	**Tendency Tmax**
		
MSLP	**Departure MSLP**	**Tendency MSLP**



RH at 12UTC yesterday



RH at 03UTC today

Realised past 24hrs TS/SQ/HS Data (reported at 0300UTC of the day):

Realized weather past 24hours (Based on SYNERGIE Products)					
Date	**Time of Reporting**	**Name of Station Reporting**	**Region**	**STATE**	**Weather Event**
09-06-17	0600UTC	Tehri	Northwest India	Uttarakhand	Thunderstorm
09-06-17	0900UTC	Sundernagar, Shimla/ Mukteshwar	Northwest India	Himachal Pradesh/ Uttarakhand	Thunderstorm
		Bhagalpur/ Ranchi	East India	Bihar/ Jharkhand	Thunderstorm
		Guwahati/ Shillong/ Imphal	Northeast India	Assam/ Meghalaya/ Manipur	Thunderstorm
		Diamond Harbour, Kolkata, Canning	East India	West Bengal	Thunderstorm
		Bhubaneswar	East India	Odisha	Thunderstorm
		Bhavnagar	West India	Gujarat	Thunderstorm
		Aurangabad	West India	Maharashtra	Thunderstorm
		Ramagundam	South India	Andhra Pradesh	Thunderstorm
09-06-17	1200UTC	Ambala	Northwest India	Haryana	Thunderstorm
		Purnea, Bhagalpur	East India	Bihar	Thunderstorm
		Bankura, Panagarh, Canning	East India	West Bengal	Thunderstorm
		Silchar/Imphal/Kailasahar	Northeast India	Assam/Manipur/Tripura	Thunderstorm
		Raipur, Jagdalpur	Central India	Chhattisgarh	Thunderstorm
		Indore, Ratlam	Central India	Madhya Pradesh	Thunderstorm
		Akola, Gondia	Central India	Vidarbha	Thunderstorm
		Ramagundam/Gulbarga	South India	Andhra Pradesh/Karnataka	Thunderstorm
09-06-17	1500UTC	Pendra Road	Central India	Chhattisgarh	Thunderstorm
		Ramagundam	South India	Andhra Pradesh	Thunderstorm
		Sholapur	West India	Maharashtra	Thunderstorm
		Tuni, Vishakhapatnam	South India	Andhra Pradesh	Thunderstorm
09-06-17	1800UTC	Jaisalmer	Northwest India	Rajasthan	Thunderstorm
		Ramagundam, Kurnool	South India	Andhra Pradesh	Thunderstorm
10-06-17	2100UTC	Nil	Nil	Nil	Nil
10-06-17	0000UTC	Nil	Nil	Nil	Nil
10-06-17	0300UTC	Gulbarga	South India	Karnataka	Thunderstorm

Past 24 hours DWR Report:

Radar Station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
DWRVSK	09/06/17	0300 UTC 0600 UTC	Isolated single cells with Max reflectivity 44dBz and max ht 8.4 kms in NNE ly direction and isolated cells in WSWly with max reflectivity 45dBz and max ht 8.8 kms	NNE ly at 160 to 180 kms and WSWly at 40 to 85 kms.	-		-
DWRVSK	09/06/17	0600 UTC 0900 UTC	Isolated cells at NE sector with maximum reflectivity 56dbz and average height 14kms.	Cells are being developed and moving southerly.	Likely to be intensified in reflectivity to lead associated weather.	-	-
DWRVSK	09/06/17	0900 UTC 1200 UTC	Isolated multiple cells at NE sector with maximum reflectivity 58dbz and average height 16kms.	Cb cells are forming since last observation and direction is Southerly.	Approaching station with average reflectivity 56dbz,	Slight Thunder storms	-
DWRVSK	09/06/17	1200 UTC 1500 UTC	Already formed multiple CB cells in Nly direction from station to 100km moved South ward and covered South and SW sector upto 100 km from station with maximum reflectivity 50dbz and average height 8kms.	Cb cells are forming since last observation, fully developing, dissipating , new cells forming and direction is Southerly.	Moving away from station with average reflectivity 50dbz,	Slight Thunder storms	-
DWRVSK	09/06/17	1500 UTC 1800 UTC	CB cells from previous observation moved South ward and covered South and SW sector upto 200 km from station with maximum reflectivity 50dbz and average height 12kms. CB cells also in ESE with same intensity and distance.	Cb cells are forming since last observation, fully developing, dissipating, new cells forming and direction is Southerly.	Moving away from station with average reflectivity 50dbz,		-
DWRVSK	10/06/17	1800 UTC 0000 UTC	CB cells from previous observation in South and SE sector with maximum reflectivity 50dbz and average height 12kms.	Cb cells are forming since last observation, fully developing, dissipating, new cells forming moving Southerly.	Distance 100 km from station		-
DWRVSK	10/06/17	0000 UTC 0300 UTC	Mainly convictive region in which CB cells at SSE with max reflectivity 50 dBZ and average height 8kms at 152 kms from radar.	Convictive region continued and cells movement is SE LY	Convictive in which Cb cells are developing.	-	-

Radar station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/ multiple cells/ convective regions/squall lines) with height of 20 dBZ echo top and maximum reflectivity.	Formation w.r.t. Radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Jaipur	10/06/17	0302-0352	Single cell with average height of 4.5 km & maximum reflectivity 43 dBZ	single cell from previous day continue till 0352 UTC of 09/06/2017 towards SW of Jaipur and moved to E Wards at speed 30 -35 km/hr	Cell starts forming from of 08/06/2017 at SW of Jaipur and reaches maximum reflectivity during 0302-1312 UTC and died down 0352 UTC	Thunderstorm/rain at isolate places	Pali, Jodhpur, Rajsamand
	0910/06/17	0732-1032 UTC	Multiple cells with average height of 5.5 km & maximum reflectivity 54 dBZ	Multiple Cells develop 0732 to 1032 UTC of 09/06/2017 towards NE of Jaipur and moved to E,NE Wards at speed 40 -45 km/hr	Cells starts forming from 0732 UTC of 09/06/2017 AT NE of Jaipur and reaches maximum reflectivity during 0852-0912 UTC and died down 1032 UTC.	Thunderstorm/rain at isolate places	Bharatpur
	0910/06/17	0802-1112 UTC	Multiple cells with average height of 6.0 km & maximum reflectivity 48 dBZ	Multiple Cells develop 0732 to 1032 UTC of 09/06/2017 towards South of jaipur and moved to East Wards at speed 30 -35 km/h	Cells starts forming from 0802 UTC of 09/06/2017 AT South of Jaipur and reaches maximum reflectivity during 0842-0902 UTC and died down 1112 UTC.	Thunderstorm/rain at isolate places	Kota ,Baran
Srinagar	10/06/2017	09 JUNE 03Z to 10JUNE03Z(24hrs)	A single cell developed in NW direction of DWR at 0950 UTC and grew in to multiple cells of all direction with max reflectivity 45-50 dBZ and height 8 km	Dissipated at 1600 UTC with SE direction	Thunderstorm observed at Srinagar, Qazigund, Pahalgam ,Kupwara & Kukernag	Light rain at many places	Srinagar, Anantnag,

Radar Station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Patiala	10-06-2017	09/ 0300 UTC-0600 UTC	Multiple cells Max dBZ=51.5 Ht.=10-11 KM	ECHOS FORMED NE SCETOR. THEIR MOVEMENT NE WARDS	-------	-	Solan ,Bhunter, Shimla
		09/0600 UTC-TO 0900 UTC	Multiple cells Max dBZ=56.5 Ht.=11-12KM	ECHOS FORMED IN NE, ESE SCETORS. THEIR MOVEMENT SE WARDS	--------	----------	Solan, Sundernagar, Palampur, Bilaspur, Utterkashi, Mussorie
		09/0900 UTC-TO 1200 UTC	Multiple cells Max dBZ=58.5 Ht.=10-12 KM	ECHOS FORMED IN NE SCETOR. THEIR MOVEMENT SE WARDS		-----	Roopnagar, Chandigarh, Patiala, Rajpura, Sangrur, Ambala
		09/1200 UTC TO 1500 UTC	Multiple cells Max dBZ=55.0 Ht.=9-11 KM	ECHOS FORMED IN SW SCETOR. THEIR MOVEMENT SE WARDS --	----------		Pehowa, Sangrur, Tohana
		09/1500 UTC-TO 1800 UTC	NO ECHO				
		09/1800 UTC-TO 2100 UTC	NO ECHO				
		09/ 2100 UTC-TO 08 JUNE 0000 UTC	NO ECHO				
		10/ 0000 UTC-TO 0252UTC	NO ECHO				

Radar Station Name	Date	Time Interval Of Observation (UTC)	Organisation Of The Cells(Isolated Single Cells/ Multiple Cells/ Convective Regions/ Squall Lines) With Height Of 20 dbZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Patna	10/06/2017	090300 - 090500	Single Cell. Maximum Reflectivity : 43.5 dBZ Echo Top : 09.3 KM	Range: 114 KM from DWR Patna in ENE direction. Movement-SW	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	RAIN	Dharbhanga, Madhubani, Supaul, Saharsa, Samastipur & Madhepura.
		090500 - 090640	NIL	NIL	N/A	N/A	N/A
		090640 - 091250	Multiple Cell. Maximum Reflectivity : 45.5 dBZ Echo Top : 12.8 KM	Range: 67.5 KM from DWR Patna in SE direction. Movement-Northerly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	THUNDER, LIGHTINING, RAIN	Nawada, Nalanda, , Gaya, Seikhpura, Begusarai, Lakhisarai, Bhagalpur, Banka, Jamui, Munger, Khagaria & Patna
		091250 - 100300	NIL	NIL	N/A	N/A	N/A