India Meteorological Department

FDP STORM Bulletin No.86 (30-05-2017)

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

Today, Southwest monsoon has further advanced into some more parts of south Arabian Sea, remaining parts of Maldives - Comorin area, southern parts of Lakshadweep area, Kerala and Tamilnadu, some more parts of southwest Bay of Bengal, remaining parts of southeast Bay of Bengal, some parts of west-central Bay of Bengal most parts of east-central and northeast Bay of Bengal and some parts of Nagaland -Manipur - Mizoram and Arunachal Pradesh.

The Northern Limit of Monsoon (NLM) passes through 10.0°N/60.0°E, 10.0°N/70.0°E, Kochi, Tondi, 14.0°N/ 87.0°E, 17°N/ 90.0°E, 20.0°N/ 91.0°E, Aizwal, Kohima & Deomali.

The severe cyclone storm MORA over northeast Bay of Bengal moved further north - north eastward during past 06 hours with a speed of 28 kmph, and lay centred at 0830 hrs IST of today , 30th May, 2017 over Bangladesh Coast near Lat. 21.8° N and Long 91.9°E, about 50 Km south of Chittagong and close to Kutubdia Island. Latest observations indicate that it crossed Bangladesh coast near Lat. 21.95° N and Long. 91.9°E, about 30 Km south of Chittagong between 0730 and 0930 hours IST, and lay centred at 0930 hours IST of today, the 30th May 2017 over coastal Bangladesh near Lat. 22.0° N and Long 91.9°E, as a severe cyclonic storm. It is very likely to continue to move north- northeast wards towards north-eastern states and weaken into a cyclonic storm during next 6 hours and into a deep depression in subsequent 6 hours.

The trough at mean sea level now runs from West Rajasthan to centre of severe cyclonic storm over northeast Bay of Bengal and adjoining Bangladesh across Madhya Pradesh, Jharkhand and Gangetic West Bengal and extends upto 0.9 km above mean sea level.

The trough roughly along Long 87.0°E to the north of Lat. 22.0°N, now runs along Long 87.0°E to the north of Lat. 25.0°N at 5.8 km above mean sea level.

An upper air cyclonic circulation lies over East Uttar Pradesh & neighbourhood between 1.5 Km & 3.1 Km above mean sea level.

An off-shore trough at mean sea level runs from north Marathwada to north Kerala coast.

The upper air cyclonic circulation over central Pakistan & neighbourhood extending upto 0.9 km above mean sea level persists.

SATELLITE OBSERVATIONS during past 24hrs and current observation:

Current Observation (based on 0900UTC imagery of INSAT 3D):

CONVECTIVE ACTIVITY: -

Cell No	Date/time (UTC)	Location/Area	MIN CTT DEG C	Movement	Remarks
1	30/0800 0900	SE MP DO	81 70	-	DEVELOPING
2	30/0900	NE JHRKND	69	-	DEVELOPING

Vortex over Bay of Bengal (Bob):

Vortex**(MORA)** seen over SE Bangladesh and neighbourhood associated Broken low/medium clouds with embedded intense to very intense convection were seen over Meghalaya, Assam, Arunachal Pradesh, NMMT.

Cloud Description:

Scattered low/medium clouds with embedded isolated weak to moderate convection were seen over J & K, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, North Chhattisgarh, North Odisha, South Jharkhand, rest Kerala and North Coastal Andhra Pradesh.

Scattered low/medium clouds were seen over rest Uttar Pradesh, East Rajasthan, rest Madhya Pradesh and Maharashtra.

Broken low/medium clouds with embedded moderate to intense convection were seen over Meghalaya, Assam, Arunachal Pradesh & NMMT. Scattered low/medium clouds with embedded isolated moderate to intense convection were seen over Southeast Madhya Pradesh.

Scattered low/medium clouds with embedded moderate to intense convection were seen over North Kerala, Lakshadweep and Andaman Islands

Arabian Sea:

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

Bay of Bengal & Andaman Sea:

Broken low/medium clouds with embedded intense to very intense convection were seen over North Andaman Sea gulf of MARTABAN TENNASERIM coast East Central Bay. Scattered low/medium clouds with embedded moderate to intense convection were seen over rest Bay and rest Andaman Sea.

Past Weather:

Convection:- Moderate to Intense convection was observed over J&K Himachal Pradesh Uttarakhand Punjab Haryana Delhi Uttar Pradesh Madhya Pradesh Vidarbha Chhattisgarh Bihar Jharkhand Odisha West Bengal Meghalaya North East States Karnataka Telangana Andhra Pradesh Kerala Tamilnadu .

OLR: - Upto **200** wm^{-2} was observed over Arunachal Pradesh South East West Bengal East Assam Nagaland Manipur Mizoram Tripura .

Upto **230** wm^{-2} was observed over East J&K Himachal Pradesh Uttarakhand Meghalaya North East Odisha Kerala South Tamilnadu.

Upto **250** wm^{-2} was observed over North West Uttar Pradesh South East Jharkhand Rest West Bengal Sikkim.

Westerly Trough & Jet-Stream: Trough in westerlies runs roughly along 84.0E north of lat 22.0N & No Jet Stream observed over India.

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 South Chhattisgarh South East West Bengal North Coastal Andhra Pradesh.

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

Precipitation:

IMR:

Rainfall Up to **30** mm was observed over South Tamilnadu South East West Bengal Mizoram.. Rainfall Up to **20** mm was observed over East Arunachal Pradesh Manipur Tripura. Rainfall Up to **10** mm was observed over East J&K Uttarakhand Central Rajasthan North Madhya Pradesh Sikkim Meghalaya Assam Rest Arunachal Pradesh Nagaland South East Jharkhand North East Odisha North Coastal Andhra Pradesh Kerala .

HEM:

Rainfall Up to **14** mm was observed over South West J&K South Himachal Pradesh Uttarakhand .

Rainfall Up to **07** mm was observed over Punjab Haryana Delhi Uttar Pradesh North East Rajasthan East Madhya Pradesh Vidarbha Chhattisgarh North East Odisha East Bihar East Jharkhand North West Bengal North East States South Interior Karnataka Kerala North Coastal Andhra Pradesh South Tamilnadu.

RADAR and RAPID Observation:

DWR Composite at 1640hrs IST indicated strong multiple Convection over Gangetic West Bengal and scattered convection Uttarakhand, Jharkhand, South Chhattisgarh, West Madhya Pradesh and also in RAPID RGB Satellite imagery at 1600hrs IST including J & K, Vidarbha adjoining Madhya Pradesh, Assam, Meghalaya, NMMT, Lakshadweep, Minicoy, Andaman and Nicobar Islands.

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

Higher Dust concentration was observed over north-west Africa and Arab countries. Dust concentration is expected to decrease over north India for next five days. High PM10 concentration was observed over Rajasthan and is expected to increase over north India in next five days.

2. NWP MODEL GUIDANCE:

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

1. Weather Systems: 12UTC Charts of Day 0-4 except Day 2, show evolution of heat low over NW India and adjoining Pakistan with MSLP values lower than 990hPa on Day-0 to Day-1.

12UTC charts on days from Day 2 to Day 3: show a zone of wind discontinuity at 925 hPa; E-W extending from Maharashtra to Jharkhand

SCS 'MORA' in Bay of Bengal from Day-0 onwards and is seen **to cross the coast between 00 and 06 UTC on 30th May 2017 near Cox's Bazar in Bangladesh**

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: Assam Meghalaya, East RJ, West MP, East MP,
Day0: Assam Meghalaya, NE NMMT, Jharkhand, West UP, Odisha, West MP, East MP,
Day1: Arunachal Pradesh, Punjab, West RJ, East MP, Madhya Maharashtra,
Day2: Assam Meghalaya, Madhya Maharashtra,
Day3: Assam Meghalaya, Jharkhand, Madhya Maharashtra, Chhattisgarh,
Day4: Arunachal Pradesh, Assam Meghalaya, Gangetic WB, Jharkhand, West MP, East MP, Chhattisgarh

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

(Day/Index: Subdivisions with Lower Level Vortex > 15 x 10^-5 /s):
Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Odisha, TN Puducherry,
Day1: Arunachal Pradesh, Assam Meghalaya, West RJ, TN Puducherry,
Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Haryana, Chandigarh, Delhi, TN Puducherry, Kerala,
Day3: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Bihar, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, TN Puducherry,
Day4: Arunachal Pradesh, Assam Meghalaya, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, West MP, TN Puducherry

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

(Day/Index: Subdivisions with Showalter Index < -4):

Day0: Arunachal Pradesh, Sub Himalayan WB, Bihar, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, West MP, East MP, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Coastal AP, Telangana, TN Puducherry, NI Karnataka, SI Karnataka,

Day1: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, Gujarat Region,, Vidarbha, Chhattisgarh, TN Puducherry,

Day2: 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 RJ, Odisha, West MP, Gujarat Region,, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, Gujarat Region,, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Uttarakhand, Himachal Pradesh, Odisha, West MP, East MP, Gujarat Region,, Saurashtra Kutch, Madhya Maharashtra, Vidarbha, Chhattisgarh, Coastal AP, TN Puducherry

6. 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, West RJ, Saurashtra Kutch,

Day1: Arunachal Pradesh, Sub Himalayan WB, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP,

Day2: Arunachal Pradesh, Sub Himalayan WB, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP,

Day3: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir,

Day4: Arunachal Pradesh, Sub Himalayan WB, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha

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

(Day/Index: Subdivisions with K Index > 40):

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, Bihar, East UP, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Gujarat Region,, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI 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 RJ, East RJ, Odisha, West MP, East MP, Gujarat Region,, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI Karnataka,

Day2: 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 RJ, East RJ, Odisha, West MP, East MP, Gujarat Region,, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Gujarat Region,, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, NI Karnataka,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Uttarakhand, Himachal Pradesh, East RJ, Odisha, West MP, East MP, Gujarat Region,, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka

8. Rainfall and thunder storm activity:

(Day/Index: Subdivisions with Precipitation > 2 cm):

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Bihar, East UP, Jammu Kashmir, Konkan Goa, Madhya Maharashtra, Andaman Nicobar, Coastal AP, Coastal Karnataka, SI Karnataka, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Konkan Goa, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, Konkan Goa, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Konkan Goa, Madhya Maharashtra, Andaman Nicobar, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka, Kerala,

Day5: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Konkan Goa, Madhya Maharashtra, Andaman Nicobar, TN Puducherry, Coastal Karnataka, SI Karnataka, Kerala

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

1. Weather Systems: 00 UTC analysis shows the trough from Rajasthan to centre of cyclonic storm over east-central BOB across Madhya Pradesh, Odisha and Chhattisgarh and the forecasting shows this trough will persist up to day 4 to day 5 over said region.

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 except on day 1 to day 5 over J & K region.

3. Low level Vorticity:-Positive Vorticity 850hPa (>12 x 10^{-1}/s): Analysis shows low level positive vorticity **(>-12 x 10^{-5}/s)** mainly over isolated pockets in Punjab, Haryana, some pocket over central part of country and west coastal region and over the north eastern region. The high vorticity belts are mainly confined over regions of UP, Haryana, Delhi, Bihar, MP, AP and south peninsular region during next 3 to 4 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 Gujarat and Rajasthan in the analysis. Forecast shows high threshold values over Gujarat, Rajasthan along with few pockets in Odisha and WB for the next 2 to 3 days.

Lifted Index (< -2): The areas with index less than -2 lies along Delhi, UP, Bihar, Chhattisgarh, GWB and major regions of AP along with Gujarat Rajasthan for the next 2 to 3 days.

Sweat Index (> 400): 00UTC shows significant values over major parts over some pockets over Haryana and adjoining area, UP, Bihar, GWB, Odisha and AP and is expected to persist for the next 3 days.

CAPE (> 1000): Mostly over Bihar, GWB, Odisha, and AP and other regions over the east coast, Gujarat, Rajasthan and along with major regions bordering the west coast during the next 3 days.

CINE (50-150): Maximum CIN values are found in areas over some packets over Punjab and Delhi UP, Bihar, GWB, Odisha, AP and TN and along with major pockets in the Maharashtra, Gujarat and Rajasthan region for the next 2-3 days.

5. Rainfall and thunderstorm activity: 00 analysis shows 40-70 mm rain fall over northeast region and 10-40 mm rainfall over west coast of country. 10-40 mm is forecasted over major pockets over west coast and NE region is expected to persist for the next 2-3 days. On day 2 some pocket of Punjab and J&K and on day 3 over southwest Haryana and adjoining area.

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

1. Model Reflectivity (Max. dBz): 15-40 dBZ over regions of the North-East region of country and isolated pockets of the southern coast region during next 3 days on day 2 and day 3 over Punjab, HP J & K and Delhi.

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

CAPE (> 1000): Mostly along WB, Odisha, AP and TN and along major regions bordering the west coast during next 2 to 3 days.

CINE (50-150): Higher values over most regions of India except over J & K region and NE states and south peninsula of the country during next three days.

3. Rainfall and thunderstorm activity:

10-40 mm over isolated pockets in UP, Bihar and WB region adjoining the Himalayas, and over west coast of country and it is expected to persist for the next 3 days and over Delhi and adjoining on day 2 and day 3.

>40 mm shows over Northeast region based on 00 analysis.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

Presently, the trough at mean sea level now runs from West Rajasthan to centre of severe cyclonic storm over northeast Bay of Bengal and adjoining Bangladesh across Madhya Pradesh, Jharkhand and Gangetic West Bengal and extends upto 0.9 km above mean sea level.

The entire central and north eastern parts of the country will experience the thunder storm with gusty wind on Day-1.

Due to the severe cyclone storm MORA and its movement to north northeast wards, the Assam, Meghalaya, Manipur and Tripura will experience very heavy rainfall for Day-1 and Day-2.

An offshore trough at mean sea level runs from north Marathwada to north Kerala coast, this will give rise to extreme rainfall over Kerala and Coastal Karnataka on Day-1 and Day-2.

The upper air cyclonic circulation over central Pakistan & neighbourhood, this will give rise to thunderstorm with hail over Himachal Pradesh and Uttrakhand on Day-1.

24 hour Advisory for IOP:

Kerala, Lakshadweep, South Interior Karnataka, Interior Tamilnadu, Coastal Karnataka
Arunachal Pradesh Assam Meghalaya Tripura, Nagaland, Manipur, Mizoram
Sub Himalayan West Bengal, Gangetic West Bengal
Orissa, Bihar and Jharkhand, Chhattisgarh, West and East MP, Vidarbha
Himachal Pradesh, Uttrakhand, East UP
J & K, Vidarbha

48 hour Advisory for IOP:

Kerala, Lakshadweep, South Interior Karnataka, Interior Tamilnadu, Coastal Karnataka
Tripura, Nagaland, Manipur, Mizoram Assam Meghalaya, Arunachal Pradesh
Sub Himalayan West Bengal, Gangetic West Bengal
Orissa, Bihar and Jharkhand,
Himachal Pradesh, Uttrakhand, Punjab, Haryana, West and East Uttar Pradesh,
West and East Rajasthan

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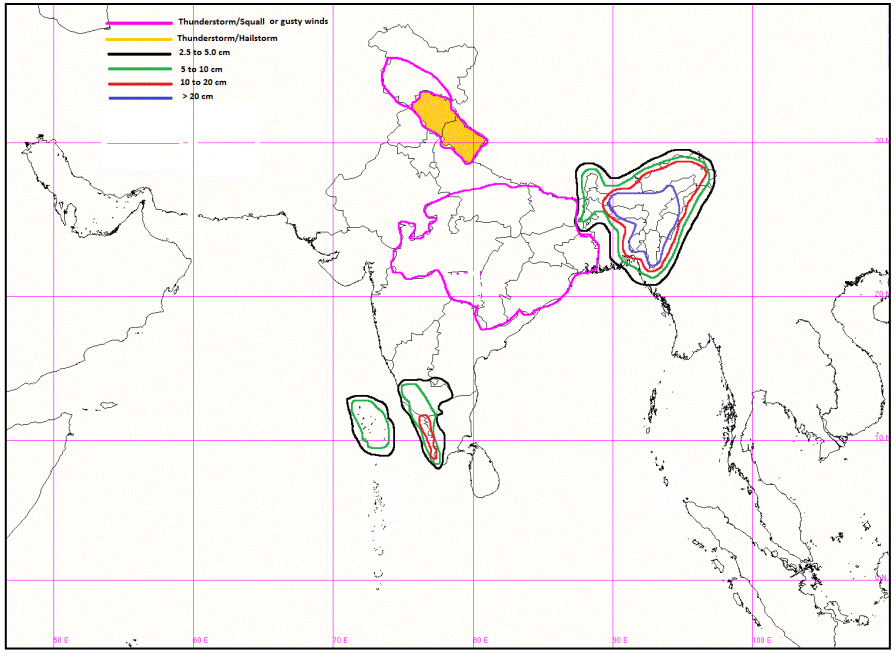
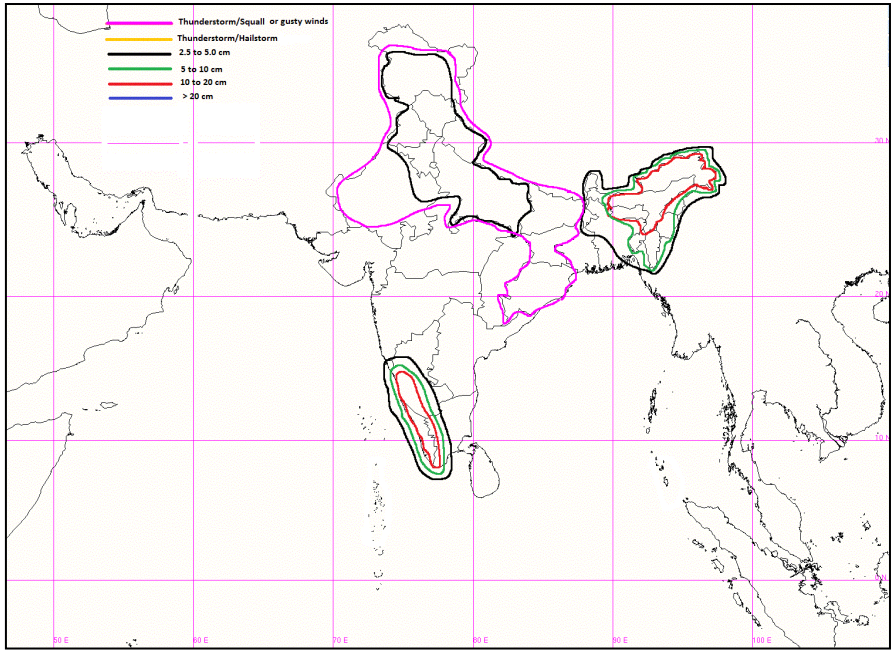
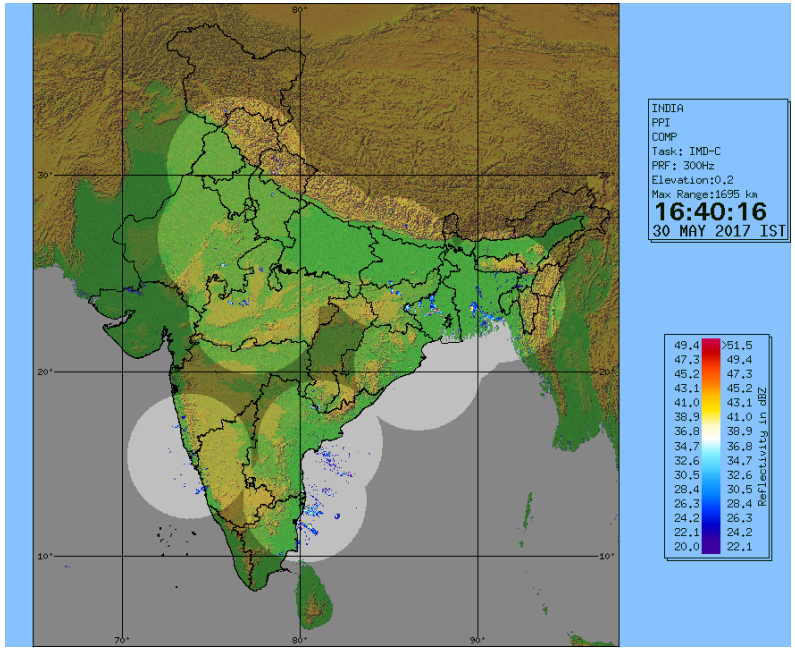
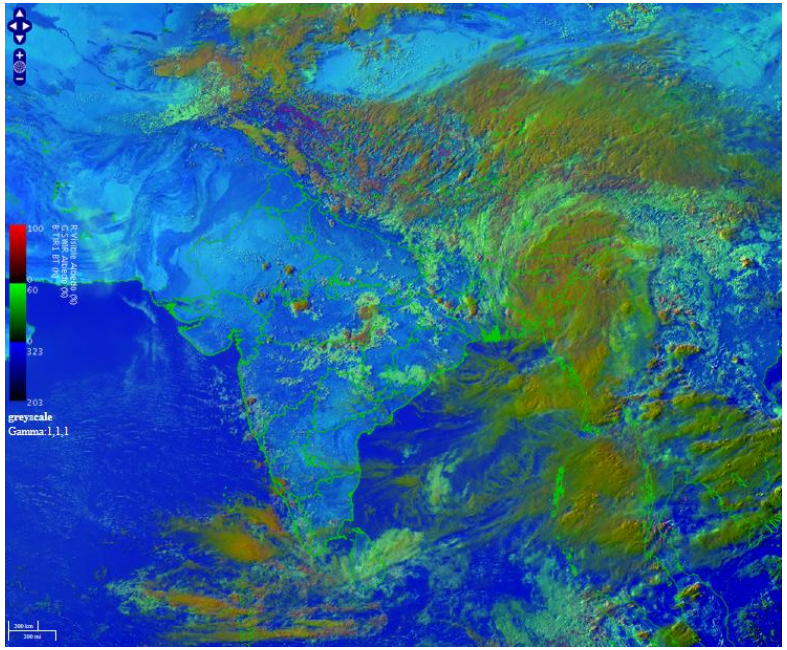


IOP Advisory for 24 hours



IOP Advisory for 48 hours

	
DWR Composite at 1640 hrs IST of today	**RAPID RGB Satellite Imagery at 1600 hrs IST of today**

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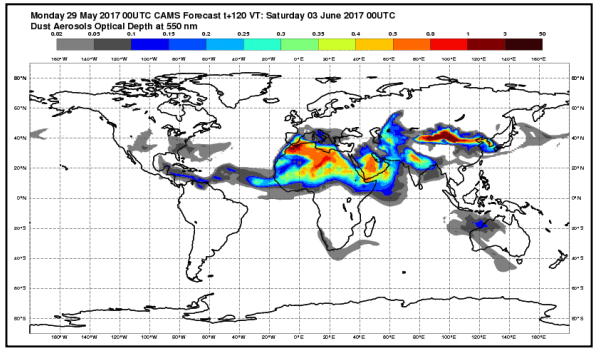
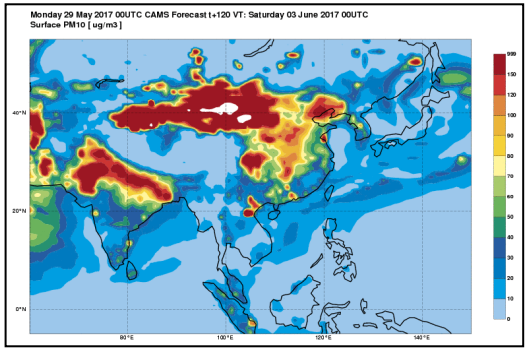
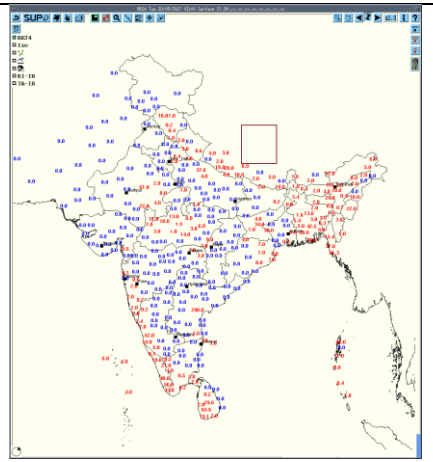
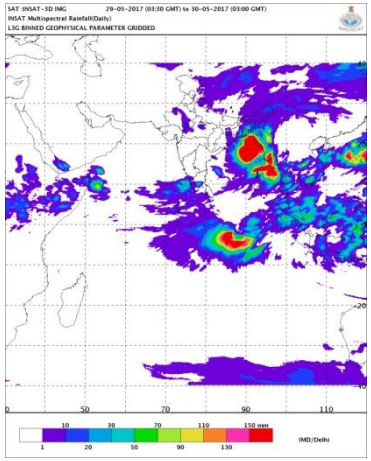
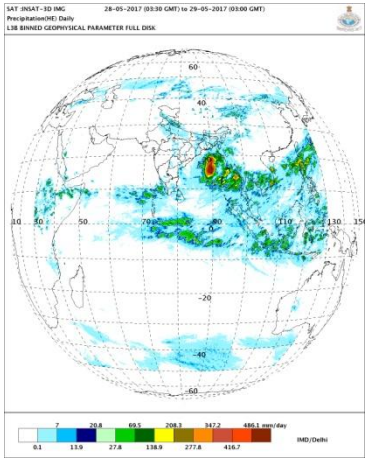
<tr><td> 
</td><td> 
</td><td>  </td></tr>
<tr><td>Forecast Dust Concentration for 00UTC of 3rd June</td><td>PM10 Forecast for 00UTC of 3rd June</td><td>Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today</td></tr>
<tr><td colspan="2"> 
</td><td colspan="2"> 
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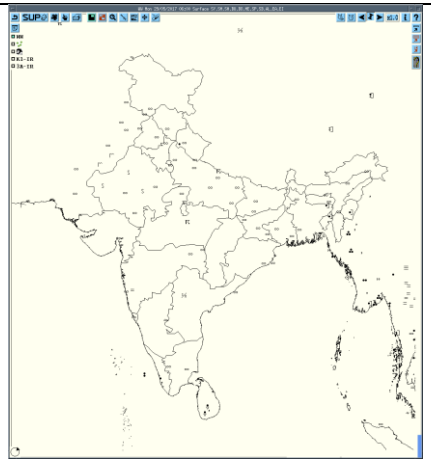
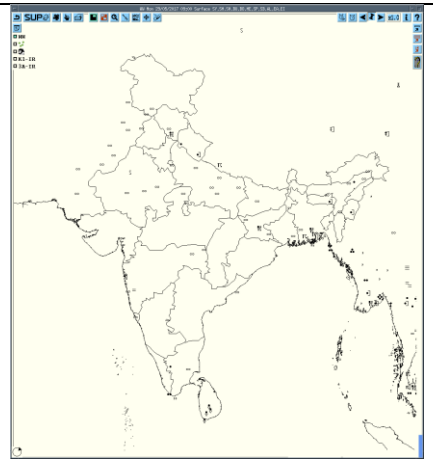
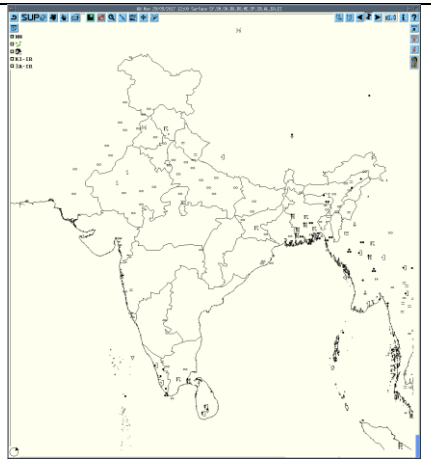
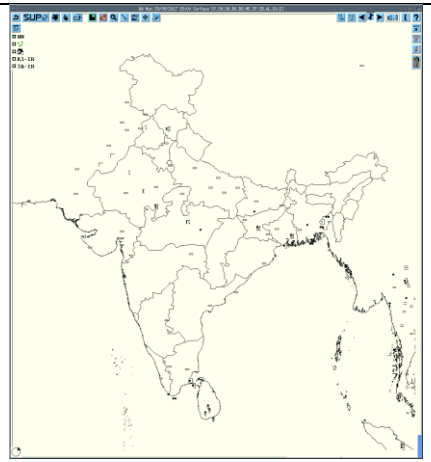
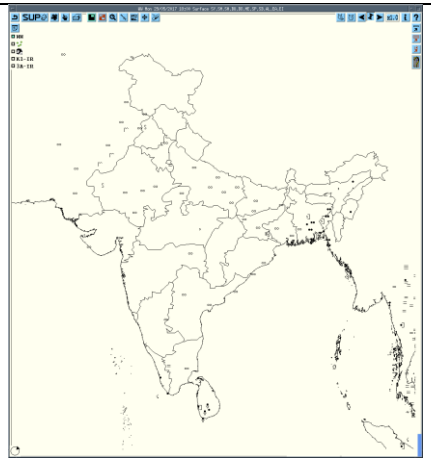
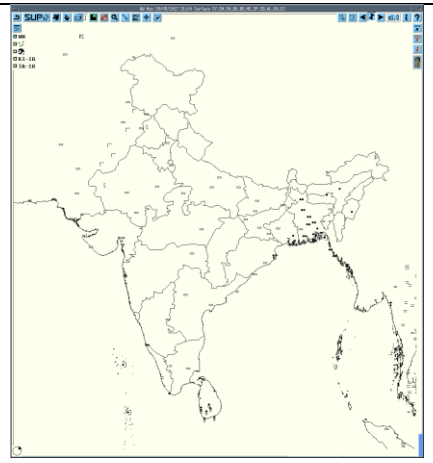
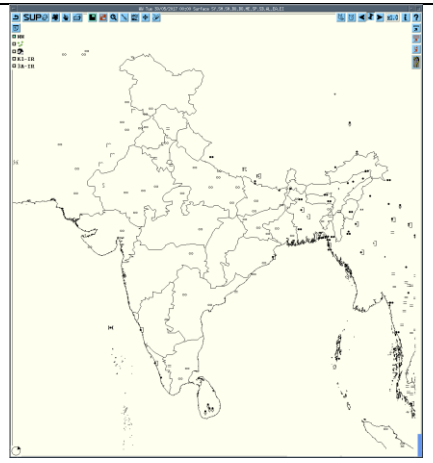
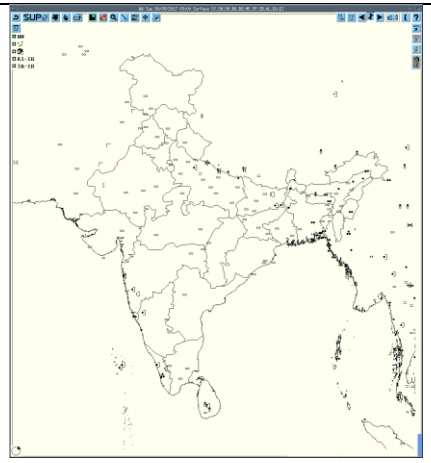
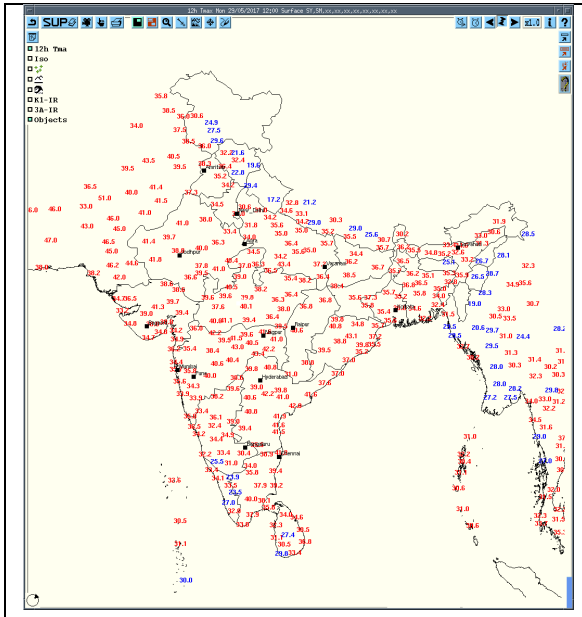
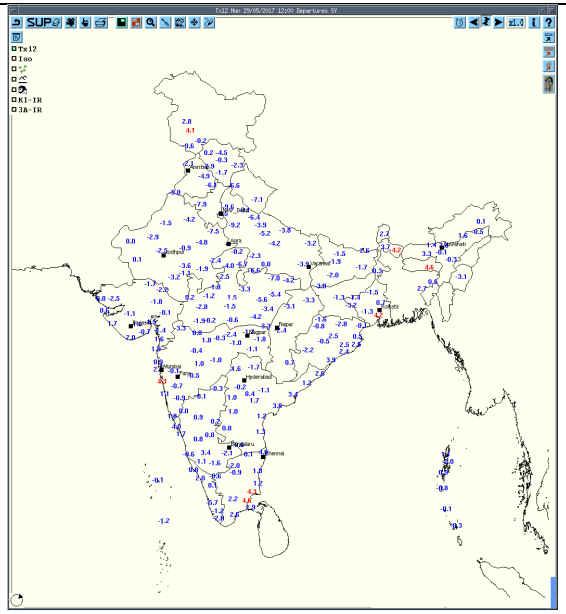









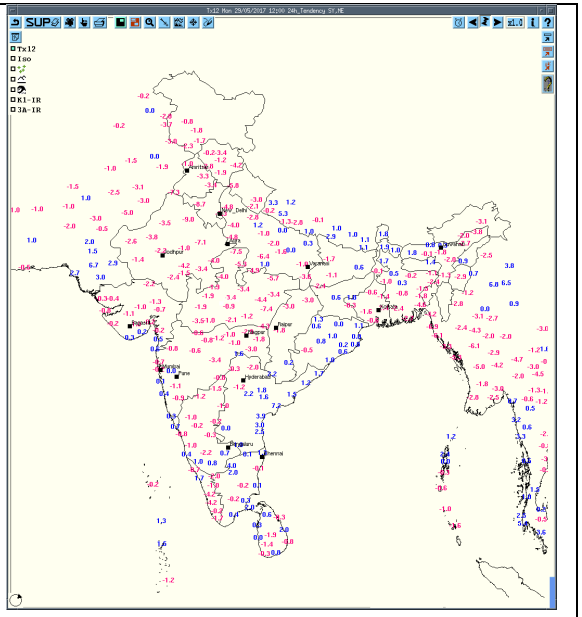
3hourly Past weather at 06,09,12,15,18,21UTC of yesterday and 00 & 03 hrs UTC of today



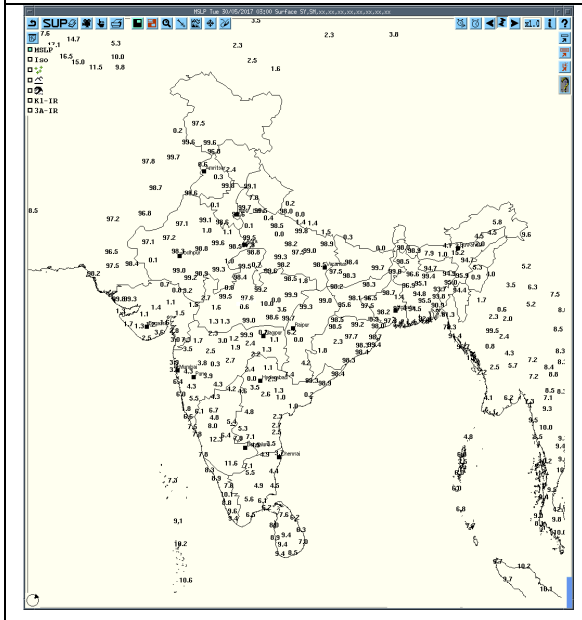
Tmax



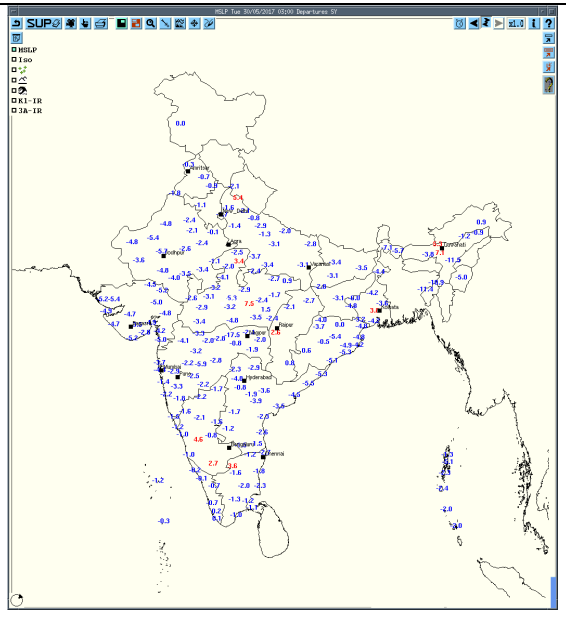
Departure Tmax



Tendency Tmax



MSLP



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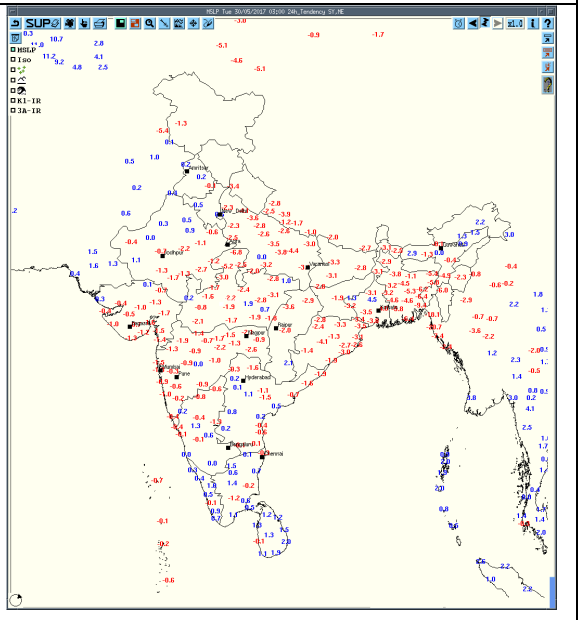

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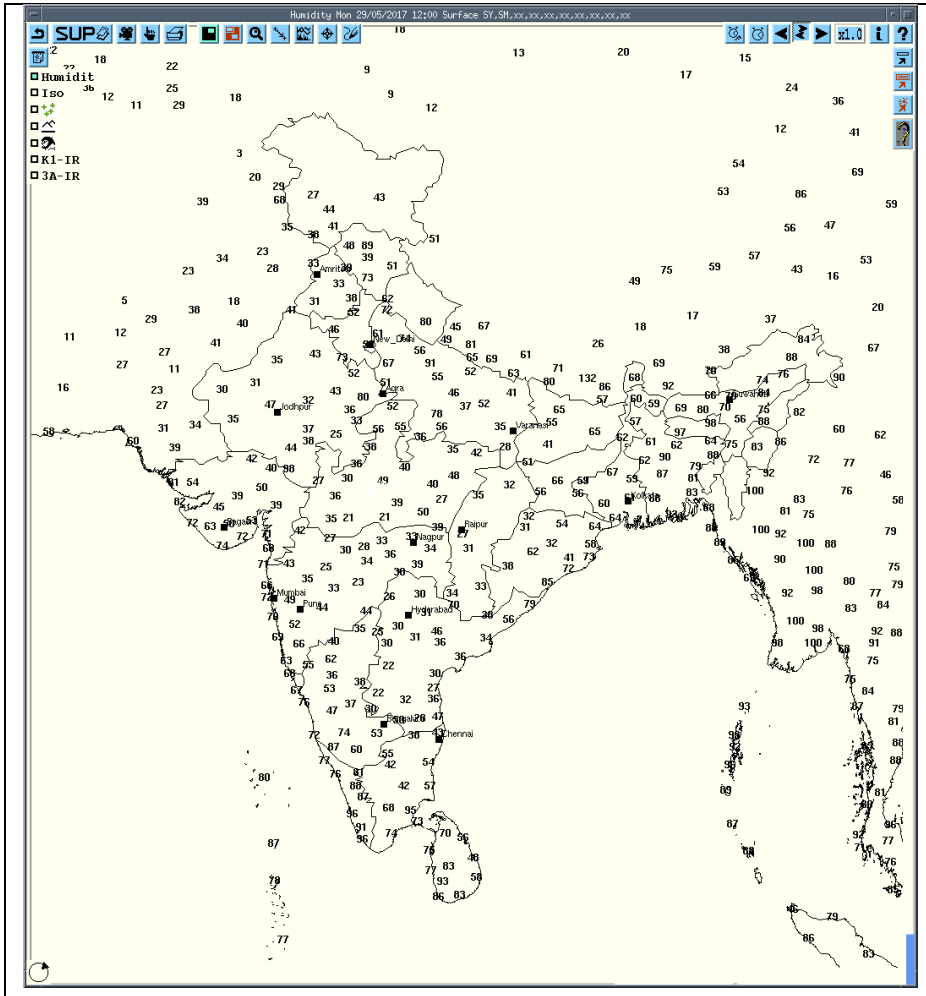
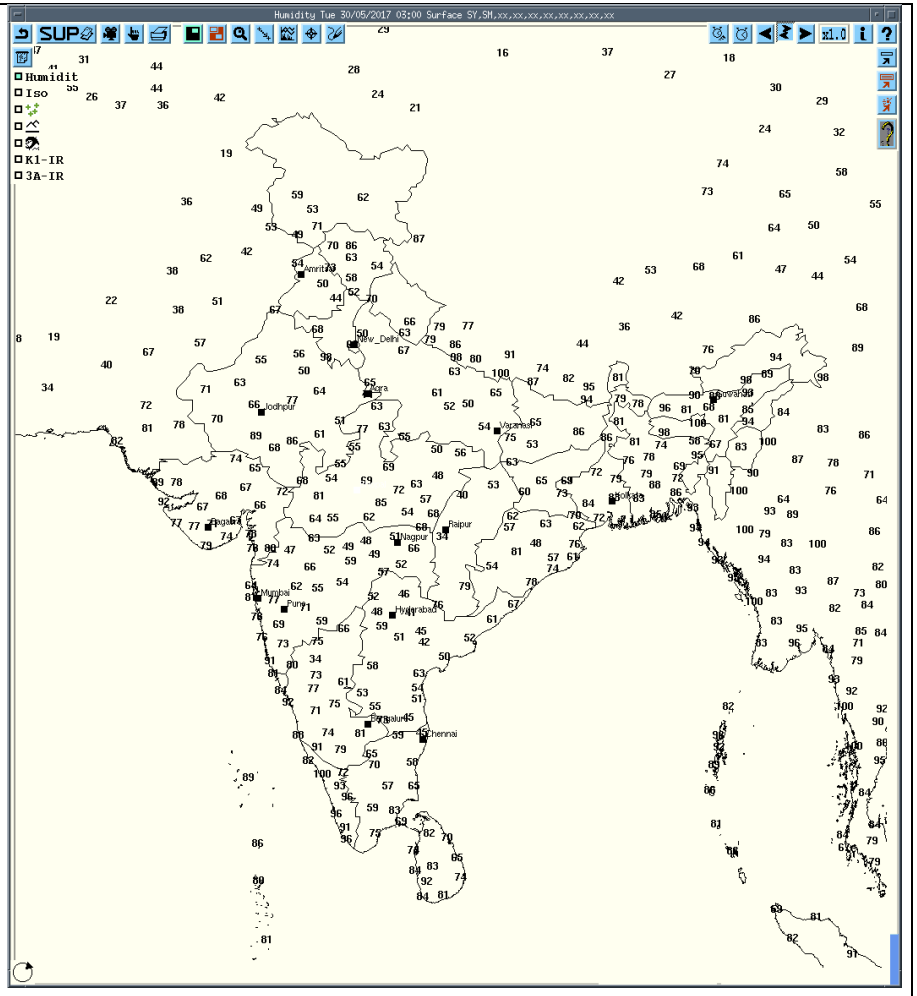


RH at 12UTC yesterday



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**
29-05-17	0600UTC	Sagar	Central India	Madhya Pradesh	Thunderstorm
29-05-17	0900UTC	Shimla	NW India	Himachal Pradesh	Thunderstorm
		Ranchi	East India	Jharkhand	Thunderstorm
29-05-17	1200UTC	Sundernagar	NW India	Himachal Pradesh	Thunderstorm
		Ranchi	East India	Jharkhand	Thunderstorm
		Madurai, Tondi	South India	Tamilnadu	Thunderstorm
29-05-17	1500UTC	Sundernagar	NW India	Himachal Pradesh	Thunderstorm
		Kota	NW India	Rajasthan	Thunderstorm
		Sagar	Central India	Madhya Pradesh	Thunderstorm
		Ranchi	East India	Jharkhand	Thunderstorm
	1800UTC	Jamshedpur	East India	Jharkhand	Thunderstorm
29-05-17	2100UTC	Chandbali	East India	Odisha	Thunderstorm
30-05-17	0000UTC	Nil	Nil	Nil	Nil
30-05-17	0000UTC	Nil	Nil	Nil	Nil

Realised 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)**
Sunder Nagar	Northwest India	Himachal Pradesh	Thunderstorm	29-05-17	0038 1440 1550	0150 1510 1935
Ajmer	Northwest India	Rajasthan	Thunderstorm	29-05-17	1930	2150
Chittaurgarh	Northwest India	Rajasthan	Thunderstorm	29-05-17	2344	0050
Sawai Madhopur	Northwest India	Rajasthan	Thunderstorm	29-05-17	1830	1930
Vanasthali (Tonk)	Northwest India	Rajasthan	Thunderstorm	29-05-17	1830	1900
Kota	Northwest India	Rajasthan	Thunderstorm	29-05-17	1910	2015
Rawatbhata	Northwest India	Rajasthan	Thunderstorm	29-05-17	2130	2140
Kheri	Northwest India	Uttar Pradesh	Thunderstorm	29-05-17	1930	2030
Hardoi	Northwest India	Uttar Pradesh	Thunderstorm	29-05-17	1810	1820
Muzaffarnagar	Northwest India	Uttar Pradesh	Thunderstorm	29-05-17	1100	1200
Moradabad	Northwest India	Uttar Pradesh	Thunderstorm	30-05-17	0830	0930
Shahjahanpur	Northwest India	Uttar Pradesh	Thunderstorm	30-05-17	0400	0530
Banda	Northwest India	Uttar Pradesh	Thunderstorm	30-05-17	0750	0830
Dehradun	Northwest India	Uttrakhand	Thunderstorm	29-05-17	0830 1435	0920 1440
Bramhapuri	Central India	Vidarbha	Thunderstorm	30-05-17	0100	0120
Chandrapur	Central India	Vidarbha	Thunderstorm	29-05-17	2100	2215
Gondia	Central India	Vidarbha	Thunderstorm	29-05-17	2230	2400
Gwalior	Central India	Madhya Pradesh	Thunderstorm	29-05-17	0830	0850
Bilaspur	Central India	Chhattisgarh	Thunderstorm	29-05-17	1642	1927
Alipore	East India	West Bengal	Thunderstorm	29-05-17	1842	1910
Alipore	East India	West Bengal	Squall (Dir-SE, Max. Speed 52kmph)		1745	1746
DumDum	East India	West Bengal	Thunderstorm	29-05-17	1632	2105
DumDum	East India	West Bengal	Squall (Dir-NE, Max. Speed 50kmph)		1736	1737
Bhagalpur	East India	Bihar	Thunderstorm	29-05-17	1340	1730
Purnia	East India	Bihar	Thunderstorm	29-05-17	1530	1730
Ranchi	East India	Jharkhand	Thunderstorm	29-05-17	1420 1855	1620 2150
Chandbali	East India	Odisha	Thunderstorm	30-05-17	0200	0330
Paradeep	East India	Odisha	Thunderstorm	30-05-17	0200	0230
Jorhat	Northeast India	Assam	Thunderstorm	30-05-17	30/0210	30/0520
Silchar	Northeast India	Assam	Thunderstorm	29-05-17	29/0800	30/0830
Dhubri	Northeast India	Assam	Thunderstorm	30-05-17	30/0550	30/0755
Tondi	South India	Odisha	Thunderstorm	29-05-17	1640	1800
Chennai Nungambakkam	South India	Odisha	Squall	29-05-17	1830	1831

Past 24 hours DWR Report:

Radar Station name DWR Machilipatnam	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
	03Z of 29/05/17 to 03Z of 30/05/17	1341 to 1441 UTC	Isolated single cell average height of 6.5Km with maximum reflectivity of 51.5 dBZ	NW (242km) and moving SE ly direction with average speed of20 kmph	Cell started forming at1341UTC, at NW (243km) from Radar the maximum reflectivity during1401 to 1431 UTC and died down at 1441UTC	Possibility of Thunder storm with rain and winds	Yadadri- Bhongir District
	03Z of 29/05/17 to 03Z of 30/05/17	1721 to 1841 UTC	Isolated multiple cells average height of 3.7 km with maximum reflectivity of 52.5 dBZ	NW (99km) and moving S ly direction with average speed of22 kmph	Cell started forming at1721UTC, at NW (114km) from Radar the maximum reflectivity during 1731 to 1751 UTC and died down at 1841UTC	Possibility of Thunder storm with and winds	Krishna District
	03Z of 29/05/17 to 03Z of 30/05/17	1951 to 2041 UTC	Multiple cells average height of 4.5 km with maximum reflectivity of 58.0 dBZ	N E(26.6km) and moving SE ly direction with average speed of 15 kmph	Cell started forming at 1951UTC, at N (35.6km) from Radar the maximum reflectivity during2011 to 2041 UTC and slowly dissipated.	Possibility of Thunder storm with and winds	Krishna Districts
Agartala	26/05/17	250850 - 251320	Multiple cells formed one after another with Maximum Height **16 km** and maximum reflectivity **53 dBZ at1142 UTC**	Formed140 km NW of DWR and moved SE-wards at around 58 kmph	Cells dissipated at 1322 UTC over Bangladesh	N/A	
		251230 - 251502	Multiple cells with Maximum Height **14 km** and maximum reflectivity 43 **dBZ at1402 UTC**	Formed 80 km SE of DWR and moved NE-wards at around 28 kmph	Cells dissipated at 1502 UTC over East Mizoram.	N/A	
		251410 - 260300	Multiple cells with Maximum Height **16 km** and maximum reflectivity **50 dBZ at 2353 UTC**	Formed 250 km NNW of DWR and moved S E-wards at around 53 kmph, formed squall line at 2140 UTC.	Cells dissipated at 0300 UTC over East Mizoram.	N/A	

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	30/05/2017	290300 - 290935	NIL	NIL	N/A	N/A	N/A
		290935 - 291510	Multi Cell. Maximum Reflectivity : 51.5 dBZ Echo Top : 10.5 KM	Range: 119.7 KM from DWR Patna in West-South West direction. Movement-North-Westerly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	Thunder-Storm With Rain	BHABHUA, SASARAM, AURANGABAD, JAHANABAD , GAYA, BUXAR, BHOJPUR, SARAN,SIWAN, GOPALGANJ, WEST CHAMPARAN , EAST CHAMPARAN,
		292210 - 300210	Multi Cell. Maximum Reflectivity : 39.5 dBZ Echo Top : 8.1 KM	Range: 123 KM from DWR Patna in North-North East direction. Movement-North-North Westerly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	Thunder-Storm With Rain	Saran, Muzaffarpur,Vaishali, Darbhanga East Champaran, West Champaran, Sitamadhi, Samastipur & Sheohar
		300210 - 300300	Multi Cell. Maximum Reflectivity : 41.5 dBZ Echo Top : 10.5 KM	Range : 115 KM from DWR Patna in North-North-West. Movement- North-North Westerly	Warning E-mail and Fax sent to State Disaster management Authority and Concern DMs	THUNDER-STORM WITH RAIN	Supaul, Madhepura, Araria, Kishanganj, Saharsa, Purnea, Darbhanga, Madhubani, Muzaffarpur, Samastipur, West Champaran, East Champaran

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	30/05/17	0932-2002 UTC	Multiple cells with average height of 7.5 km & maximum reflectivity 59.5 dBZ	Cell develop 0932 to 2002 UTC of 29/05/17 towards NW, SW AND W of Jaipur and moved to S,SSE WARDS at speed 30-40 km/hr	Cells starts forming from 0932 UTC of 29/05/2017 AT NW, SW & W of Jaipur and reaches maximum reflectivity during 1042-1142 UTC died down 2002 UTC.	Thunderstorm/rain/thundersquall at isolated places and at a few places in Ajmer division	Bikaner, Nagaur, Ajmer, Tonk, Bundi Kota, Jhalawar, Baran, Bhilwara Chittaurgarh Rajsam and, Sawai Madhopur.
	30/05/17	1212-1612 UTC	Multiple cells with average height of 4.5km & maximum reflectivity 54.0 dBZ	Cell develop 1212 to 1612 UTC of 29/05/17 towards SW & S of Jaipur and moved to SE at speed 30-35 km/hr	Cells starts forming from 1212 UTC of 29/05/2017 in SW & S of Jaipur and maximum reflectivity during 1312-1402 UTC died down 1612 UTC.	Thunderstorm/rain at isolated places	Tonk, Sawai Madhopur, Baran
	30-05-17	1642-2002 UTC	Multiple cells with height of 5.8 km & maximum reflectivity 41 dbz	Cell developed 1642 to 2002 UTC of 29/05/17 towards ESE & SE of Jaipur and moved SE at speed 25-30 km/hr	Cell starts forming from 1642 UTC of 29/05/2017 ESE & SE of Jaipur and maximum reflectivity during 1842-1902 UTC and died down 2002 UTC	Thunderstorm /rain at isolated places	Dausa, Karauli and sawaimadhopur

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
Lucknow	30-05-17	29/1102UTC to 29/1502UTC	Isolated cells with average height of 10Km and maximum reflectivity of 49dBz	NNW(90km) from Radar moving in E'ly direction at speed of 21.6kmph	Multiple Cells started forming at 1142UTC at NW(70km) from Radar and died down at 1542UTC	TS/Rain	Hardoi, Sitapur
		29/1442UTC to 29/1612UTC	Isolated cell with average height of 8Km and maximum reflectivity of 45.5dbZ	NW(40km) moving in NW direction at speed of 43.2kmph	Cell started forming at 1422 UTC at NW(40km) from Radar and died down at 1652UTC	TS/Rain	Hardoi
		29/2202UTC To 30/0142UTC	Isolated cell with average height of 8Km and maximum reflectivity of 53dbZ	N(90km) moving in NW direction at speed of 21.6kmph	Cells started forming at 2142 UTC at NNE(90km) from Radar and died down at 0202UTC.	TS /Rain	Hardoi, Sitapur
Srinagar	30-05-17	Nil	Nil	Nil	Nil	Nil	Nil
Patiala	30-05-2017	29/0300-0600	ISOLATED cells max. 49.5 dBZ Ht. 6-10 km	E SECTOR. MOVEMENT NE WARDS	-------	TS/RA	Kalsi, Dehradun
		29/ 0600-0900	ISOLATED cells max. 57.5 dBZ Ht. 12-14 km	NE SECTOR. MOVEMENT SE WARDS	--------	RA/TS	Nalagarh And Its Adjoining Areas.
		29/ 0900-1200	ISOLATED cells max. 60.0 dBZ Ht. 12-14 km	NE SECTOR. MOVEMENT N WARDS		TS/RA	Nalagarh, Bilaspur, Sundernagar, Mandi, Hamirpur, And Its Adjoining Areas.
		29/ 1200-1500	ISOLATED cells max. 55.5 dBZ Ht. 9-10 km	NNE SECTOR.	----------	TS/RA	Palampur, Nadaun, Mandi, Dharamshala
		29/1500-30/0300	NO ECHO	----------	----------	----------	----------

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	30-05-2017	29/0300-0600	ISOLATED cells max. 49.5 dBZ Ht. 6-10 km	E sector. movement NE wards	-------	TS/RA	Kalsi, Dehradun
		29/ 0600-0900	ISOLATED cells max. 57.5 dBZ Ht. 12-14 km	NE sector. movement SE wards	--------	RA/TS	Nalagarh And Its Adjoining Areas.
		29/ 0900-1200	ISOLATED cells max. 60.0 dBZ Ht. 12-14 km	NE sector. movement N wards		TS/RA	Nalagarh, Bilaspur, Sundernagar, Mandi, Hamirpur, And Its Adjoining Areas.
		29/ 1200-1500	ISOLATED cells max. 55.5 dBZ Ht. 9-10 km	NNE sector.	----------	TS/RA	Palampur, Nadaun, Mandi, Dharamshala
		29/1500-30/0300	NO ECHO	----------	----------	----------	----------
Kolkata	29-05-2017	0301-0642	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
		0642 –1412 UTC	1. Single cell with maximum reflectivity of 55.5 dBz at 0701 UTC and maximum height 10.12km at 0711 UTC	1.ENE (211 km)	1. Isolated single cells started forming between ENE since 0642 UTC at a distance of 211 km from Radar and formed multi cell system at 0832 UTC in NE to SE	Thunderstorm / Rain	N/A
		0852 –1412 UTC	2. Single cell converted to multi celled system with maximum reflectivity of 52.0 dBz at 0852 UTC and maximum height 8.69 km at 0852 UTC	2.NE(145 km)	2. Single cell formed at NE at 0852 UTC at a distance of 145 km from Radar and merged with multi cell system	Thunderstorm / Rain	N/A
		1002 -1412 UTC	5. Extended multi celled system with maximum reflectivity of 53.5 dBz at 1002 UTC and maximum height 7.44 km at 1002 UTC	5. From NE to SE (128 km) moving in W-ly/ NW-ly direction	Extended multi celled system first observed in NE To SE at a distance of 128 km from Radar. Matured and dissipated and moving at 1412 UTC in S.	Thunderstorm / Rain	N/A
		1541-2352	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL
	30-05-2017	0001-0242 UTC	NIL	NIL	NO SIGNIFICANT ECHO	NIL	NIL