



India Meteorological Department
FDP STORM Bulletin No.69 (13-05-2017)

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 and parts of south east Bay of Bengal during next 72 hours.

The Western Disturbance as a trough in mid-tropospheric westerlies at 5.8 km above mean sea level roughly along Longitude 64.0°E and north of Latitude 25.0°N is now seen as an upper air cyclonic circulation over north Pakistan & adjoining Jammu & Kashmir at 3.1 Km above mean sea level.

The upper air cyclonic circulation over southeast Uttar Pradesh & neighbourhood, now lies over Bihar & adjoining Jharkhand and extends upto 0.9 km above mean sea level.

The upper air cyclonic circulation over north-west Madhya Pradesh & neighbourhood, now lies over central parts of south Uttar Pradesh and adjoining north Madhya Pradesh and extends upto 1.5 km above mean sea level.

The upper air cyclonic circulation over eastern parts of Bihar and adjoining Sub Himalayan West Bengal & Sikkim, now lies over northern parts of Bangladesh & neighbourhood between 1.5 & 3.1 km above mean sea level. A trough runs eastwards from this system to Tripura at 1.5 km above mean sea level.

The upper air cyclonic circulation over South Andaman Sea and adjoining Malay peninsula persists and now extends upto 3.6 km above mean sea level.

The upper air cyclonic circulation over North Interior Karnataka & neighbourhood extending upto 0.9 km above mean sea level persists. The trough from the system to south Kerala now runs from the system to Comorin area across South Interior Karnataka and Interior Tamilnadu and extends upto 0.9 km above mean sea level.

The upper air cyclonic circulation over Maldives and adjoining Lakshadweep areas, now lies over Lakshadweep area and neighbourhood and extends upto 1.5 km above mean sea level.

The upper air cyclonic circulation over east Assam & neighbourhood extending between 1.5 & 2.1 km above mean sea level has become less marked.

SATELLITE OBSERVATIONS during past 24hrs and current observation:**Current Observation (based on 0900UTC imagery of INSAT 3D):****Convective Activity and cloud description:**

Cell No	Date/Time (UTC)	Area/Location	CTT (- Deg C)	Movement	Remarks
1	13/0100 0200 0300 0400 0500 0600 0700	N Kerala DO N Kerala adjoining Karnataka DO DO DO DO	63 64 71 59 53 41 --	N-wards	Developing Dissipating Dissipated
2	13/0200 0300 0400 0500	NE Uttar Pradesh NE Uttar Pradesh adjoining Bihar NW Bihar DO	69 61 41		Developing Dissipating Dissipated
3	0600 0700 0800 0900	SE Bihar SE Bihar adjoining Jharkhand NE Jharkhand adjoining Gangetic West Bengal DO	66 74 84 93		Developing
4	0600 0700 0800	N Jharkhand DO DO	63 70 --		Developing Merged with cell no. 3
5	0600 0700	N Tripura, adjoining Assam DO	66 --		Dissipated
6	13/0900	S Odisha	65		Developing

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

Scattered low/medium clouds with embedded intense to very intense convection were seen over NE Jharkhand, adjoining Bihar, N Gangetic West Bengal and Central Bangladesh. Scattered low/medium clouds with embedded moderate to intense convection were seen over rest S Odisha, S Chhattisgarh, S Mizoram, south Madhya Maharashtra, N Kerala adjoining South Interior Karnataka and Bay Islands. Scattered low/medium clouds were seen over rest Himachal Pradesh, rest Uttarakhand, Punjab, Haryana and rest parts of west, east and south India.

Arabian Sea:

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

Bay of Bengal & Andaman Sea:

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

Past Weather:**Convection:-**

Moderate to Intense convection was observed over Uttarakhand Uttar Pradesh Bihar and Karnataka.

OLR:-

Upto 200 wm^{-2} was observed over west J&K south Maharashtra south Karnataka and Kerala.

Upto 230 wm^{-2} was observed over rest J&K Himachal Pradesh Uttarakhand NE states Odisha south Chhattisgarh rest Maharashtra north Karnataka and Tamilnadu.

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 Madhya Pradesh and south Uttar Pradesh.

Negative low level convergence observed over central and south India and Positive Low Level Convergence observed over the rest parts of India.

Precipitation:**IMR:**

Rainfall upto 50 mm was observed over coastal Odisha coastal Karnataka and Kerala.

Rainfall upto 10 mm was observed over west J&K east Himachal Pradesh Uttarakhand north-west Uttar Pradesh north-west Bihar south Odisha Madhya Maharashtra and south Tamilnadu.

HEM:.

Rainfall upto 70 mm was observed over Konkan coastal Karnataka and Kerala.

Rainfall upto 14 mm was observed over west J&K Himachal Pradesh Uttarakhand north Uttar Pradesh coastal Odisha and south Tamilnadu

RADAR and RAPID Observation:

Strong squall line echo was observed in DWR Kolkata at 1630hrs IST. DWR Composite at 1240hrs IST indicated significant convection over Maharashtra, north Andhra Pradesh, south Chhattisgarh, Odisha, Gangetic West Bengal, Meghalaya and Uttarakhand.

RAPID RGB satellite imagery at 1600hrs indicated convective clouds over east Jharkhand, west Bengal, Odisha, Maharashtra, S Madhya Pradesh, Chhattisgarh, North coastal Andhra Pradesh, Telangana, Karnataka, Kerala, north eastern states, J & K, HP, Uttarakhand, North Rajasthan, and Andaman & Nicobar Islands.

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 show feeble trough over J & K on all days from Day-1 to Day-4

12UTC Charts of Day-2-4, also show evolution of heat low extending from over NW India and adjoining Pakistan southeastwards over the IG plains, with MSLP values lower than 994hPa

12UTC charts on days from Day0-4: show a zones of wind discontinuity at 925 hPa :(i) SW-NE extending from northern Karnataka-Telangana-Maharashtra region to Chhattisgarh-Jharkhand region.

12UTC charts on days from Day0-2: S-N extending from southern parts of TN to northern parts of Telangana-AP region.

Over Bay of Bengal a CYCIR is seen at 925, 850 hPa and 500 hPa(Day-1-4) south of Andaman and Nicobar Islands which is moving towards Myanmar in Day-4.

At 500hPa Day-2 to Day-4 strong anticyclone is evolving over west western India

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 > 15×10^{-5} /s

Day0: Madhya Maharashtra,

Day1: East MP,

Day2: Gangetic WB, Jharkhand, Jammu Kashmir, Odisha,

Day3: Gangetic WB, Jharkhand, Punjab, Himachal Pradesh, Odisha,

Day4: West UP, Odisha,

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Assam Meghalaya, Uttarakhand, Himachal Pradesh,

Day1: Assam Meghalaya, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Odisha, TN Puducherry,

Day2: Assam Meghalaya, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Odisha, TN Puducherry,

Day3: Assam Meghalaya, Gangetic WB, Bihar, Punjab, Odisha, TN Puducherry,

Day4: Assam Meghalaya, West UP, Odisha, TN Puducherry,

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

Day/Index : Subdivisions with Showalter Index < -4

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

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Konkan Goa, Madhya Maharashtra, Coastal AP, 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, Coastal AP, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

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

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

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan 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,

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

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Madhya Maharashtra, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Madhya Maharashtra, Coastal AP, 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, Uttarakhand, Himachal Pradesh, Jammu Kashmir,

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

Day2: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir,

Day3: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Chhattisgarh, Coastal AP, Telangana, TN Puducherry,

Day4: Arunachal Pradesh, Sub Himalayan WB, East UP, West UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, Coastal AP, Rayalaseema, TN Puducherry, SI Karnataka

8. Rainfall and thunder storm activity:

Day/Index : Subdivisions with Precipitation > 2 cm

Day1: Arunachal Pradesh, Assam Meghalaya, East UP,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jammu Kashmir, Andaman Nicobar, Rayalaseema, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Andaman Nicobar,

Day4: Assam Meghalaya, NE NMMT, Jammu Kashmir, Andaman Nicobar,

Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jammu Kashmir, Andaman Nicobar

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

1. Weather Systems:

00 UTC analyses shows a low level CYCIR over central UP 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 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 ($>12 \times 10^{-1}/s$):

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 thunderstorm activity:

10-40 mm rainfall is forecasted tomorrow over Kerala, Karnataka, NE states, J&K, HP, and also some parts of Orissa, Telangana and Tamilnadu regions. Rainfall activity over south interior Karnataka will increase for the next 2-3 days and decrease thereafter. Rainfall activity will increase from day-1 onwards over NE states and light to moderate rainfall will continue over coastal Orissa, AP, Telangana and western parts of Tamilnadu for the next 2 days.

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

1. Model Reflectivity (Max.dBz): (>25 dBZ)

15-40 dBZ over Kerala, Karnataka and adjoining Konkan-Goa and Tamilnadu areas during 24 hours Over parts of SHWB, GWB, Orissa and southern part of NE states during day 1.

15-35 dBZ over parts of southeast Rajasthan and adjoining Delhi and west UP during day 1. Scattered cells over Uttarakhand on day 1

15-40 dBZ over GWB, Jharkhand, Bihar, Orissa and over Tamilnadu during the next 2 days.

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

Total Total Index (> 50) : Above threshold value over most parts of the country except extreme south peninsula, J&K and northern parts of NE states during next 72 hour.

CAPE (> 1000): Mostly along east coast of India, over eastern parts of India, extending up to east UP along foothills and over parts of Andhra Pradesh and Rayalseema, parts of NE states, west coast and coastal Gujarat during next 3 days.

CIN (50-150): Higher values near coastal regions of India except southern parts of peninsula. Around the central India, parts of eastern India, UP and Bihar, Gujarat during morning hours of next three days..

3. Rainfall and thunderstorm activity:

10-40 mm over SHWB and North-eastern states for next 1-2 days, 10-130 mm over SHWB, GWB, adjoining Orissa, Jharkhand and Bihar during next 1-2 days.

10-40 mm rainfall over Kerala and adjoining Konkan-Goa, interior Karnataka and Tamilnadu during the next 2 days

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

Conditions that are becoming favourable for the advance of the southwest monsoon over south Andaman Sea and Nicobar Islands and parts of south east Bay of Bengal will give rise to good rainfall over Andaman & Nicobar Islands on day 1 and day 2 with day 2 experiencing heavy rainfall.

Another area of active weather is in association with the upper air cyclonic circulation over northern parts of Bangladesh & neighbourhood and the trough runs eastwards from this system to Tripura. East and northeast regions will experience thunderstorms on day 1 and heavy rainfall is likely to occur on day 2.

In association with the upper air cyclonic circulation over North Interior Karnataka & neighbourhood and the trough from this system to Comorin area across South Interior Karnataka and Interior Tamilnadu, southern peninsular region is likely to experience good weather activity. Kerala can expect heavy rain on day 1 and day 2, whereas south interior Karnataka can expect heavy rain on day 2.

With the northeast-ward movement of the Western Disturbance over north Pakistan & adjoining Jammu & Kashmir, isolated thunderstorms with gusty winds are likely over Himachal Pradesh on day 2.

24 hour Advisory for IOP:

Assam and Meghalaya, Nagaland, Manipur, Mizoram and Tripura
South Interior and Coastal Karnataka, Kerala
North Coastal Andhra Pradesh
Madhya Maharashtra
Orissa, Bihar, Jharkhand, Sub Himalayan West Bengal, Gangetic West Bengal,
Himachal Pradesh
Andaman& Nicobar Islands
J & K, North Interior Karnataka

48 hour Advisory for IOP:

Tamil Nadu, North Coastal Andhra Pradesh, Himachal Pradesh
Assam and Meghalaya, Nagaland, Manipur, Mizoram and Tripura
South Interior Karnataka, Kerala
Sub Himalayan West Bengal, Andaman& Nicobar Islands

ForNCMRWFNWPproducts:(<http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php>)

ForIMDNWPproducts:(<http://nwp.imd.gov.in/diagpronew.php>)

ForSynopticplotteddataandcharts

<http://amssdelhi.gov.in/>

<http://www.amsskolkata.gov.in/>

ForRAPIDtool:

<http://rapid.imd.gov.in/>

LowLevelWinds

<http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR2017/?C=M;O=D>

Upperlevelwinds

<http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/HLW/MAR2017/?C=M;O=D>

Past24hourHEMandIMRrainfall(upto03UTCof today)

IMR:<http://satellite.imd.gov.in/img/3Ddailyimr.jpg>

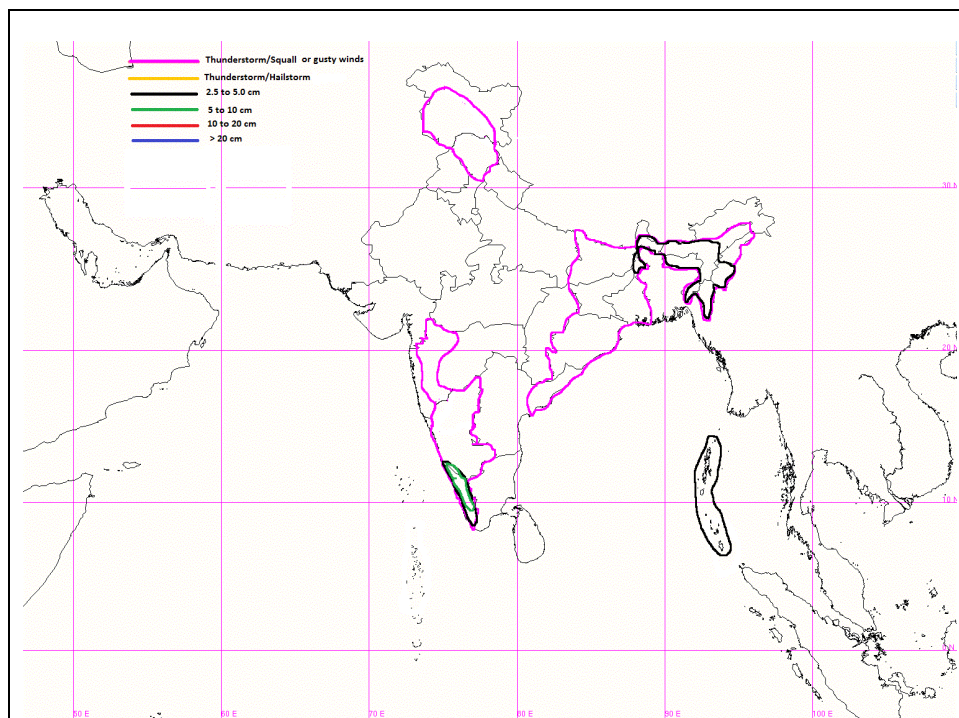
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ForRadarimagesofthepast24hoursincludingmosaicofimages:

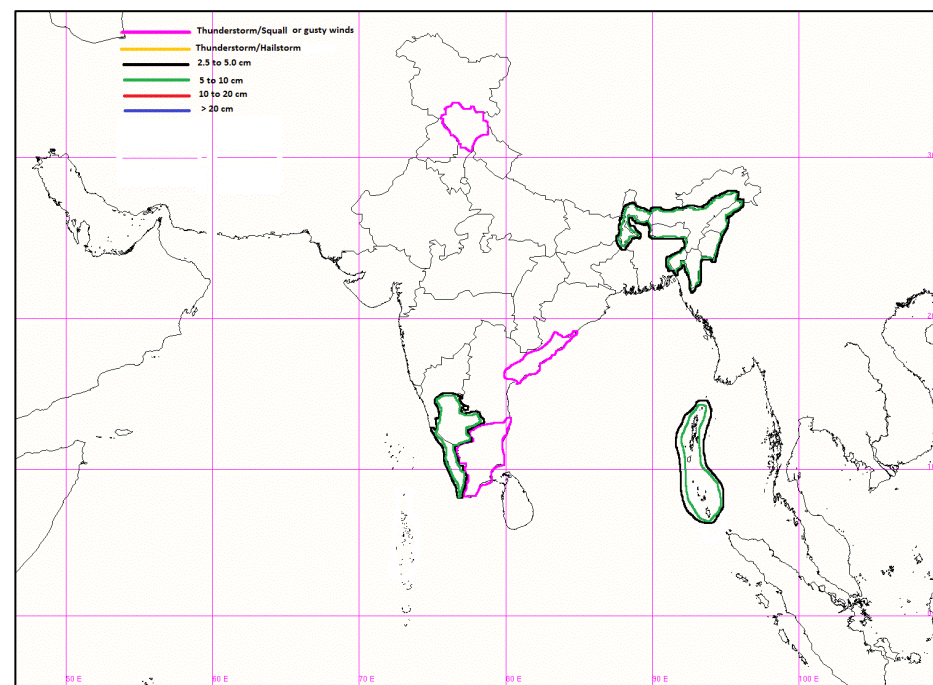
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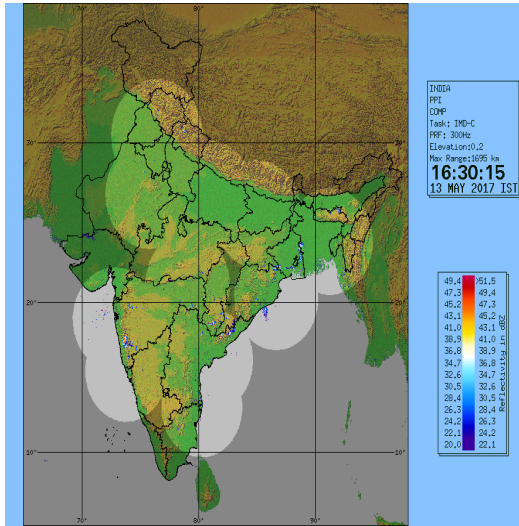
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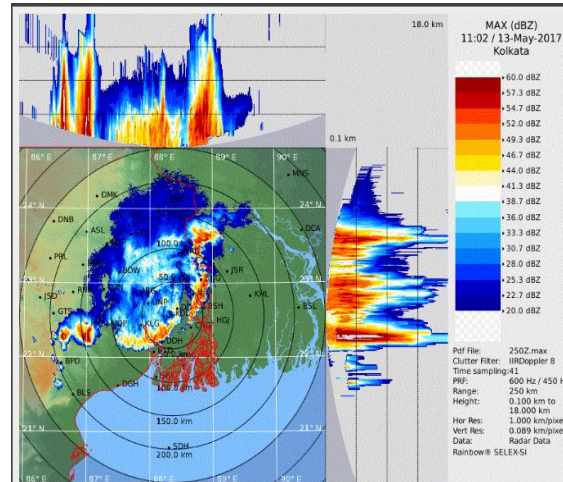
IOP Advisory for 24 hours



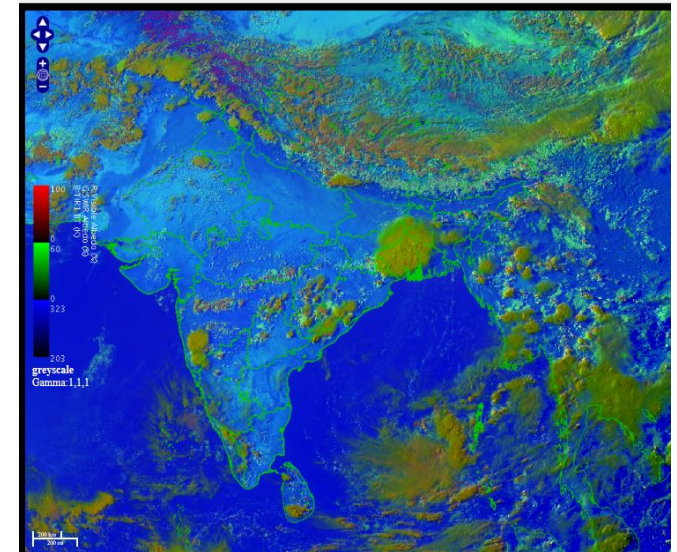
IOP Advisory for 48 hours



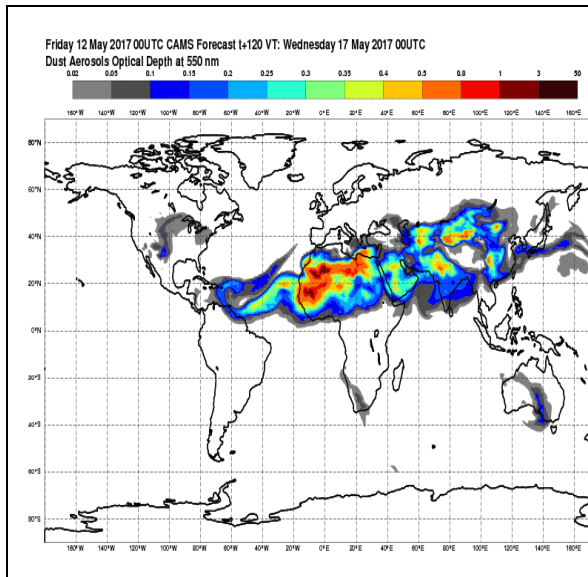
DWR Composite at 1630hrs IST of today



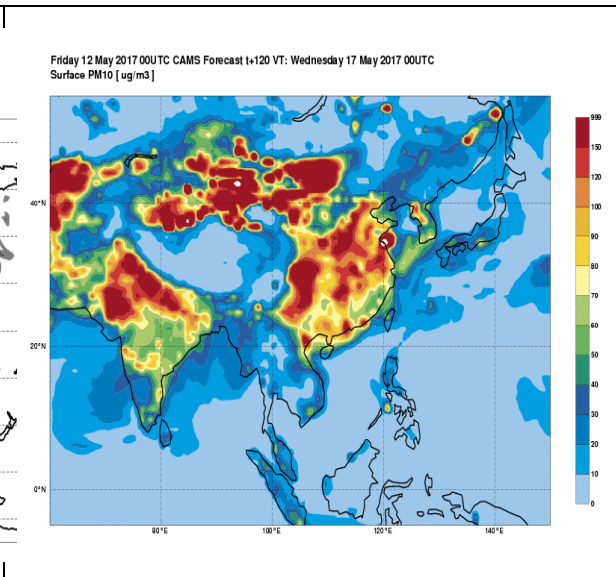
DWR Kolkata at 1630 hrs IST



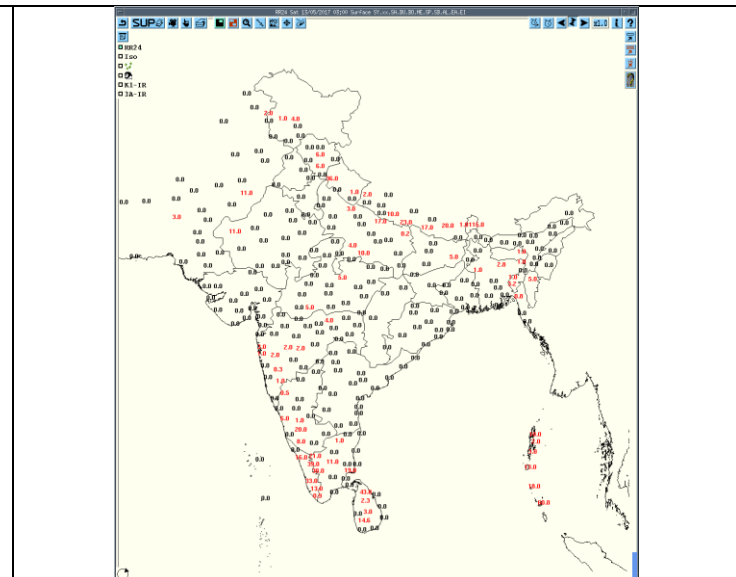
RAPID RGB Image of INSAT 3D at 1600 hrs IST of today



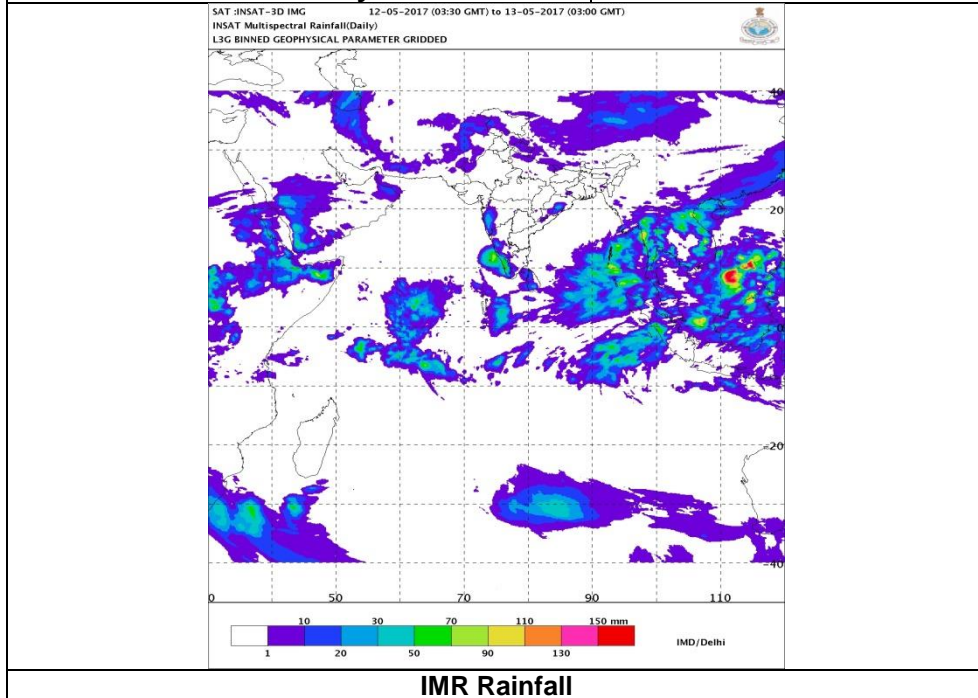
Forecast Dust Concentration for 00UTC of 17th May



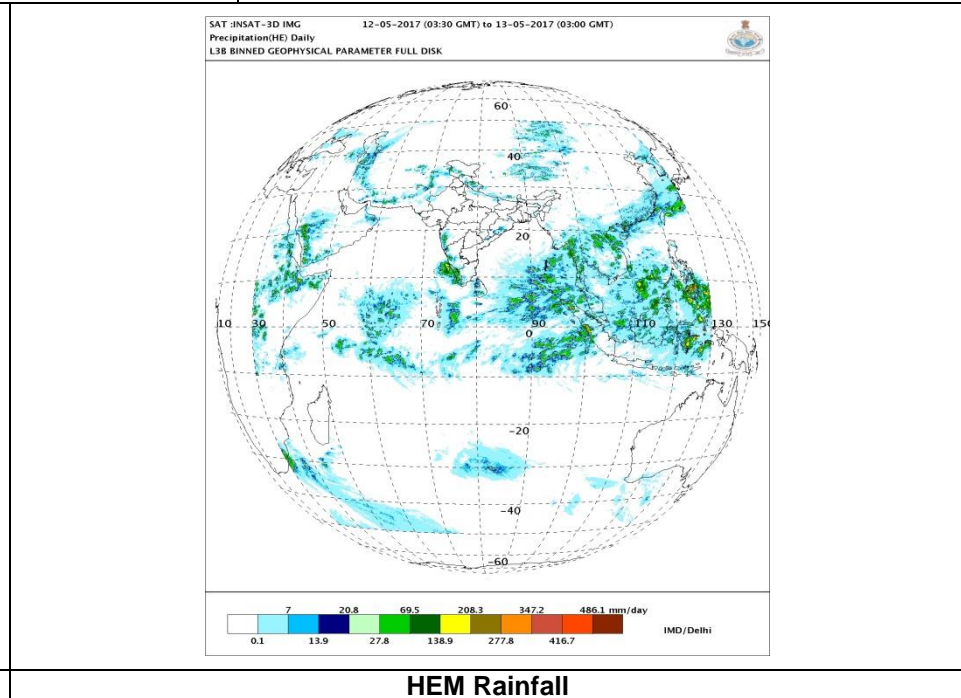
PM10 Forecast for 00UTC of 17th May



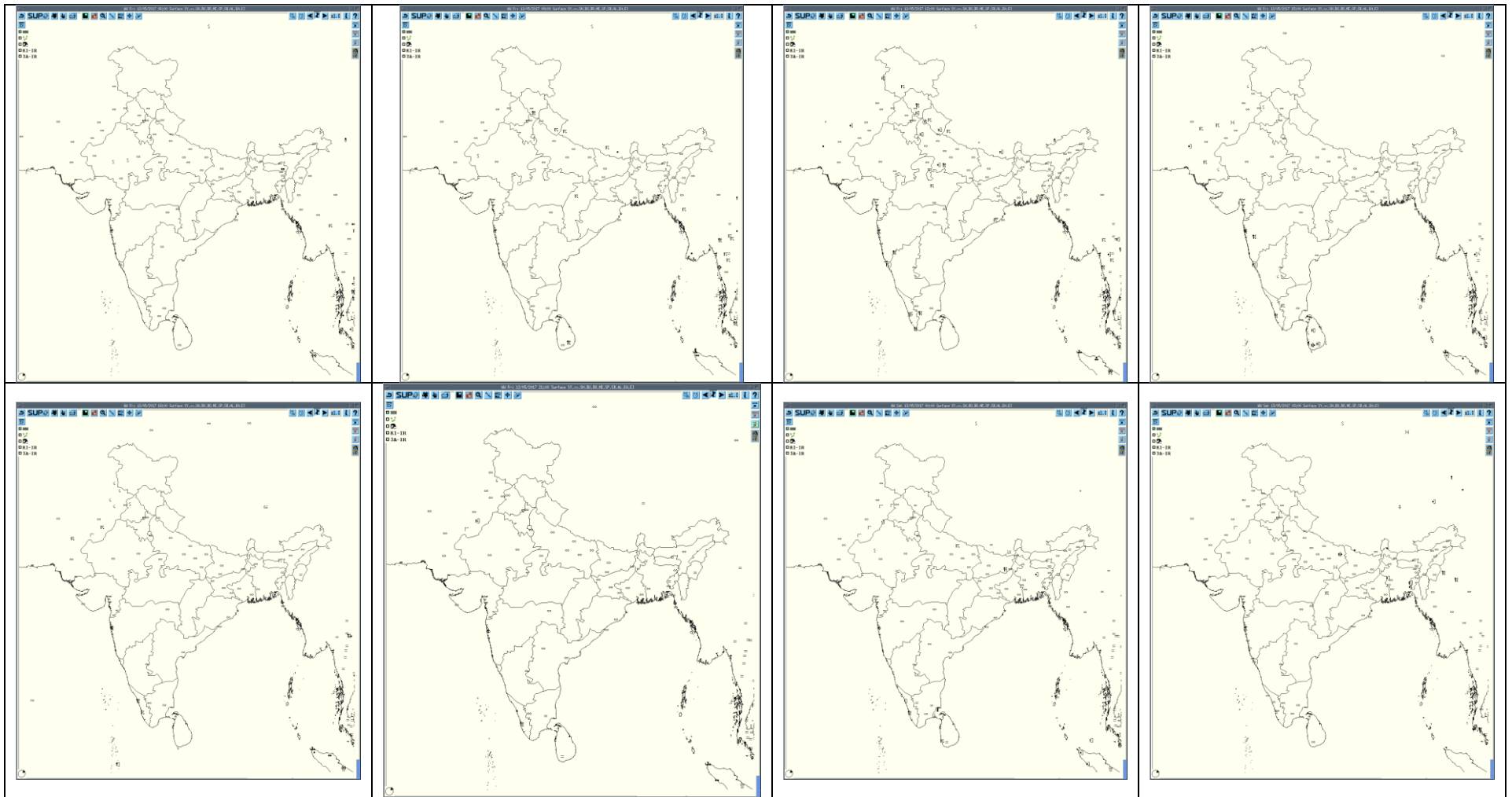
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



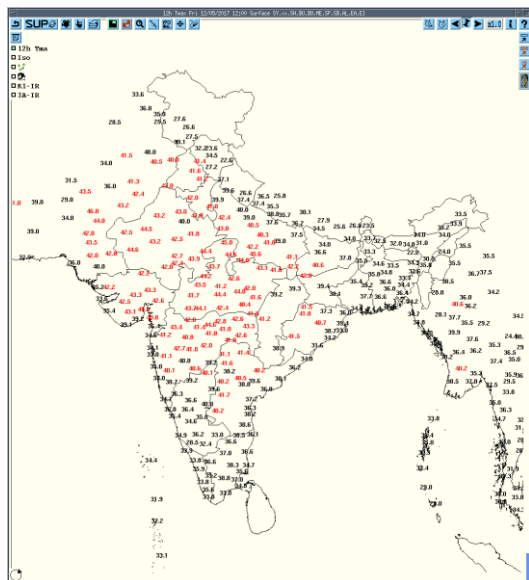
IMR Rainfall



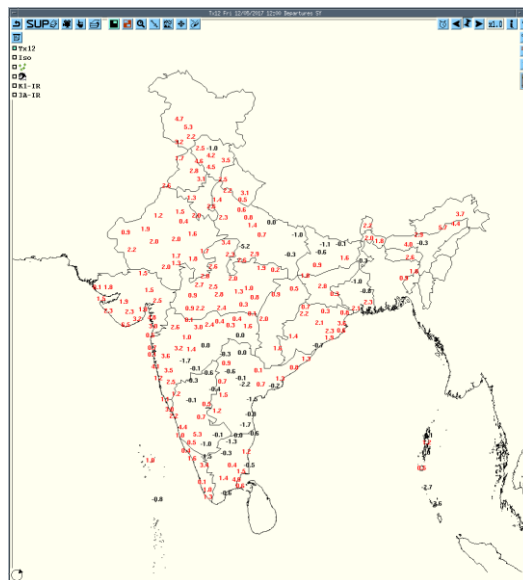
HEM Rainfall



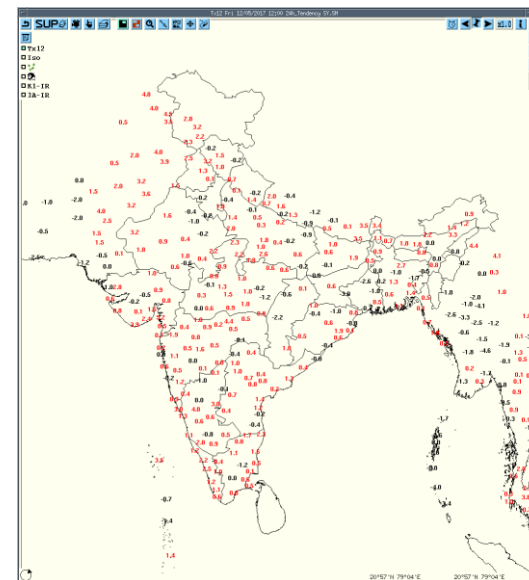
3hourly Past weather at 06,09,12,15,18,21UTC of yesterday and 00 & 03 hrs UTC of today



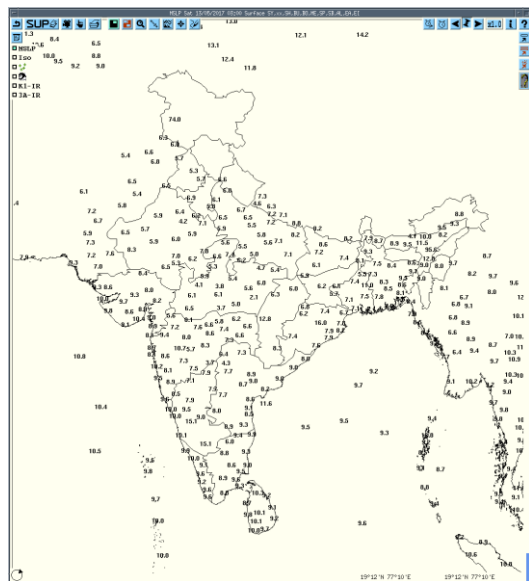
Tmax



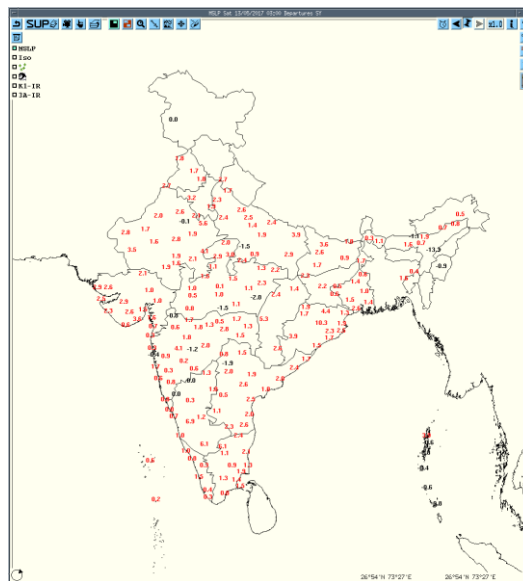
Departure Tmax



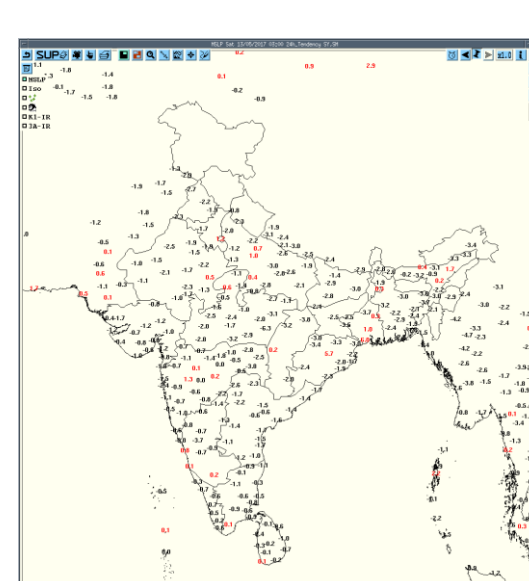
Tendency Tmax



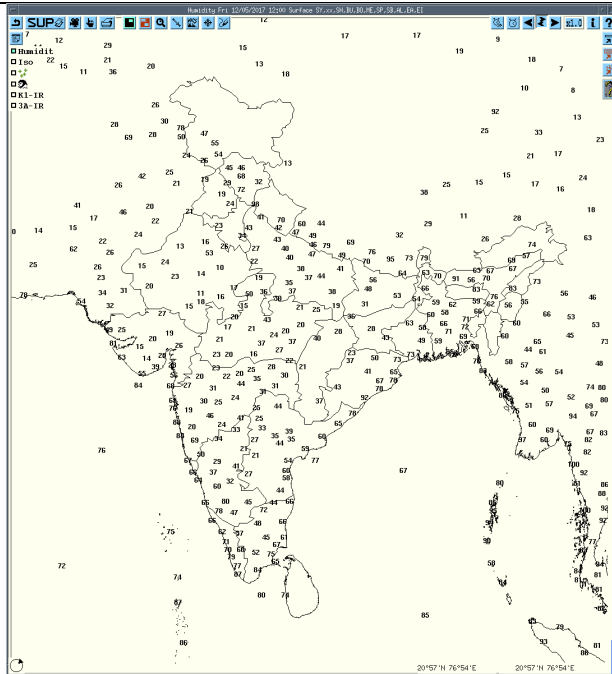
SLP



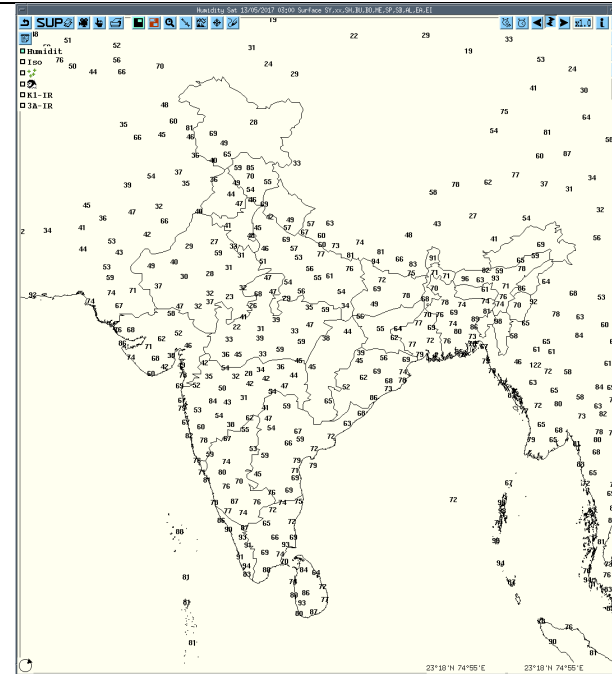
Departure MSLP



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
12-05-17	0600UTC	Nil	Nil	Nil	Nil
12-05-17	0900UTC	Shimla,	NW India	Himachal Pradesh	Thunderstorm
		Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Pendra Road	Central India	Chhattisgarh	Thunderstorm
12-05-17	1200UTC	Banihal, Kukernag	NW India	J & K	Thunderstorm
		Bhunter, Shimla	NW India	Himachal Pradesh	Thunderstorm
		Dehradun	NW India	Uttarakhand	Thunderstorm with hail
		Tehri, Mukteshwar	NW India	Uttarakhand	Thunderstorm
		Meerut, Hamirpur	NW India	Uttar Pradesh	Thunderstorm
		Sagar	Central India	Madhya Pradesh	Thunderstorm
		Sangli	West India	Maharashtra	Thunderstorm
		Goa/Panjim	West India	Goa	Thunderstorm
		Cochin, Thiruvananthapuram	South India	Kerala	Thunderstorm
		Kodaikanal	South India	Tamilnadu	Thunderstorm
		Bhubaneshwar	East India	Odisha	Thunderstorm
12-05-17	1500UTC	Pune, Mumbai (AP)	West India	Maharashtra	Thunderstorm
		Goa/Panjim	West India	Goa	Thunderstorm
		Cochin	South India	Kerala	Thunderstorm
		Coimbatore	South India	Tamilnadu	Thunderstorm
		Chitradurga	South India	Karnataka	Lightening
12-05-17	1800UTC	Mumbai(AP)	West India	Maharashtra	Thunderstorm
		Kozhikode, Cochin	South India	Kerala	Thunderstorm
12-05-17	2100UTC	Cochin	South India	Kerala	Thunderstorm
13-05-17	0000UTC	Bahraich,	NW India	Uttar Pradesh	Thunderstorm
		Bhagalpur	East India	Bihar	Thunderstorm
		Cochin	South India	Kerala	Thunderstorm
		Pamban	South India	Tamilnadu	Lightening
13-05-17	0300 UTC	Gorakhpur	NW India	Uttar Pradesh	Thunderstorm
		Pendra Road	Central India	Chhattisgarh	Thunderstorm
		Aizawl	Northeast India	Mizoram	Thunderstorm
		Agartala	Northeast India	Tripura	Thunderstorm

Realized TS/HS/SQ during past 24 hours ending at 0300UTC of today (received from RMCs/MCs)						
Name of Station Reporting	Region	STATE	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Agartala	NE India	Tripura	Thunderstorm	13-05-17	0632	0820
Dehradun	NW India	Uttarakhand		12-05-17	1655 1730	1730 1800
			Hailstorm with diameter 1.0cm	12-05-17	1655	1713
Mukteshwar	NW India	Uttarakhand	Thunderstorm	12-05-17	1145 1430 1950	1430 1705 2050
Tehri	NW India	Uttarakhand	Thunderstorm	12-05-17	1430 1730	1730 1810
Qazigund	NW India	J & K	Thunderstorm	12-05-17	1650	1750
Pahalgam	NW India	J & K	Thunderstorm	12-05-17	1755	1835
Kukernag	NW India	J & K	Thunderstorm	12-05-17	1625	1830
Shimla	NW India	Himachal Pradesh	Thunderstorm	12-05-17	1400 1440 1530	1430 1510 1630
			Hailstorm with diameter XX	12-05-17	1510	1520
Jaisalmer	NW India	Rajasthan	Thunderstorm	12-05-17	1745	2050
Amravati	Central India	Madhya Pradesh	Thunderstorm	12-05-17	2145	2340
Sagar	C India	Madhya Pradesh	Thunderstorm	12-05-17	1630	1800
Gorakhpur	NW India	Uttar Pradesh(E UP)	Thunderstorm	13-05-17	0535	0800
Churk	NW India	Uttar Pradesh(E UP)	Thunderstorm	13-05-17	0530	0600
Bahraich	NW India	Uttar Pradesh(E UP)	Thunderstorm	13-05-17	0330	0730
Kheri	NW India	Uttar Pradesh(E UP)	Thunderstorm	12/13-05-17	122300	130400
Bareilly	NW India	Uttar Pradesh(W UP)	Thunderstorm	12-05-17	2030	2140
Banda	NW India	Uttar Pradesh(W UP)	Thunderstorm	12-05-17	1730	1740

Orai	NW India	Uttar Pradesh(W UP)	Thunderstorm	12-05-17	1630	1740
Shillong	NE India	Meghalaya	Thunderstorm	12-05-17	1141 1510	1215 1610
Barapani	NE India	Meghalaya	Thunderstorm	12-05-17	1348	1640
Lengpui	NE India	Mizoram	Thunderstorm	13-05-17	0755	0830
Agartala	NE India	Tripura	Thunderstorm	13-05-17	0632	0830
Alappuzha	South India	Kerala	Thunderstorm	12-05-17 13-05-17	2040 0315	2100 0545
CIAL Kochi	South India	Kerala	Thunderstorm	12-05-17	2030	0700
Thiruvananthapuram Airport	South India	Kerala	Thunderstorm	12-05-17	1455	2000
Thiruvananthapuram City	South India	Kerala	Thunderstorm	12-05-17	1450	1810
Yelahanka IAF	South India	Karnataka	Thunderstorm	12-05-17	1450 1750	1630 1830
Gangtok	East India	Sikkim	Thunderstorm	13-05-17	0300	0720
Tadong	East India	Sikkim	Thunderstorm	13-05-17	0600	0730
Bhagalpur	East India	Bihar	Thunderstorm	13-05-17	0450 0700	0535 0715
Bhubaneswar	East India	Odisha	Thunderstorm	12-05-17	1658	1750
Keonjhar	East India	Odisha	Thunderstorm	12-05-17	1850	1945
Port Blair	East India	Andaman & Nicobar Islands	Thunderstorm	12-05-17	2015	2028

Past 24 hours DWR Report:

Radar Station name	Date of Reporting	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
Lucknow	13-05-2017	120902 TO 121422	Isolated Cells with average height of 11km with max. reflectivity of 48.5dbZ	WSW(200km) moving in E'ly direction at speed of 43.2 kmph	Cells started forming at 0902 UTC at WSW(200km) from Radar. Max reflectivity during 1342 UTC to 1352 UTC and died down at 1422UTC.	NIL	--
		121422 TO 122052	Isolated cells with average height of 12 km with max reflectivity of 52.5 dbZ	NW(240km) moving in E'ly direction at speed of 50kmph.	Cells started forming at 1422UTC at NW(240km) from Radar. Max reflectivity during 1902 UTC TO 1912 UTC and died down at 2052 UTC.	--	--
		122052 TO 130300	Isolated cells with average height of 10km with max reflectivity of 51 dbZ	NNE(120km) moving in SE'ly direction at speed of 43.2kmph	Cells started forming at 2052 UTC at NNE(120km) from Radar. Max reflectivity during 2332 UTC TO 2342 UTC.	--	--
Srinagar	13-05-17	120300-130300	Multiple cells developed in the SW and NW direction DWR Srinagar at around 1120 to 1410 utc with max. reflectivity	Developed at around1120 moved ESE diection of DWR and finally dissipated at around1900utc	Thunder and light rain reported from Phalgam . kukernag and Qazigund	Light rain has occurred at phalgam and Gulmarg	Baramulla and Anantnag

			50-55 DBZ and average height 9 kms.				
Patiala	13-05-17	120302-120602	ISOLATED cells Max.42.5dbz ht=8-10 km	SW Section moving east ward			Fathebad
		120602-120902	Multiple cells Max= 53.0 dBz Ht.=11-13 km	NE SECTOR. MOVING TOWARDS south west	-----		SOLAN, PALAMPUR,HARD IWAR
		120902-121202	Multiple cells Max= 58.5 dBz Ht.=11-12 km	NE SECTOR. MOVING TOWARDS SOUTH East .	-----		SOLAN,SHIMLA,N AHAN,DEHRADU N,
		121202-130302	NO ECHO	-----			-----
Patna	13-05-17	120302 - 121200	NIL	NIL	NIL	NIL	NIL
		121200 - 122000	NIL	NIL	NIL	NIL	NIL
		122000 - 130000	Single Cell. Maximum Reflectivity : 50.5 dBZ Echo Top : 12.8 KM	Range: 177.9 km NW from DWR Patna Movement-South- Easterly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	Thunderstorm with Rain	Siwan,Gopalganj, Motihari
		130000 - 130300	Single Cell. Maximum Reflectivity : 46.5 dBZ Echo Top : 11.8 KM	Range: 136.9 km NW from DWR Patna Movement-South- Easterly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	Thunderstorm with Rain	Arrah,Buxar,Chapr a
Jaipur	13-05-17	120300-130300	Nil	Nil	Nil	Nil	Nil










Hyderabad	13-05-17	120902 - 121312	Scattered cells with an average height of 9 Km with a max reflectivity of 55.0 dBZ	NW (121Kms) moving in WSW- ly Direction at a speed of approx 6.0 kmph	Cells started forming at 0902 utc. Matured between 1002 and 1112 with max ref of 55 dBz and dissipated by 1312 UTC	Moderate Thunderstorm with or without rain	Kamareddy and Sangareddy districts.
Agartala	13-05-17	120520 - 121140	Multiple cells with Maximum Height 10 km and maximum reflectivity 44 dBZ (at 1040 UTC of over East Meghalaya)	Formed 190km NNE of DWR AGT at 0520 UTC and moved ENE-wards at around 20 kmph	Cells Dissipated at 1140 UTC over East Meghalaya	N/A	N/A
		122210 - 130300	Multiple Cells with Maximum Height 13 km and maximum reflectivity 42 dBZ (at 0220 UTC over Bangladesh-80km NW of DWR AGT)	Formed 150km West of DWR AGT at 2210 UTC and moved ENE-wards at around 25 kmph	At 0300 UTC of 13.05.17, cells still persist over Bangladesh with intensity >35dBZ and moving towards Tripura	TS with light/moderate rain	West, Sipahijala, Khowai districts of Tripura, Mamit district of Mizoram
		122220 - 130300	Multiple Cells with Maximum Height 10 km and maximum reflectivity 43 dBZ (at 0200 UTC of over West Tripura)	Formed 90km WSW of DWR AGT at 2210 UTC and moved Eastwards at around 50 kmph	At 0300 UTC of 13.05.17, cells still persist over Central parts of Tripura with intensity >35dBZ	N/A	N/A
Nagpur	13-05-17	120652- 122212	Isolated convective cell organized in NN with cloud tpo 9.0 Kms and maximum reflectivity 48.5 DBZ associated with Thunderstorm warning in QLW Description of cell as 0732/48.0/152.9.0/NNE 0942/48.5/110/9.0/NNE 1032/47.5/87/8.0/N 1032/41.0/184/9.0/SW 1132/48.0/65/7.5/NNE Thunserstorm warning in QLW 0712-0742 UTC 0910-1222UTC	Cloud formation started at 0652 UTC around the radar and movement of cloud was S`ly direction and dissipated at 2212 UTC		Thunderstorm with slight rainfall	Some part of Nagpur Yeotmal, Washim districts in M.S and Betul. Chhindawara, seoni, Mandla in M.P

		130002-130302	No echoes	-	No convective cloud observed	Nil	-
Paradeep	13-05-17	120300-130300	-	---	DWR Switched Off		
Kolkata	13-05-17	120301 – 121111	NIL	NIL	NO ECHO	NIL	NIL
		121121 – 121241	1. Isolated Single cell with maximum reflectivity of 50.5 dBz at 1131 UTC and maximum height of 12.54 Km at 1141 UTC	W(246.8 km) moving towards SSE at a speed of 33 kmph	1. Isolated single cells seen at 1121 UTC in W at a distance of 246.8 km from radar. Not matured. Dissolved at 1241 UTC in WSW at a distance of 244.9 km from Radar.	Thunderstorm / Rain	N/A
		121251 – 122121	NIL	NIL	NO ECHO	NIL	NIL
		122131 – 122342	1. Isolated Single cell with maximum reflectivity of 54.0 dBz at 2151 UTC and maximum height of 10.48 Km at 2151 UTC	N(226.9 km) moving towards S at a speed of 8 kmph	1. Isolated single cell formed at 2131 UTC in N at a distance of 226.9 km from radar. Not matured. Dissolved at 2221 UTC in N at a distance of 219.6 km from Radar.	Thunderstorm / Rain	N/A
			2. Isolated Single cell with maximum reflectivity of 59.0 dBz at 2251 UTC and maximum height of 11.56 Km at 2241 UTC	N(218.6 km) moving towards SE at a speed of 20 kmph	2. Isolated single cell formed at 2131 UTC in N at a distance of 218.6 km from radar. Not matured. Dissolved at 2342 UTC in NNE at a distance of 202.2 km from Radar.	Thunderstorm / Rain	N/A

		122342 – 122351	NIL	NIL	NO ECHO	NIL	NIL
		130001 – 130301	NIL	NIL	NO ECHO	NIL	NIL
Machilipatnam	13-05-17	121051 to 121441	Isolated Multiple cells average height of 8 km with maximum reflectivity of 58 dBZ	NE(140KM) and moving NE ly direction with average speed of 22 kmph	Cell started forming at 1051UTC, at NE (248km) from Radar the maximum reflectivity during 1051 to 1431 UTC and died down at 1441UTC	Possibility of Thunder storm with rain and moderate winds.	Visakhapatnam and East Godavari Districts
		121511 to 121701	Isolated Multiple cells average height of 8km with maximum reflectivity of 50.5 dBZ	NWN (216KM) and moving W ly direction with average speed of 12kmph	Cells started forming at 1511UTC at N(242km) from radar with maximum reflectivity during 1541 to 1631 and died Down at 1701UTC	Possibility of Thunder storm with Rain and light winds.	Dantewara and Bhadradi Kothagudem Districts

∞	haze
☁	smoke
☼	dust or sand storm
≡	fog
☂	drizzle
•	rain
✱	snow
▽	showers
△	hail
⚡	thunderstorm

Weather Symbols

		
+ thunderstorm	+ heavy thunderstorm	sandstorm or dust storm
		
squall	hail shower	tropical storm
		
+ tornado	+ lightning	+ hurricane