India Meteorological Department

FDP STORM Bulletin No.67(11-05-2017)

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

Forecast synoptic conditions from dynamical models and present large scale features indicate that conditions are becoming favourable for the likely advance of the south-west monsoon over south Andaman sea and Nicobar Islands by around 15th May 2017.

The east west trough from Haryana to west Assam now runs from central Rajasthan to south Assam across north Madhya Pradesh, southeast Uttar Pradesh, Bihar and Sub Himalayan West Bengal and extends upto 0.9 km above mean sea level with an embedded cyclonic circulation over central parts of south Uttar Pradesh and adjoining north Madhya Pradesh extending upto 1.5 km above mean sea level.

An upper air cyclonic circulation lies over North Interior Karnataka & adjoining Telangana and extends upto 1.5 km above mean sea level and the trough from North Interior Karnataka to south Tamilnadu now runs from this system over North Interior Karnataka to Comorin area at 1.5 km above mean sea level.

The upper air cyclonic circulation over Assam & Meghalaya and neighbourhood extending upto 1.5 km above mean sea level persists.

The Western Disturbance as a trough in mid-tropospheric westerlies at 5.8 km above mean sea level roughly along Longitude 62.0°E and north of Latitude 25.0°N persists.

The upper air cyclonic circulation over Haryana & neighbourhood extending upto 1.5 km above mean sea level has become less marked.

The upper air cyclonic circulation over Sub Himalayan West Bengal & Sikkim between 1.5 and 3.1 km above mean sea level has become less marked.

The upper air cyclonic circulation over south Coastal Andhra Pradesh & neighbourhood between 1.5 & 3.6 km above mean sea level has become less marked.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

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

Convective Activity and cloud description:

Scattered multi/layered clouds were seen over J & K and N Himachal Pradesh in association with western disturbance over the area.

Broken low/medium clouds with embedded moderate to intense convection were seen over E Meghalaya, S Karnataka adjoining Kerala (minimum CTT minus 60deg C), and Lakshadweep. Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over Sikkim, Arunachal Pradesh, Nagaland, Assam and W Rajasthan adjoining Pakistan. Scattered low/medium clouds were seen over S Uttar Pradesh, Punjab, rest parts of west India except Gujarat & Northeast Rajasthan, rest parts of east India except S Bihar, C Gangetic West Bengal, Mizoram & Tripura and rest parts of south India.

Arabian Sea:

Scattered low/medium clouds with embedded moderate to intense convection were Southeast Arabian Sea.

Bay of Bengal & Andaman Sea:

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

Past Weather:

Convection:-

Moderate to Intense convection was observed over J&K Himachal Pradesh Uttarakhand Punjab Haryana Delhi North Rajasthan Uttar Pradesh Andhra Pradesh Telangana Karnataka Kerala Tamilnadu.

OLR:-

Upto 200 wm^{-2} was observed over Kerala.

Upto 230 wm^{-2} was observed over J&K Himachal Pradesh Uttarakhand Sikkim, Arunachal Pradesh, Nagaland, , South Interior Karnataka, Tamilnadu.

Upto 250 wm^{-2} was observed over East Punjab, South Haryana, Delhi, Coastal Andhra Pradesh, Assam.

Westerly Trough & Jet-Stream:.

No Westerly Trough & Jet Stream

Dynamic Features

Low to Medium wind shear is observed over India.

Positive shear tendency is observed over India.

A positive Vorticity field is observed over Saurashtra, North Rajasthan Punjab East Uttar Pradesh Vidarbha Telangana.

Positive Low Level Convergence observed over Bihar Uttar Pradesh Marathawada, Vidarbha, Telangana, and Negative low level convergence observed over the rest parts of India.

Precipitation:

Data Not Available

RADAR and RAPID observation:

Convection appeared to be in progress over North Interior and Coastal Tamilnadu and Meghalaya in DWR Composite at 1240hrs IST.

RAPID RGB satellite imagery at 1200hrs IST indicated convective clouds over Kerala, Lakshadweep area, South Interior Karnataka, north-eastern states and Tamilnadu. Isolated convective clouds were also seen over northwest Rajasthan, east Bihar adjoining West Bengal and north Chhattisgarh.

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

Higher Dust concentration was observed over northern Africa and some parts of eastern Asia. Dust concentration is expected to remain high over western and northern India for next five days. High PM10 concentration was observed over north-western and northern India.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

12UTC Charts of Day-2-4, show evolution of heat low extending from over NW India and adjoining Pakistan southeast-wards over the IG plains, with MSLP values lower than 998 hPa

12UTC charts on days from Day0-4: show two zones of wind discontinuity at 925 hPa :(i) SW-NE extending from northern Karnataka-Telangana-Maharashtra region to Chhattisgarh-Jharkhand region. (ii) S-N extending from southern parts of TN to northern parts of Telangana-AP region.

12UTC charts on days from Day0-2: show another zone of wind discontinuity at 925 hPa extending NW to SE over UP and adjoining Bihar and Jharkhand.

CYCIR at 850 hPa over GWB and Bihar in Day0-2 moving east wards in Day-3 and Day-4. Over Bay of Bengal a weak CYCIR is seen (Day-1) south of Andaman and Nicobar Islands and move north-westwards towards AP coast (Day-3&4)

At 500hPa Day-2 to Day-4 strong anticyclone is evolving over west coast over Mumbai

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: NE NMMT, Madhya Maharashtra, SI Karnataka,

Day1: Odisha, Chhattisgarh,

Day2: East RJ, West MP, Madhya Maharashtra, NI Karnataka,

Day3: Assam Meghalaya, NE NMMT, Gangetic WB, Jharkhand, Uttarakhand, SI Karnataka,

Day4: Assam Meghalaya, NE NMMT, Gangetic WB, Jammu Kashmir, Odisha, Rayalaseema,

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Assam Meghalaya, Himachal Pradesh,

Day1: Himachal Pradesh,

Day2: Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh,

Day3: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Bihar, Uttarakhand, TN Puducherry,

Day4: Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Bihar, East UP, Uttarakhand, Odisha, TN Puducherry

5. Showalter Index: -3 to -4[Very unstable]:

Day/Index : Subdivisions with Showalter Index < -4

Day0: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day2: Arunachal Pradesh, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala

6. K-Index :> 35[Very Unstable thunderstorm likely]:

Day/Index : Subdivisions with K Index > 40

Day0: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Guj Reg, Konkan Goa, Madhya Maharashtra, Marathawada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day1: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Konkan Goa, Madhya Maharashtra, Marathawada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Marathawada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,
Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,
Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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, Gangetic WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha,
Day1: Arunachal Pradesh, Sub Himalayan WB, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir,
Day2: Arunachal Pradesh, Sub Himalayan WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir,
Day3: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir,
Day4: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Chhattisgarh, Telangana, TN Puducherry,

8. Rainfall and thunder storm activity:

Day/Index : Subdivisions with Precipitation > 2 cm

Day1: Sub Himalayan WB, Bihar, Andaman Nicobar, TN Puducherry, Kerala,
Day2: Assam Meghalaya, Sub Himalayan WB, Bihar, Andaman Nicobar, TN Puducherry, SI Karnataka, Kerala,
Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Kerala,
Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jammu Kashmir, Andaman Nicobar,
Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jammu Kashmir, Andaman Nicobar,

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

1. Weather Systems:

00UTC analyses shows a low level CYCIR over Rajasthan and adjoining regions along with a trough of low from this CYCIR to east UP and this low pressure system will persist for the next 2 days. A north-south oriented trough starting from the CYCIR over east UP and adjoining regions to central India region and this trough of low will persist for the next 2 -3 days.
Analyses also shows a low level CYCIR over NE India and this CYCIR will persist for the next 2 days.
Another CYCIR forms over south interior Karnataka and adjoining regions in day-1 and moves a little northward direction in next 2 days. The wind analysis at 500 hPa does not show any prominent trough in westerlies over India except over NE states on day 1 in northeast-southwest direction and during day 2-4 with north-south orientation.

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):

Analysis shows low level positive vorticity mainly over the foothills of Himalaya, along the west coast of India, east UP, Bihar, SHWB, Jharkhand, GWB and isolated pockets of NE states.

Forecast shows vorticity core zones mainly along the foothills of Himalaya, west coast of India, and isolated pockets of GWB and NE states, Marathwada, interior parts of Karnataka and few pockets along the east coast bordering Odisha and SHWB along with few regions of the north eastern states for the next 3 days

4. Spatial distribution of T-Storm Initiation Index, Lifted Index, Total Total Index, CAPE, CINE and Sweat Index (High potential for thunderstorm):

T-Storm Initiation Index (> 4): Significant threshold values are noticed over Jharkhand, GWB, along the east of India and few pockets in NE India and along the west coast of India. Forecast shows significantly high threshold values over west coast of India, GWB and eastern coast for the next 3 days.

Lifted Index (< -2): The areas with index less than -2 lies along east coast regions, GWB, Odisha, coastal AP, and along the west coast of India and Kerala coast with gradually the above threshold value mainly extended towards southern coastal regions.

Sweat Index (> 400): 00UTC shows significant values over major parts along with the east coast extending up to coastal TN and also over west coast of India and few isolated pockets in the NE states. The significant zones are confined along east coast of India over GWB, Odisha, Bangladesh and adjoining regions and high value of SI observed over GWB and south AP coastal regions and NE region for next 5 days and also over few pockets in the south west region.

Total Total Index (> 50): Analysis shows significant values over few pockets in Gujarat, MP and adjoining areas. Above threshold value in most regions of central and western India and adjoining northern parts of India along with areas bordering north west India for the next 2-3 days.

CAPE (> 1000): Mostly along east coast of India over GWB, Odisha and adjoining AP regions along with parts in south peninsular region and coastal Kerala and Karnataka during the next 5 days.

CIN (50-150): Maximum CIN values are found in some areas of GWB and along east coast over Odisha, coastal AP and Tamil Nadu and also along the west coast of India for the next 2-3 days.

5. Rainfall and Rainfall activity:

10-40 mm rainfall is forecasted tomorrow over Kerala, some parts of the NE states, J&K, HP, and also some parts of Orissa and adjoining north AP, Karnataka and Tamilnadu regions. Rainfall activity over Kerela will increase for the next 2 days and decrease thereafter. Rainfall activity will increase from day-2 onwards over NE states and light to moderate rainfall will continue over coastal Orissa, AP, Telangana, Karnataka and Tamilnadu for the next 2-3 days.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:
Presently, the upper air cyclonic circulation over Assam & Meghalaya and neighbourhood extending upto 1.5 km above mean sea level persists, due to which Meghalaya, Tripura and parts of Assam may experience the rainfall activity on Day-1. Apart from this, thunder storm with gusty wind will prevail on Day-1 and Day-2 over North Eastern states.

The east west trough from central Rajasthan to south Assam across north Madhya Pradesh, southeast Uttar Pradesh, Bihar and Sub Himalayan West Bengal and extends upto 0.9 km above mean sea level with an embedded cyclonic circulation over central parts of south Uttar Pradesh and adjoining north Madhya Pradesh extending upto 1.5 km above mean sea level. This system will rise to thunder storm with gusty wind over Sub Himalayan West Bengal & Sikkim, Bihar, Jharkhand and Uttar Pradesh, Chhattisgarh on Day-1.

An upper air cyclonic circulation lies over North Interior Karnataka & adjoining Telangana and extends upto 1.5 km above mean sea level and the trough from this system over North Interior Karnataka to Comorin area at 1.5 km above mean sea level. This will give rise to thunder storm with gusty wind over Kerala and South and North Interior Karnataka including Interior Tamilnadu on Day-1. This may continue to Day-2 also.

24 hour Advisory for IOP:
Kerala, Interior Tamilnadu, Coastal Karnataka, South and North Interior Karnataka
Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura
Sub Himalayan West Bengal, Sikkim, Jharkhand, Bihar, and East and West UP.
Chhattisgarh, Orissa
Uttarakhand, Haryana, North Rajasthan

48 hour Advisory for IOP:
Kerala, Interior Tamilnadu, Coastal Karnataka, South and North Interior Karnataka
Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura
East UP, Orissa
South Madhya Maharashtra

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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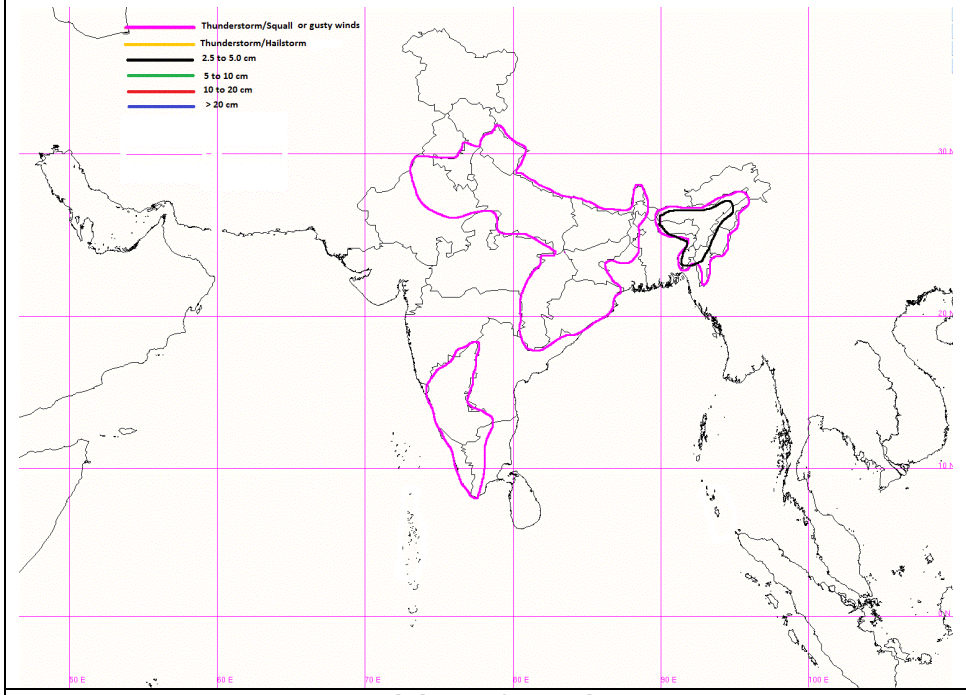
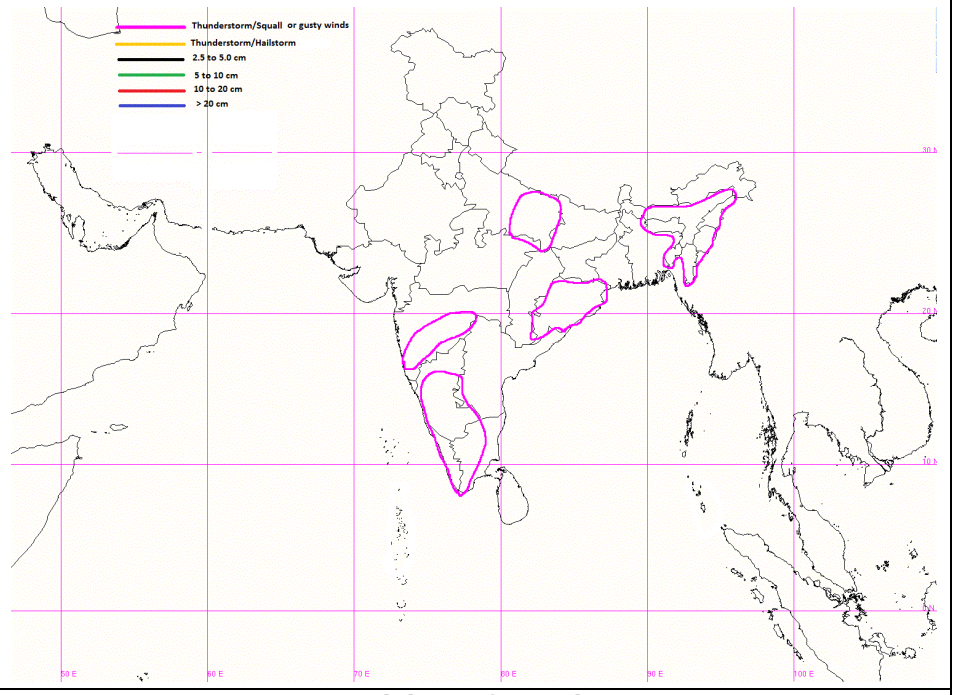
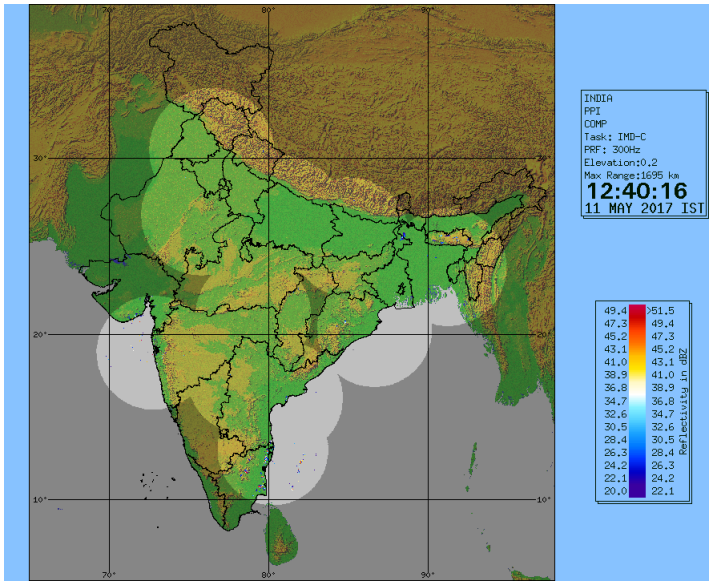
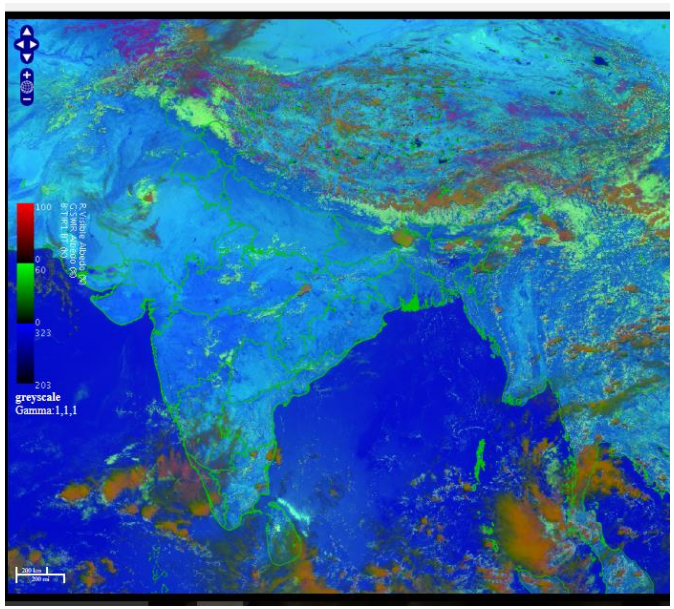
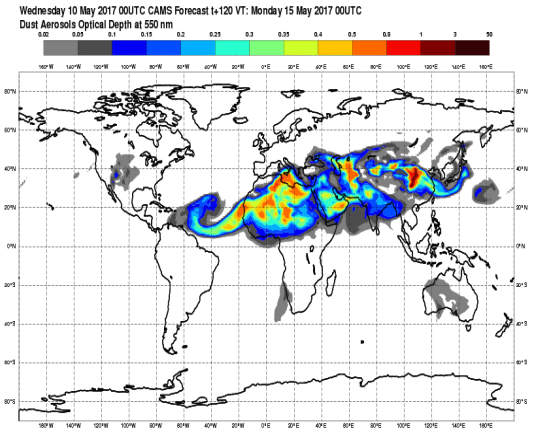


IOP Advisory for 24 hours

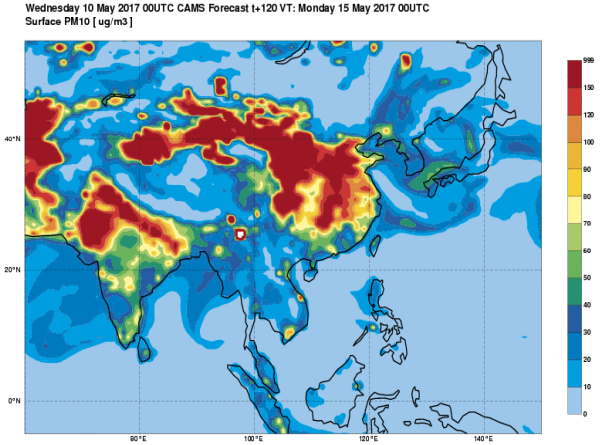


IOP Advisory for 48 hours

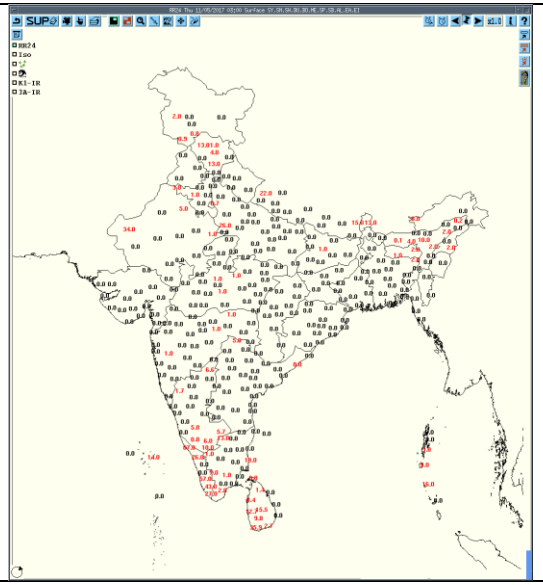
	
DWR Composite at 1240hrs IST of today	**RAPID RGB Image of INSAT 3D at 1200 hrs IST of today**



Forecast Dust Concentration for 00UTC of 15th May



PM10 Forecast for 00UTC of 15th May



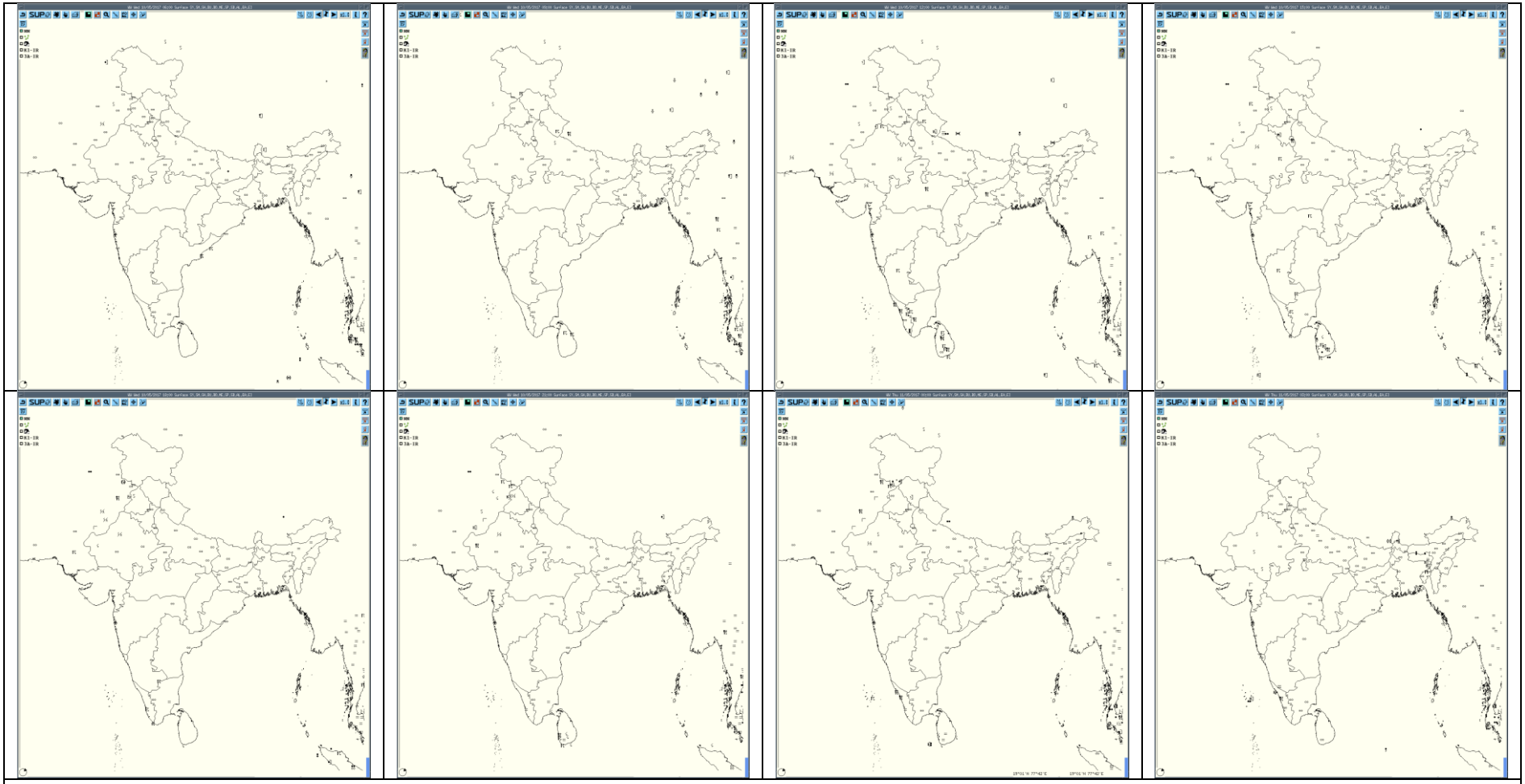
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today

Not Received

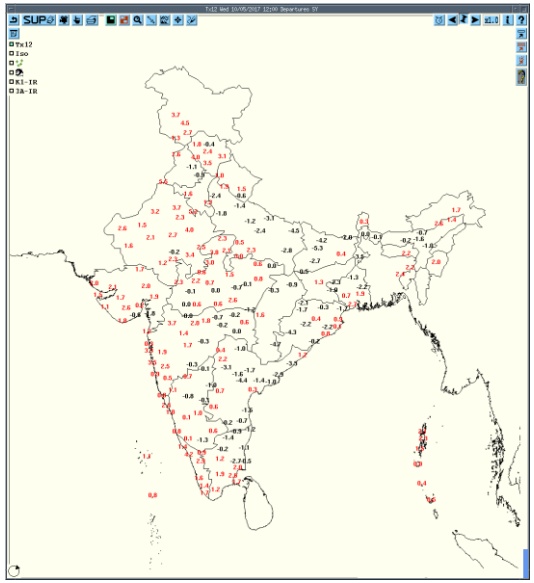
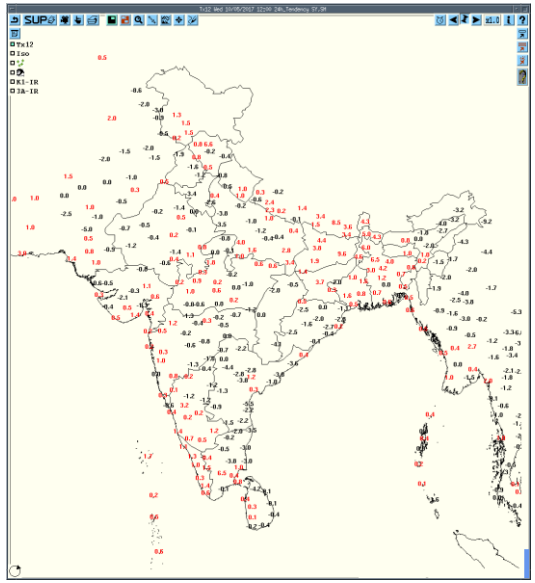
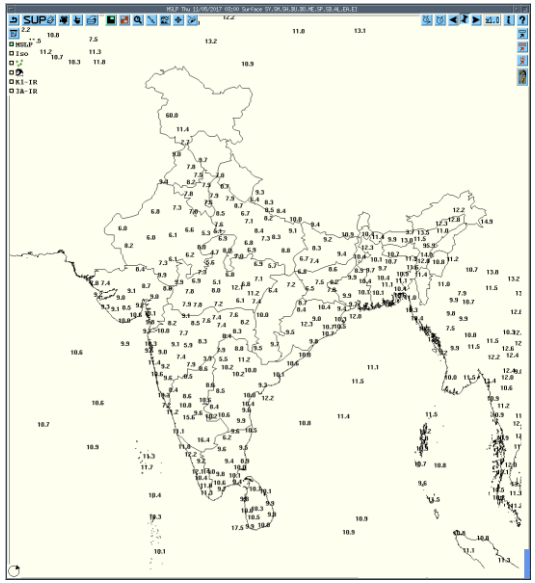
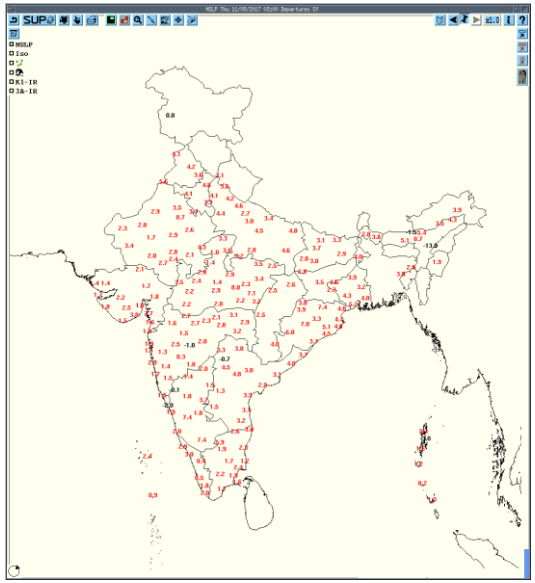
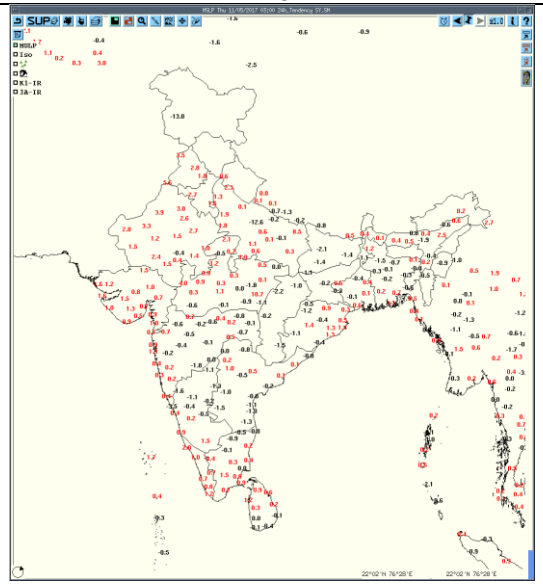
IMR Rainfall

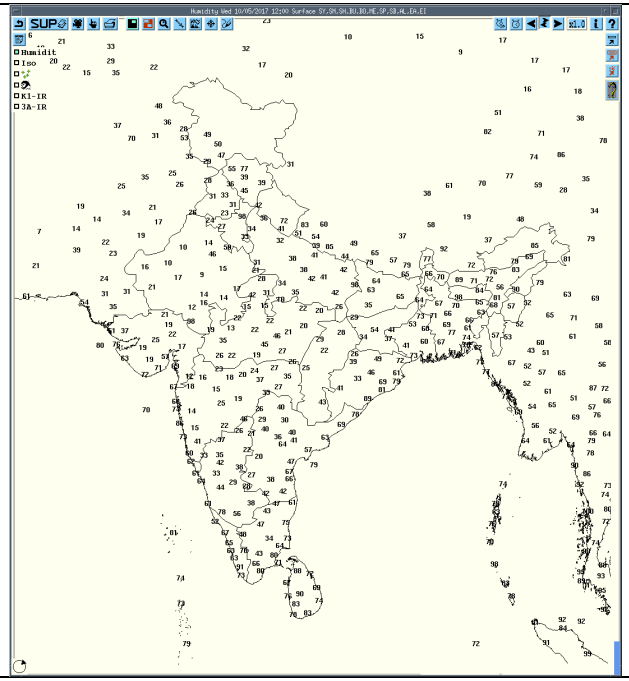
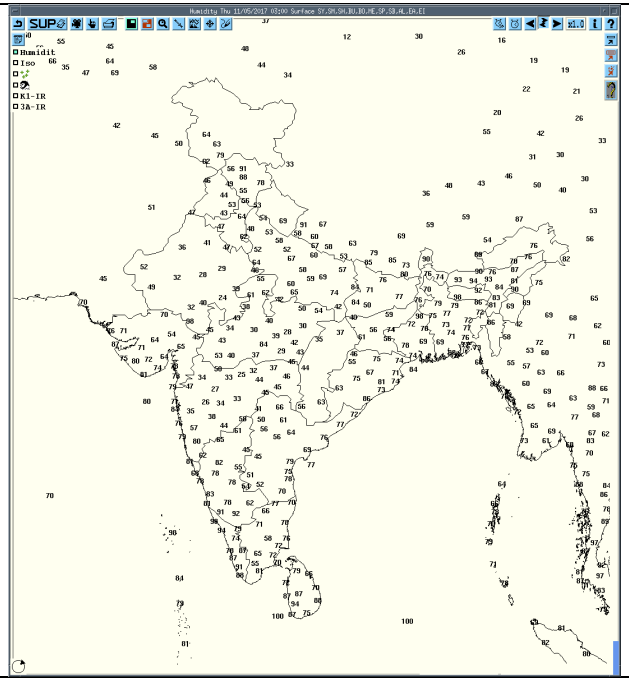
Not Received

HEM Rainfall



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

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

	
RH at 12UTC yesterday	**RH at 03UTC today**

Realized weather past 24hours (Based on SYNERGIE Products)					
Date	**Time of Reporting**	**Name of Station Reporting**	**Region**	**STATE**	**Weather Event**
10-05-17	0600 UTC	Vishakhapatnam, Kakinada	South India	Andhra Pradesh	Thunderstorm
10-05-17	0900 UTC	Bhaderwah	NW India	J & K	Thunderstorm
		Mukteshwar	NW India	Uttarakhand	Thunderstorm
10-05-17	1200 UTC	Gadag	South India	Karnataka	Thunderstorm
		Kannur, Karipur, Palakkad,	South India	Kerala	Thunderstorm
		Kodaikanal, Coimbatore	South India	Tamilnadu	Thunderstorm
		Sagar	Central India	Madhya Pradesh	Thunderstorm
		Ranchi	East India	Jharkhand	
		Ganganagar	NW India	Rajasthan	Thunderstorm
		Tehri, Mukteshwar	NW India	Uttarakhand	Thunderstorm
10-05-17	1500 UTC	Safdarjung , Palam	NW India	Delhi	Thunderstorm
		Hisar	NW India	Haryana	Thunderstorm
		Jaipur	NW India	Rajasthan	Thunderstorm
		Gadag, Bengaluru	South India	Karnataka	Thunderstorm
		Coimbatore	South India	Tamilnadu	Thunderstorm
		Thiruvananthapuram	South India	Kerala	Thunderstorm with hail
10-05-17	1800 UTC	Cochin	South India	Karnataka	Thunderstorm
		Bengaluru	South India	Kerala	Thunderstorm
		Jaisalmer	NW India	Rajasthan	Lightening
10-05-17	2100 UTC	Aminidevi	South India	Lakshadweep & Minicoy	Lightening
		Jaisalmer	NW India	Rajasthan	Thunderstorm
		Bengaluru	South India	Karnataka	Lightening
11-05-17	0000 UTC	Amindevi	South India	Lakshadweep & Minicoy	Thunderstorm
		Kannur, Kozhikode	South India	Kerala	Thunderstorm
		Jammu	NW india	J & K	Thunderstorm
11-05-17	0300 UTC	Kannur, Karipur,	South India	Kerala	Thunderstorm
		Kochi	South India	Kerala	Lightening
		Cherrapunjee	NE India	Meghalaya	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
Jaipur	11/05/17	0810 UTC	Multiple cell with average height of 6.0 km maximum reflectivity 59 dBZ	Cells develop 0810 to 1402 UTC moving NW towards SE, E and after 1402 to 2102 developed cell moving towards SE to NE, E at speed direction 20 km/hr to 30 km/hr	Cells continuous forming from 0810 UTC NW, N, NE, N, SW, S & SE of Jaipur and multiple cell was observed and maximum refelectivity during 912-1842 UTC and died down at 2200 UTC.		BIKANER, CHURU, JHUNJHUNU, NAGAUR, JAIPUR, DAUSA, AJMER, BUNDI, KOTA, TONK, BHARATPUR, KARAULI, DHOLPUR, ALWAR, SIKAR, JHALAWAR, SAWAIMADHOPUR,
Lucknow	11/05/2017	101942 UTC TO 102222 UTC	multiple cells with average height of 8 km. Echo top:10 km With maximum reflectivity of 40dBZ	WSW(120KM) from DWR LKN moving in SE'ly Direction at speed of 84km/hr	Multiple Cell started forming at 1942 UTC at W(100KM-150KM) from DWR LKN merged into a single cell at 2102 UTC at WSW(80 KM) and intensified. Maximum reflectivity during 2102 UTC to 2212 UTC was 40 dBZ .Cells died down at 2232 UTC at 75 km from DWR LKN.	Thunder	Kanpur(urban), Kanpur(rural), Unnao
Agartala	11-05-17	100540 - 101000	Multi cell with Maximum Height 8km and maximum reflectivity 37 dBZ (at 0600 UTC)	Formed 250 km NE of DWR AGT and moved E-wards at around 20kmph	Cells Dissipated at 1000 UTC ,over Meghalaya	N/A	N/A
		101630 - 110300	Multi cell with Maximum Height 14km and maximum reflectivity 46 dBZ (at 0250 UTC)	Formed 290 km NW of DWR AGT and moved E wards at around 25kmph	Cell persist, at 0300UTC over BD around 80km from DWR AGT and moving towards northern parts of Tripura	TS	E-Khasi Hill Dist.of Meghalaya

Srinagar	11-05-17	10 MAY 03Z to 11May 03Z(24hrs)	Multiple cells developed one by one in the North-West to South sector of DWR Srinagar at around 0800 to 1430 utc with max. reflectivity 45-50 DBZ and average height 10 kms.	Developed around Radar from 0800 utc and finally dissipated at around1430 utc while moving from NW TO SOUTHEAST	Thunder observed at GULMARG,	Light rain occurred	Light rain(2.0 mm) has occurred at GULMARG of Baramulla district.
Paradeep	11/05/17	100930-101550	Isolated cells formed after 1530 IST in W sector at height of 5 to 7kms having reflectivity value 28dBZ	Cells formed at the range of 200 km with lat 20 Deg N and Long 84 Deg E .These clouds in NW direction and weakened after 2100 IST.	NIL	TS with rain	Phulbani, Nayagarh, Bhawanipatna.
Patna	11-05-17	100300 - 100520	NIL	NIL	NIL	N/A	NIL.
		100520-100740	Multiple Cell. Maximum Reflectivity : 39.0 dBZ Echo Top : 08.1 KM	Range: 65 km East from DWR Patna Movement-Easterly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	Thunderstorm with Rain	Chapra, Bhojpur, Patna, Jehanabad, Nalanda.
		100740 - 110300	NIL	NIL	NIL	N/A	NIL.
Machilipatnam	03Z of 10/05/17 to 03Z of 11/05/17	0331 to 0551 UTC	Isolated Multiple cells average height of 9 km with maximum reflectivity of 53 dBZ	ENE(125KM) and moving ENE ly direction with average speed of 10 kmph	Cell started forming at 0331UTC, at ENE (105km) from Radar the maximum reflectivity during 0331 to 0541 UTC and died down at 0551UTC	Possibility of Thunder storm with rain and light winds.	East Godavari District
	03Z of 10/05/17 to 03Z of 11/05/17	0451 to 0621UTC	Isolated Multiple cells average height of 8.5km with maximum reflectivity of 55 dBZ	NE (244KM) and moving NE ly direction with average speed of 16 kmph	Cells started forming at 0451UTC at NE(220km) from radar with maximum reflectivity during 0511 to 0611 and died Down at 0621UTC	Possibility of Thunder storm with Rain and light winds.	Visakhapatnam District

	03Z of 10/05/17 to 03Z of 11/05/17	0701 to 1051UTC	Isolated Multiple cells average height of 8km with maximum reflectivity of 59.5 dBZ	NE (126KM) and moving SW ly direction with average speed of 23 kmph	Cells started forming at 0701UTC at NE(195km) from radar with maximum reflectivity during 0711 to 1031 and died Down at 1051UTC	Possibility of Thunder storm with Rain and moderate winds.	East Godavari District
Nagpur	10/05/17	0732-1742 0932-1432	Single after some time becomes multiple Multiple	90 km in NW, At 0832=maxZ=40 & ht. of cloud=1.5 to 6 km. At 1052=maxZ 40 to 43 & ht. of cloud= 1.5 to 9 km. At 1132=53 dBZ in NW 50 km away& ht. of cloud=1.5 to 9 km. At 1452= cloud combines, 48 dBZ & ht. of cloud=1 to 7.5 km 90 to 220 km in SW, maxZ=43 & ht. of cloud =5 to 6.5 km, At 1052=maxZ=48 & ht.of cloud =3 to 6 km . At 1132, 51 dBZ in S dir. 200 km away, ht. of cloud 1.5 to 10.6 km	Moving S'ly Moving SE"ly	Tornado at 1422= 50 km in SW,& at 1452= 35, 45, 70 km in SW, SWS, SW resp. Thunderstorm warning=started from 0942 to in All direction at regular interval of 10 min. Duststorm warning started fom 1302 at regular interval in all direction.	Mostly affected 30 to 70 km range Mostly affecte 100 to 200 km range Mostly affected 20 to 60 km range
	11/05/17	0002-0332	Nil	---	---	---	--
Hyderabad	10/11 May17. (0300 UTC to 0300 UTC)	10/ 1042 - 1212 UTC	Isolated cells with an average height of 12 Km with a max reflectivity of 57.5 dBZ	NW (152 Kms) moving in S- ly Direction at a speed of 6 kmph	Cells started forming at 1042 utc. Matured between 1102 and 1122 with max ref of 57.5 dBz and dissipated by 1212 UTC	Moderate Thunderstorm with or without rain	Nizamabad, Kamareddy and Medak districts.
		10/1152-1342 UTC	Isolated cells with an average height of 10 Km with a max reflectivity of 56.0 dBZ	NW (111 Kms) moving in S- ly Direction at a speed of 6 kmph	Cells started forming at 1152 utc. Matured between 1202 and 1232 with max ref of 56.0 dBz and dissipated by 1342 UTC	Mod Thunderstorm with or without rain	Kamareddy and Medak districts.

		10/1342-1422 UTC	Isolated cells with an average height of 12 Km with a max reflectivity of 56.5 dBZ	NW (87 Kms) moving in SSE- ly Direction at a speed of 6 kmph	Cells started forming at 1342 utc. Matured between 1352 and 1422 with max ref of 56.5 dBz and dissipated by 1432 UTC	Mod Thunderstorm with or without rain	Kamareddy and Medak districts.
	10/11 May17. (0300 UTC to 0300 UTC)	10/ 1042 - 1212 UTC	Isolated cells with an average height of 12 Km with a max reflectivity of 57.5 dBZ	NW (152 Kms) moving in S- ly Direction at a speed of 6 kmph	Cells started forming at 1042 utc. Matured between 1102 and 1122 with max ref of 57.5 dBz and dissipated by 1212 UTC	Moderate Thunderstorm with or without rain	Nizamabad, Kamareddy and Medak districts.
Patiala	11-05-17	10 MAY 0302 UTC-0602 UTC	Isolated cell Max=39.0dbZ Ht.=7-8km	SW sector. SEwards direction of movement.			HISAR, MAHAM
		10 MAY 0602UTC-0902 UTC	Multiple cells Max= 55.5 dbZ Ht.=9-10 km	NE sector. Sewards direction of movement.	TS/RA		UTTARKASI, GANGOTRI
		10 MAY 0902UTC-1202 UTC	Multiple cells Max= 56.5 dbZ Ht.=11-12 km	NE and SW sector	TS/RA		UTTARKASI, GANGOTRI, REWARI, SIWANI
		10 MAY 1202UTC-1502 UTC	Multiple cells Max= 60.5 dbZ Ht.=11-12 km	SW sector. Newards direction of movement.	TS/RA/HAIL		FATEHABAD, PATRAN, BARWALA, ROHTAK, JHAJJAR, TOHANA, NIRWANA
		10 MAY 1502UTC-1802 UTC	Multiple cells ,max dbz=50.0	Sewards direction of movement.	TS/RA/HAIL		PANIPAT, SONIPAT, SHAMLI
		10 MAY 1802UTC-2102 UTC	Multiple cells ,max dbz=53.0 , Ht 9-10 km	MOVEMENT SE-WARDS.			MANDI,BILASPUR , SUNDERNAGAR, MUSSORIE, NADAUN,SOLAN.
		10MAY 2102UTC-11MAY 0002 UTC	Multiple cells ,max dbz=52.5 , Ht 9-10 km	MOVEMENT SE-WARDS.			MANDI,BILASPUR , CHMABA, PALAMPUR, NADAUN,SOLAN.
		11 MAY 0002 UTC-11MAY	NO ECHO	NIL	NIL	NIL	NIL

		0252 UTC					
Kolkata	10-05-2017	0301 – 0911 UTC	NIL	NIL	NO ECHO	NIL	NIL
		0921 – 1111 UTC	A cells with maximum reflectivity of 55.0 dBz at 0941 UTC and maximum height of 10.44 Km at 0951 UTC	South (23.6 km) Moving in SE-ly direction with speed of 20 kmph.	A cells formed at 0921 UTC in South at a distance of 23.6 km from radar. Converted to multicelled system. Matured, dissipated at 1111 UTC in SE at a distance of 48.2km from Radar.	Thunderstorm / Rain	N/A
		1121 – 2351 UTC	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
	11-05-2017	0001 – 0301 UTC	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
Karaikal	11-05-17	100300-110300	--	---	DWR U/S