



India Meteorological Department

FDP STORM Bulletin No. 32 (07-04-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

- ◆ The feeble Western Disturbance as an upper air cyclonic circulation over south eastern parts of Jammu & Kashmir & neighbourhood between 3.1 km & 7.6 km above mean sea level persists.
- ◆ A fresh Western Disturbance is likely to affect Western Himalayan region from tomorrow night.
- ◆ The cyclonic circulation over northwest Madhya Pradesh & neighbourhood now lies over central parts of north Madhya Pradesh and adjoining south Uttar Pradesh at 1.5 km above mean sea level.
- ◆ The trough at 0.9 km above mean sea level now runs from north Madhya Maharashtra to Rayalaseema across Marathwada & north Interior Karnataka.
- ◆ The east west trough from West Rajasthan to Jharkhand now runs from southwest Rajasthan to Jharkhand across Madhya Pradesh and Chhattisgarh and extends upto 0.9 km above mean sea level.
- ◆ The cyclonic circulation over central parts of west Bengal extending between 1.5 km & 3.1 km above mean sea level now lies over West Bengal and adjoining Bangladesh.
 - ◆ The trough in westerlies roughly along Long. 92°E to the north of Lat. 20°N at 5.8 km above mean sea level has moved away eastwards.
- ◆ The cyclonic circulation extending upto 1.5 km above mean sea level over Comorin area and neighbourhood now lies over Maldives area and neighbourhood.
- ◆ The trough in easterlies from the above cyclonic circulation to south interior Karnataka persists at 1.5 km above mean sea level across Lakshadweep and Kerala.
- ◆ A cyclonic circulation extending upto 1.5 km above mean sea level lies over Southwest Bay of Bengal off Srilanka.

SATELLITE OBSERVATIONS during past 24 hrs and current observation:

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

Western Disturbance (WD):

Scattered multi-layered clouds over North East Saudi Arabia, Persian Gulf, Iran, adjoining Afghanistan in association with Western Disturbance over the area.

Westerly trough:

The trough in westerlies in NE-SW orientation lies along Long 75 E to 70 E.

Past Weather:

Convection (during last 24 hrs):-

Thunderstorm cell that formed over North-east Rajasthan adjoining Haryana yesterday at 0900 UTC intensified rapidly both in convection and area covered and moved eastward affecting Haryana, Delhi, NW UP, from 1130 UTC. The cell then continued its eastward movement over the night. It split into two cells at 0300 UTC and one lay over Nepal (minimum CTT -63 deg.C) at 28 deg.N/84.9 deg.E and second over Northwest Bihar adjoining Northeast Uttar Pradesh with minimum CTT (-55 deg C) at 26.9 N/84.2 E over Northwest Bihar adjoining Northeast Uttar Pradesh with minimum CTT (-55 deg C) at 26.9 N/84.2 E over Northwest Bihar. Another cell that developed over east Bangladesh at 2130 UTC moved eastwards now lies at 0300 UTC over Southeast Bangladesh, Tripura and adjoining Mizoram with minimum CTT (-54 deg.C) over Tripura at 23.6 N/91.2 E. This cell has weakened in intensity and reduced area wise

OLR:-

Upto 230 wm-2 observed over J&K Himachal Pradesh Uttarakhand Haryana Delhi South Punjab North-East Rajasthan North-West Uttar Pradesh Sikkim Arunachal Pradesh Jharkhand Odisha Chhattisgarh Maharashtra Telangana North Interior Karnataka and Upto 250 wm-2 observed over rest North-East States Gangetic West Bengal Madhya Pradesh South Interior Karnataka Kerala Tamilnadu..

Precipitation:

IMR:

Rainfall upto 20-30 mm observed over some parts of North-West Himachal Pradesh East Uttarakhand South-East Haryana Delhi North-West Uttar Pradesh South Jharkhand Odisha Telangana North Interior Karnataka .

Rainfall upto 10-20 mm observed over some parts North-East Rajasthan North-East Uttar Pradesh Tripura Chhattisgarh Marathwada.

Rainfall upto 1-10 mm observed over some parts of J&K rest Himachal Pradesh rest Uttarakhand South Punjab South-West Rajasthan Madhya Pradesh South-East Uttar Pradesh Sikkim Arunachal Pradesh Nagaland Mizoram Gangetic West Bengal Vidarbha South Madhya Maharashtra South Konkan South Interior Karnataka South Kerala South Tamilnadu.

HEM:

Rainfall upto 28-70 mm observed over North-West Himachal Pradesh East Uttarakhand North Interior Karnataka South Telangana.

Rainfall upto 7-21 mm observed over South-West J&K South-East Haryana North-West Uttar Pradesh South Jharkhand Odisha Chhattisgarh north Telangana South Interior Karnataka

Rainfall upto 0.1-07 mm observed over Central Haryana Delhi rest Uttar Pradesh East Madhya Pradesh Maharashtra South Tamilnadu West Bengal Sikkim North-East States.

RADAR and RAPID RGB Observation:

Moderate Isolated/multiple echoes were seen on DWR Kolkata, Patna and Vishakhapatnam (dBZ around 45-55 and height around 10-15km). Light Moderate Isolated/multiple echoes were seen on DWR Patiala, Jaipur, Agartala, Cherrapunjee, Hyderabad and Srinagar at around 1430 IST.

RAPID RGB Satellite imagery at 1330IST indicates significant convection over Southeast Rajasthan, Central parts of Bihar, Jharkhand, East Gangetic West Bengal and South Chhattisgarh adjoining Odisha.

Environmental Condition (dust etc) and its Forecast based on 00UTC of date:

Higher Dust concentration was observed over Arab countries and western part of India. Dust concentration is expected to decrease over north-western part of India in next few days.

Particulate matter concentration is expected to remain in moderate to satisfactory category for next 2 days in Delhi.

Delhi – SAFAR analysis & Forecast	07.04.2018	08.04.2018
PM10 (micro-g/m ³)	137	164
PM2.5 (micro-g/m ³)	57	69

2. NWP MODEL GUIDANCE:

NCMRWF (NCUM forecast based on 00UTC the day):

1. Weather Systems:

Low level CYCIRS, Troughs:

12 UTC of Day 1-2: 850 hPa CYCIR over east-UP and adjoining Bihar

12 UTC of Day 0-3: at 925 hPa S-N wind discontinuity over interior peninsula extending SW-NE over MP-Chhattisgarh, Jharkhand

12 UTC of Day 0-1: Trough at 500 hPa over HP-Uttarakhand

2. Location of jet and jet core (>60kt) at 500hPa:-----

3. Convergence at 850 hPa:

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

Day0: Arunachal_Pradesh, NE_NMMT, East_RJ, Odisha, Chhattisgarh, TN_Puducherry, SI_Karnataka, Kerala,

Day1: Jharkhand, Odisha, West_MP, Madhya_Maharashtra,

Day2: West_RJ, East_RJ, Chhattisgarh, SI_Karnataka, Kerala,

Day3: Jharkhand, Madhya_Maharashtra,

Day4: East_UP, West_UP, Punjab, Himachal_Pradesh, West_RJ, East_RJ, Odisha, Madhya_Maharashtra, Coastal_AP, SI_Karnataka,

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Assam_Meghalaya, Jharkhand, Odisha,

Day1: Assam_Meghalaya, Gangetic_WB, Jharkhand,

Day2: Assam_Meghalaya, Uttarakhand, Hry_Chhd_Delhi, Chhattisgarh,

Day3: Arunachal_Pradesh, Assam_Meghalaya, Uttarakhand, Hry_Chhd_Delhi, Punjab,

Day4: Arunachal_Pradesh, Assam_Meghalaya, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab,

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

Day/Index: Subdivisions with Showalter Index < -4

Day0: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Himachal_Pradesh, Jammu_Kashmir, Odisha, West_MP, East_MP, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Coastal_AP, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day1: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, West_MP, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day2: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, Uttarakhand, Hry_Chhd_Delhi, Himachal_Pradesh, Jammu_Kashmir, Odisha, Konkan_Goa, Coastal_AP, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day3: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, Odisha, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Rayalseema, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, Coastal_AP, Rayalseema, TN_Puducherry, Coastal_Karnataka, SI_Karnataka, Kerala

6. Spatial distribution of TTI: TTI >50 [Scattered Thunderstorms few severe]:

Day/Index: Subdivision with Total Totals Index > 52

Day0: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, East_RJ, Odisha, West_MP, East_MP, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day1: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, East_RJ, Odisha, West_MP, East_MP, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day2: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, East_RJ, Odisha, West_MP, East_MP, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day3: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Odisha, West_MP, East_MP, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Vidarbha, Chhattisgarh, Coastal_Karnataka, NI_Karnataka, SI_Karnataka,

Day4: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, East_MP, Marathwada, Chhattisgarh, Coastal_Karnataka, NI_Karnataka, SI_Karnataka

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

Day/Index: Subdivisions with K Index > 40

Day0: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Odisha, Madhya_Maharashtra, Chhattisgarh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day1: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Himachal_Pradesh, Odisha, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana, Rayalseema, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day2: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, Uttarakhand, Jammu_Kashmir, Odisha, West_MP, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day3: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, West_UP, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Odisha, Madhya_Maharashtra, Vidarbha, Chhattisgarh, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, East_UP, Uttarakhand, Punjab, Odisha, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Arunachal_Pradesh, Assam_Meghalaya, Jharkhand, Bihar, East_UP, Odisha, Chhattisgarh, Telangana,

Day2: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, Jammu_Kashmir, Odisha, Andaman_Nicobar, Telangana,

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, Punjab, Jammu_Kashmir,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Himachal_Pradesh, Jammu_Kashmir, TN_Puducherry,

Day5: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, TN_Puducherry,

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

1. Synoptic Systems:

The analysis based on 00 UTC indicates a cyclonic circulation in lower troposphere (925 hPa) over northern part of West Madhya Pradesh and adjoining area. The forecast shows it will move south eastwards to Vidharbha and adjoining area on day 3. The Analysis also indicates a trough extending from north Madhya Maharashtra to Rayalaseema across Marathwada & north Interior Karnataka. The forecast shows it will persist till day 3 with slight eastward shift. The analysis shows an East-West trough extending from southwest Rajasthan to Jharkhand across Madhya Pradesh and Chhattisgarh. The analysis also shows a cyclonic circulation over south west Rajasthan and adjoining area it will move eastward in next 24 hours and becomes less marked thereafter. The forecast shows a cyclonic circulation over North Pakistan and adjoining area on day 1 and it will move Eastwards to West Uttar Pradesh and adjoining areas on day 4.

2. Location of Jet and Jet Core (>60kt) at 500hPa:

Although the presence of strong westerlies is found over east and northeast India but no jet core over the Indian region for the next 3 days.

3. Low Level Vorticity {850hPa Positive Vorticity (>12 x 10⁻¹/s)}:

Positive Vorticity is seen mostly over the cyclonic circulation and along the trough for next 3 days. It is inferred that some parts of Haryana, Delhi and adjoining areas & East Madhya Pradesh has Positive Vorticity on day 1.

4. Spatial distribution of T-storm Initiation Index, Lifted Index, Total Total Index, CAPE, CIN and Sweat Index [High potential for thunderstorm]:

T-Storm Initiation Index (> 3): The threshold value of the index > 3 over coastal areas of Gangetic West Bengal and Kolkata, parts of Orissa, Bihar, Jharkhand, Uttar Pradesh, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Karnataka, Tamil Nadu, parts of Gujarat, South west Rajasthan, coastal Maharashtra including Mumbai, Konkan & Goa, Vidharbha adjoining Chattisgarh, coastal areas along the east coast and west coast, extreme south peninsular India, Tripura and adjoining area, SHWB during all 3 days; over parts of Punjab, Haryana, Delhi, Himachal Pradesh and adjoining Uttarakhand on day 2 and 3; Maximum value of the index is seen over parts of Gujarat, northern parts of coastal areas along the west coast, Konkan and Goa, coastal Maharashtra, Orissa, Chattisgarh, Jharkhand, coastal Andhra Pradesh, GWB, Telangana and adjoining area on all 3 days; over parts of Bihar and East Uttar Pradesh on day 1 and 2; over parts of East Vidharbha and south west Rajasthan from day 2 onwards..

Lifted Index (< -2): The The threshold value of the index is below -2 over parts of Haryana, Delhi, Uttarakhand, Gujarat, Sourashtra region, Rajasthan, coastal Andhra Pradesh, coastal Karnataka, Telangana, Rayalaseema, Konkan and Goa, Kerala, Tamil Nadu, southern part of west coast, coastal areas along the east coast, Orissa, East Madhya Pradesh, Chattisgarh, Vidharbha, GWB, Bihar, Jharkhand, Tripura and adjoining areas on all 3 days; over parts of East Rajasthan and west Madhya Pradesh region on day 1; over parts of Punjab and Himachal Pradesh on day 3; over parts of south west Rajasthan, Madhya Maharashtra and Marathwada region from day 1 onwards; maximum negative value of the index less than -8 is seen over parts of Bihar, Northern parts of coastal Maharashtra and GWB on day 1; over parts of coastal Karnataka, Konkan and Goa and some parts of Chhattisgarh on day 2; over parts of coastal Gujarat on day 3.

Total Total Index (> 50): The threshold value of the index is > 50 over most of the parts of Madhya Pradesh, adjoining Gujarat, Rajasthan, Vidarbha on all 3 days; over parts of Punjab and adjoining areas on day 2; over parts of Madhya Maharashtra and Marathwada region on day 2 and 3; maximum value of the index >60 is seen over west and east Madhya Pradesh region on all 3 days.

Sweat Index (> 300): Although the threshold value of the Index >300 is seen in most parts of the country but the maximum value of the index greater than 800 is seen over parts of Jharkhand and adjoining areas on day 1 and 2.

CAPE (> 1000): Mostly in areas of southern peninsular India, along west coast and east coast and coastal areas of GWB, Orissa, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Tamilnadu, Karnataka, , Gujarat, South West Rajasthan, coastal Maharashtra, Konkan and Goa, Vidarbha, Bihar, Jharkhand, Uttar Pradesh, Chhattisgarh during all 3 days; over parts of East Madhya Pradesh from day 1 onwards; over Parts of Haryana, Delhi, Assam, Sikkim, SHWB and adjoining areas on day 3; Maximum value of the index greater than 2500 is seen mostly over parts of coastal Orissa, GWB, Bihar, Jharkhand, Coastal Andhra Pradesh and coastal Gujarat on day 1; over parts of Gujarat, coastal Karnataka, Konkan and Goa on day 2 and 3..

CIN (50-150): Although the threshold value of the Index lies in the range of (50–150) over most part of the country except during all 3 days but the maximum value of the index > 400 is seen over parts of Haryana, Delhi, West Uttar Pradesh and adjoining areas on day 2 and 3.

5. Rainfall Activity:

70- 130 mm Rainfall: over parts of Orissa and adjoining Jharkhand on day 1.

40- 70 mm Rainfall: over parts of Orissa, Jharkhand and GWB on day 1; over parts of Jharkhand adjoining Bihar and GWB on day 3.

10-40 mm Rainfall: over parts of J&K, Himachal Pradesh, Uttarakhand, Foothills of Himalaya, Sikkim, NE states, Bihar, Jharkhand, Orissa, Chhattisgarh, GWB, SHWB, Kerala, Karnataka, Tamil Nadu, Andhra Pradesh on all 3 days;,, Uttarakhand, Sikkim, SHWB, NE states on all 3 days; over parts of Telangana, Madhya Maharashtra and Marathwada on day 1 and 2; over some parts of Haryana and East Uttar Pradesh on day 2.

Up to 10 mm rainfall: Over parts of Sikkim, NE states, Foothills of Himalaya, J&K, Uttarakhand, Punjab, Haryana, Delhi, Himachal Pradesh, Gujarat, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Vidarbha, Marathwada, Madhya Maharashtra, GWB, SHWB, Andhra Pradesh, Kerala, Karnataka, Tamil Nadu, Telangana and Rayalaseema on all 3 days.

IMD WRF (9km based on 00UTC of the day):

1. Model Reflectivity (Max.dBz):

> 25 dBZ Model Reflectivity: Over parts of J&K, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Orissa, GWB, SHWB, NE states, Bihar, Jharkhand, Karnataka, Telangana, Chhattisgarh, Madhya Maharashtra, Marathwada, Vidharbha and East Madhya Pradesh on day 1; over parts of J&K, Himachal Pradesh, East Uttar Pradesh, Chattisgarh adjoining Telangana, Orissa, Assam, Arunachal Pradesh, Meghalaya, Mizoram, Tripura and adjoining areas on day 2; over parts of Kerala, Tamil Nadu, J&K adjoining Himachal Pradesh, GWB, SHWB, NE states, Bihar, Jharkhand and some parts of north Chattisgarh on day 3; maximum value of the Model reflectivity is seen over parts of Bihar, Jharkhand, GWB, SHWB, Orissa, Chattisgarh, Assam and adjoining areas on day1; over parts of J&K and East Uttar Pradesh on day 3.

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

Total Index (> 50): Above threshold value is observed over most parts of the country except extreme south peninsular India, southern parts of west coast and the east coast, Telangana, coastal Andhra Pradesh, NE states, Bihar, Jharkhand, Sikkim, GWB and SHWB during all 3 days; below threshold value is seen over parts of Uttar Pradesh, Orissa, Telangana on day 2 and 3; over parts of Uttarakhand from day 2 onwards;

maximum value of the index is seen over parts of Punjab, Haryana, Rajasthan, Madhya Pradesh, Vidarbha, Gujarat, Madhya Maharashtra and Marathwada region on all 3 days ; over parts of Uttar Pradesh on day 1.

K-Index (> 35): Less than threshold value is observed over most of the part of the country during the next 3 days.

CAPE (> 1500): Greater than threshold value over parts of Gujarat, coastal areas of west coast, coastal Maharashtra, Konkan and Goa, coastal areas along the east coast, coastal Orissa, GWB and Kolkata, SHWB, Bihar, Jharkhand, parts of Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Chhattisgarh, Vidarbha, East Madhya Pradesh, Telangana, Rayalaseema, Extreme south peninsular India on day 1 and 2; over parts of Haryana, Tripura and adjoining areas on day 2; over parts of J&K, Punjab, Haryana, Delhi, Rajasthan, Himachal Pradesh, Uttarakhand, Assam, Tripura and adjoining areas on day 3; Maximum value of the index is seen over the parts of west Gujarat, coastal Kerala, coastal Karnataka adjoining Konkan and Goa, Jharkhand, Orissa, GWB, coastal Andhra Pradesh on day 1; over parts of coastal Gujarat, coastal Karnataka and Kerala on day 2; over parts of coastal Gujarat and extreme southern part of west coast on day 3.

CIN (50-150): Although the threshold value of the Index lies in the range of (50–150) over most part of the country during all 3 days, the maximum value of the index > 400 is seen over Haryana, Rajasthan, East Madhya Pradesh, Gujarat, coastal Maharashtra including Mumbai, Konkan and Goa, northern part of west coast, Chhattisgarh, Orissa, Jharkhand, Telangana and Andhra Pradesh on day 1; over parts of Punjab, Haryana, Delhi, north west Rajasthan, west Madhya Pradesh, Vidarbha, Telangana, Gujarat, coastal Maharashtra on day 2 and 3; on day 3 over parts of Himachal Pradesh, Uttarakhand and adjoining areas and some parts of west Uttar Pradesh.

3. Rainfall and thunderstorm activity:

Above 130 mm Rainfall: over some parts of East Uttar Pradesh on day 2.

70- 130 mm rainfall: over parts of Bihar on day 1; over some parts of East Uttar Pradesh, Mizoram and adjoining areas on day 2.

40-70 mm Rainfall: over parts of Orissa, GWB, SHWB, Bihar, Jharkhand, Arunachal Pradesh, Andhra Pradesh on day 1; over parts of J&K, East Uttar Pradesh, Assam, Tripura, Meghalaya and adjoining areas on day 2; over parts of J&K, Bihar, Tripura and adjoining areas, Kerala and adjoining Tamil Nadu region on day 3.

10- 40 mm Rainfall: over parts of J&K, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Foothills of Himalaya, Bihar, Jharkhand, GWB, SHWB, Sikkim, NE states, Orissa, Kerala, Tamil Nadu and Karnataka on all 3 days. Over some parts of Madhya Maharashtra and Marathwada on day 1.

Up to 10 mm Rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Rajasthan, East and West Uttar Pradesh, foothills of Himalaya, Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, Vidharbha, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Orissa, GWB, SHWB and NE states on all 3 days.

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

Day-1 & Day-2:

o Most thermodynamic indices (SWEAT, T-STORM Initiation Index, Lifted Index) from IMD GFS deterministic model indicate high probability of thunderstorm occurrence along the north Indian plains, and along the coastline of India, especially over Gangetic West Bengal on day 1, decreasing on day 2. CAPE values are high (>2500) over GWB and adjoining Jharkhand and moderately high (1500-2500) all along the Indian coast, especially in the afternoon. However, TTI Index indicates high probability of thunderstorm occurrence also over Northwest and west Indian plains and is highest in the afternoon hours. Atmospheric Shear values (850-200 hPa) are very high over Northeast and east India on day 1 and 2 and over the southern peninsula in the afternoon on day 2. Reflectivity values from IMD WRF model indicate high probability of convection over east and east peninsular India on day 1.

o Synoptic analysis indicates that there is a cyclonic circulation over central parts of north Madhya Pradesh and adjoining south Uttar Pradesh in the lower levels. There is also a cyclonic circulation in the middle levels over West Bengal and adjoining Bangladesh. Synoptic analysis also indicates a trough at lower levels from north Madhya Maharashtra to Rayalaseema. There is also an east-west trough from southwest Rajasthan to Jharkhand across Madhya Pradesh and Chhattisgarh in the lower levels. ECMWF and IMD GFS deterministic model also indicate the existence of both the circulations. Moisture from the Arabian Sea will be pumped into the peninsular and east Indian region to the east of the trough. The anticyclone over the Bay will also pump moisture into the south east peninsular Indian region. This likely to result in widespread thunderstorm activity over the east, northeast, central and east peninsular Indian region on day 1.

o On day 2, the models indicate that both the circulations are likely to persist. However, the circulation over north Madhya Pradesh is likely to move southwards. This will result in continuation of widespread thunderstorm activity over the East and Northeast and east peninsular Indian region on day 2.

24 hour Advisory for IOP:

Significant Rainfall:

Gangetic West Bengal, NE Jharkhand, Assam, Meghalaya

Thunderstorm with squall or gusty winds:

Uttarakhand, South-east Uttar Pradesh,
Gangetic West Bengal,
Rayalaseema, Telangana, Coastal Andhra Pradesh, Interior Karnataka,
Madhya Maharashtra, Marathwada,
Madhya Pradesh, Vidarbha, Chhattisgarh,
Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura

Thunderstorm with squall and hail

Sub Himalayan West Bengal, Bihar, Odisha, Jharkhand

Thunderstorm/Duststrom:

Nil

48 hour Advisory for IOP:

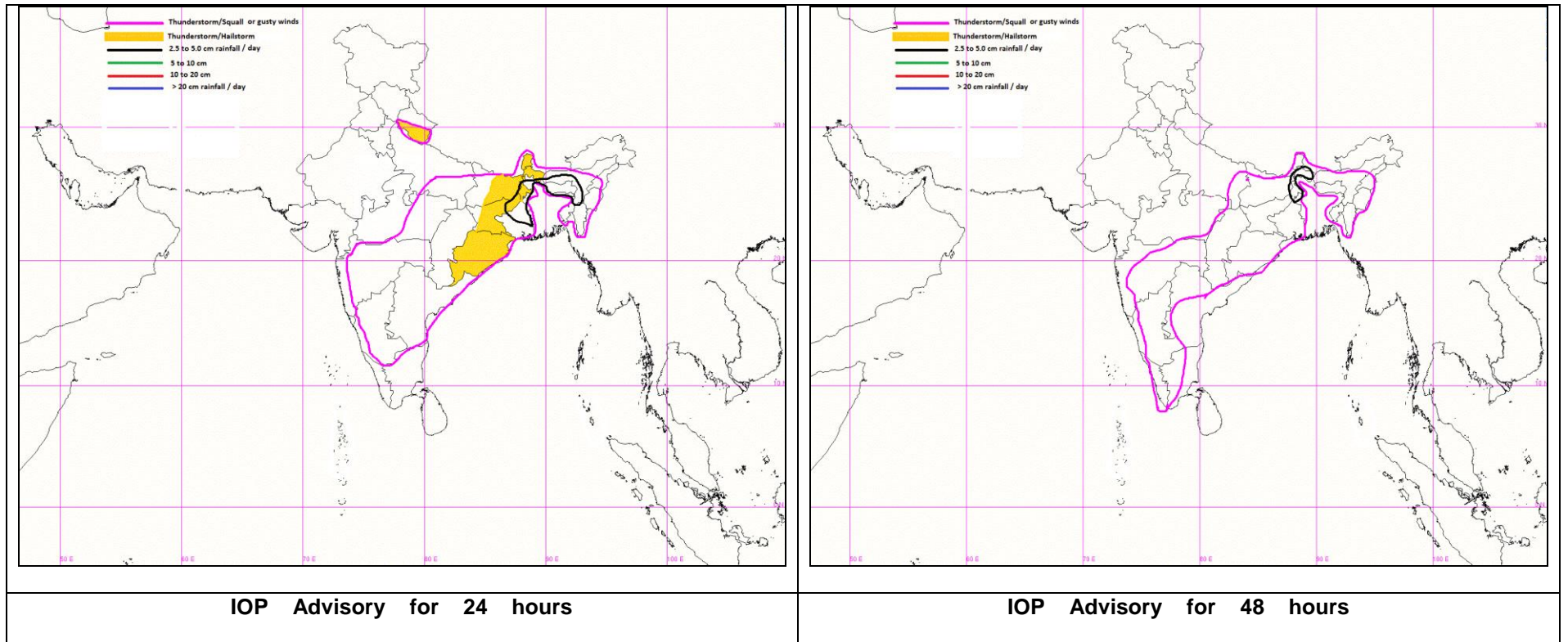
Significant Rainfall:

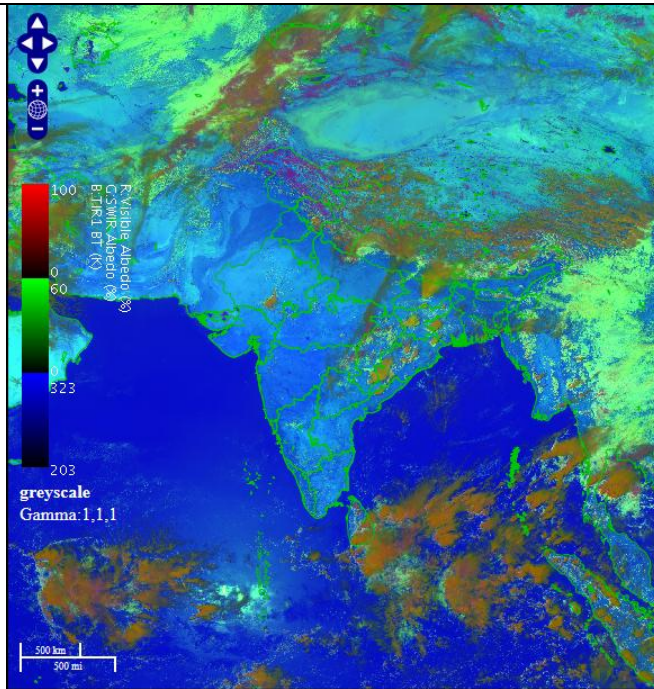
Sub Himalayan West Bengal

Thunderstorm with squall or gusty winds:

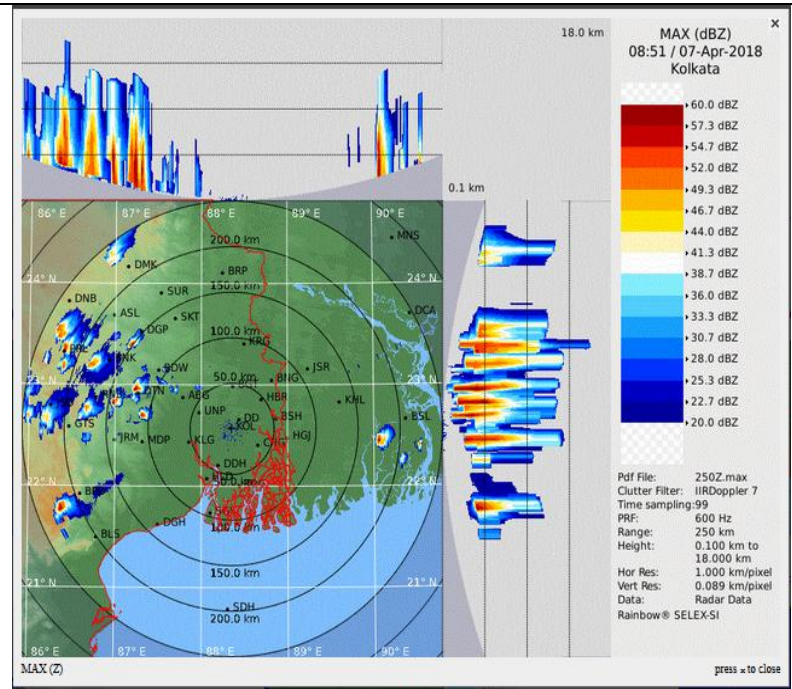
Sub Himalayan West Bengal, Gangetic West Bengal, Bihar, Odisha,
Jharkhand
South-east Uttar Pradesh
Assam, Meghalaya, Nagaland, Manipur, Mizoram and Tripura
Interior Karnataka, Kerala, Tamilnadu, Telangana
Madhya Maharashtra, Marathwada,
Vidarbha, Chhattisgarh,

Graphical Presentation of Potential Areas for Severe Weather:

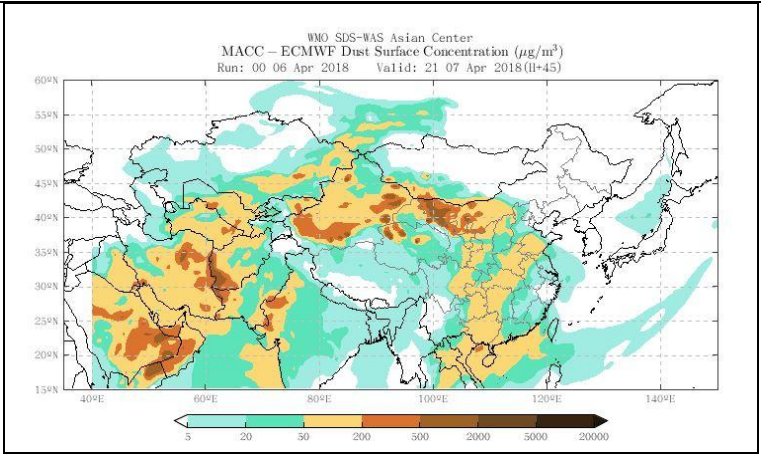




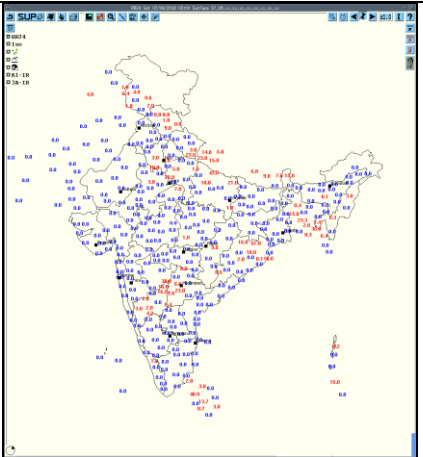
RAPID RGB Imagery at 1330 IST of the Day



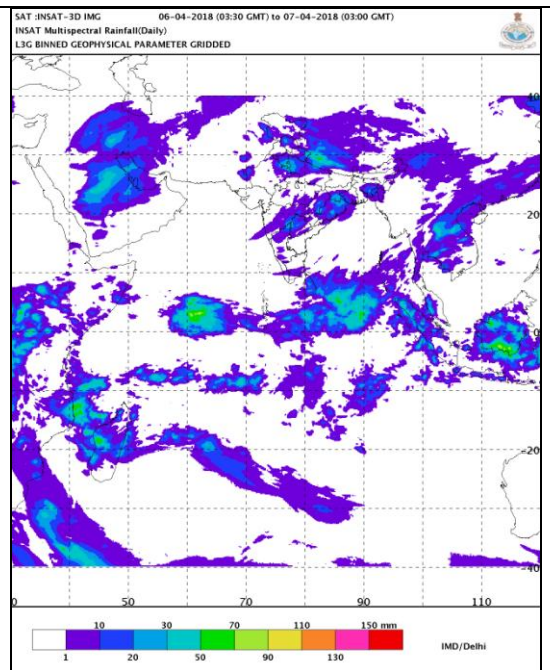
DWR Kolkata at 1421 IST of the Day



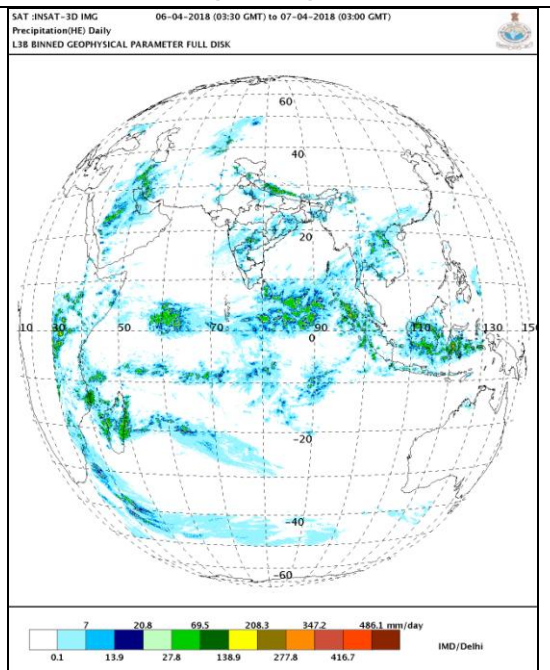
Dust Forecast



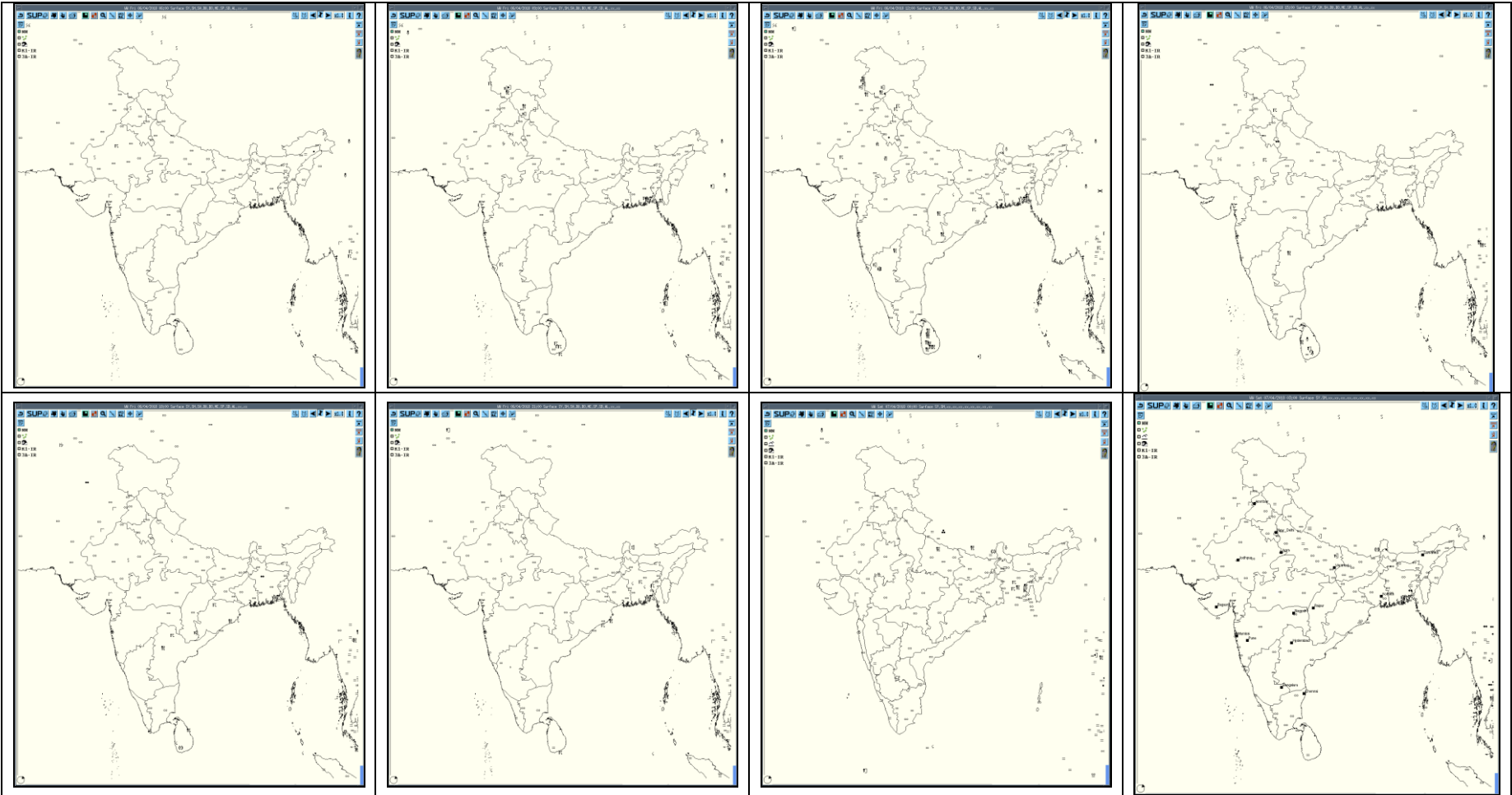
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



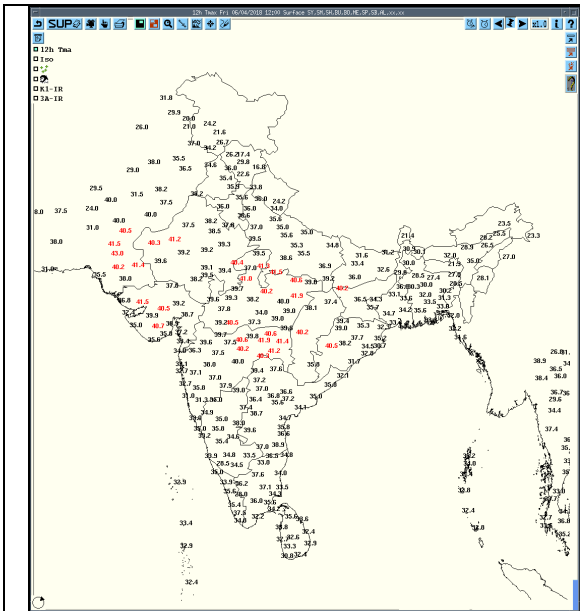
IMR



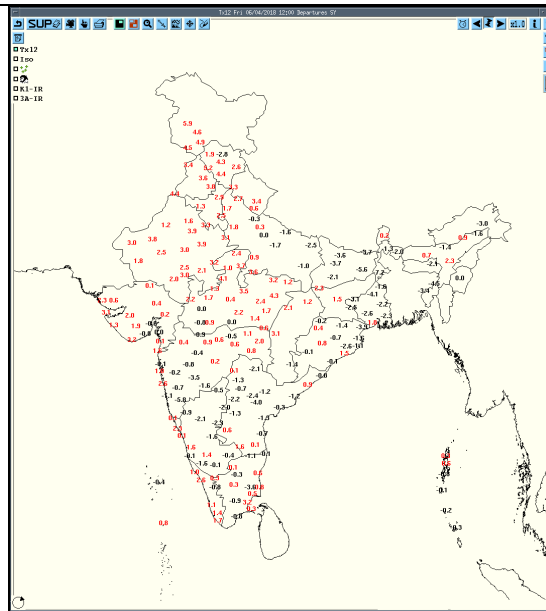
HEM



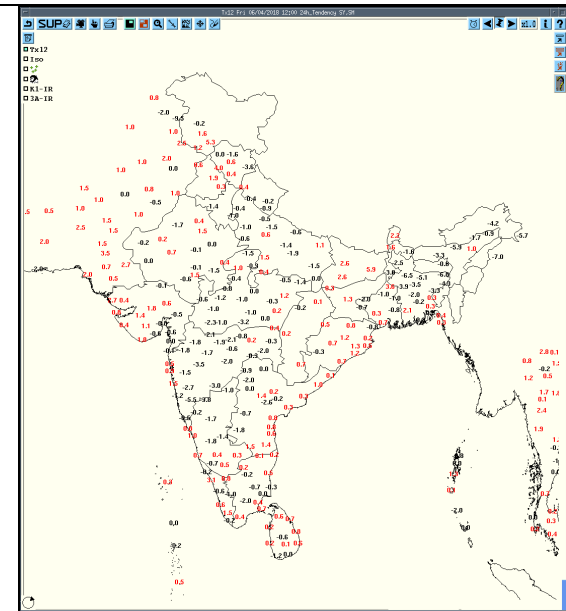
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



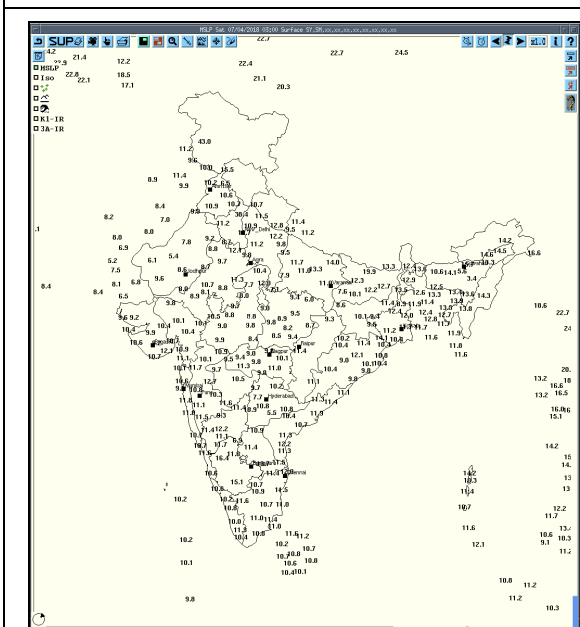
Tmax



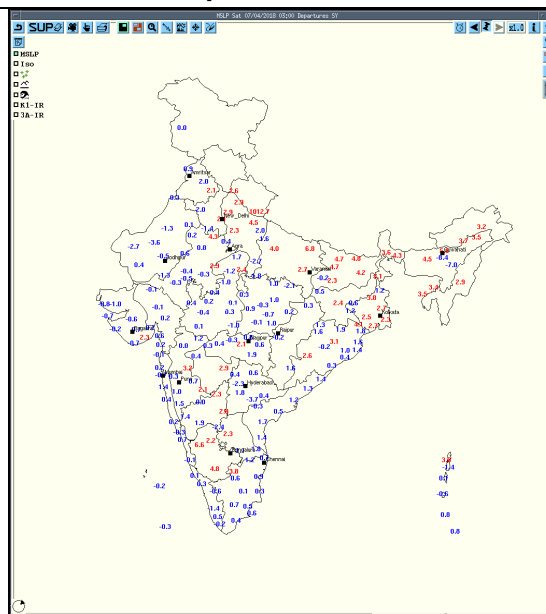
Departure Tmax



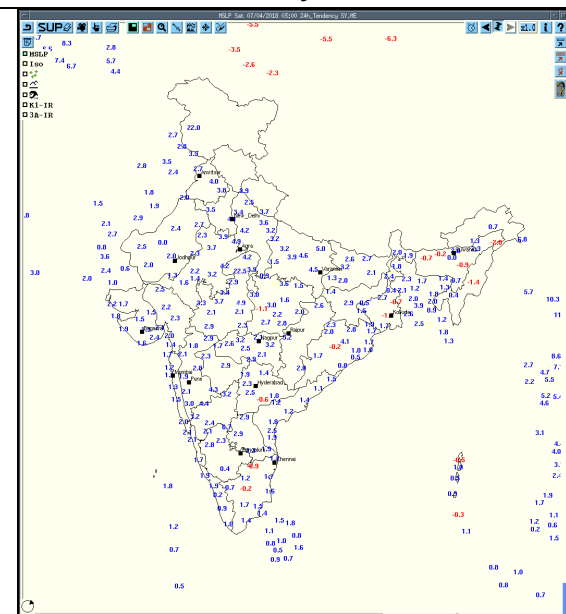
Tendency Tmax



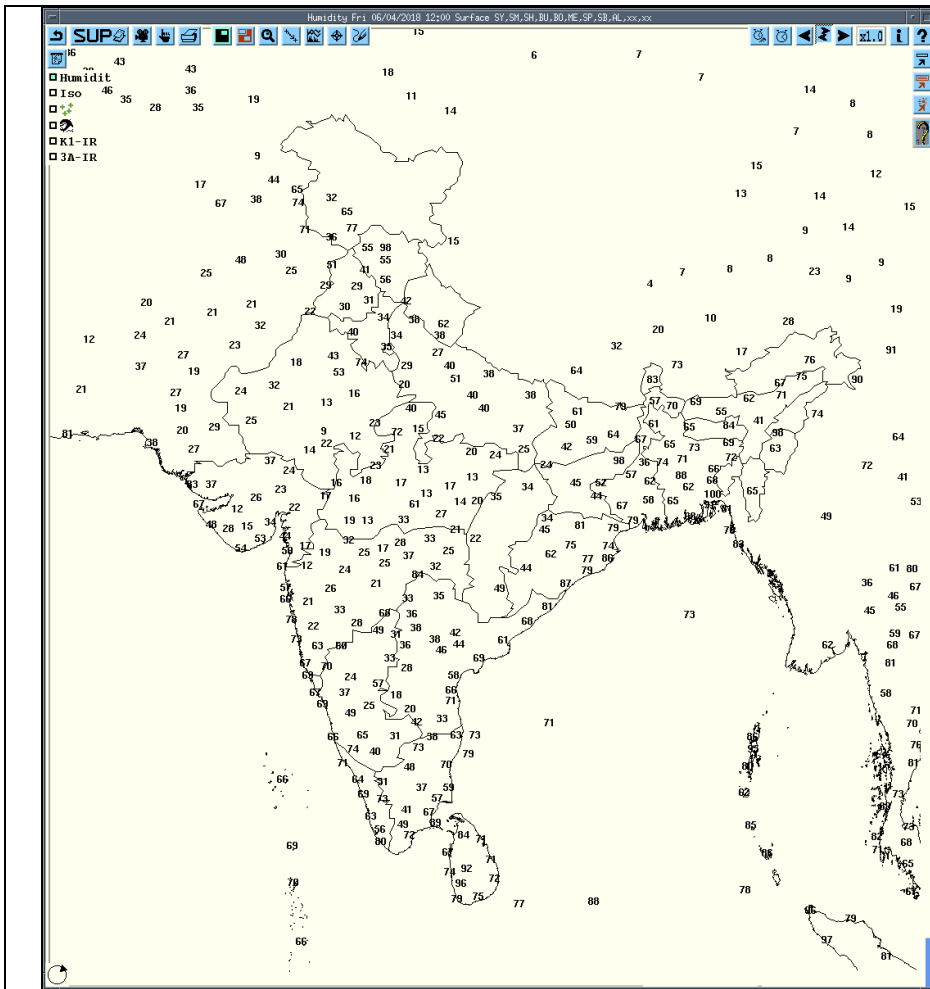
MSLP



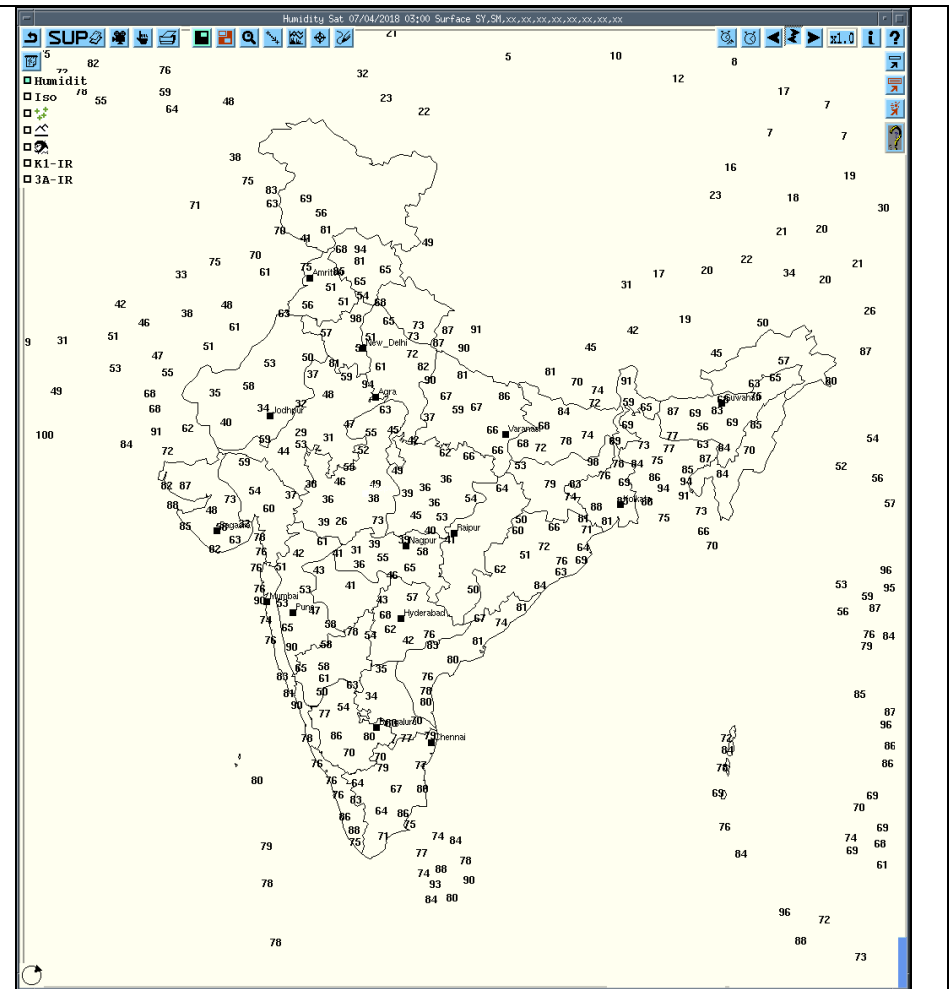
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

Past 24 hours DWR Report:

DWR Station Name	Date of Report	Time Interval of Observation	Organisation of cells (Isolated single cells/multiple cells/convective regions /squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated Severe Weather if any	Districts affected
Jaipur	07-04-18	0732 to 2112 UTC	Multiple cell with average height of 7.5 km & maximum reflectivity 62.00 dBZ	Multiple cell develop from 0732 UTC of 06/04/2018 towards W, NW, N, NE, E SW of Jaipur and moved to E, NE Wards at speed 20-25 km/hr	Multiple cell develop from 0732 UTC 06/04/2018 towards W, NW, N, NE, E, SW of Jaipur and reaches maximum reflectivity during 09:02 to 12:32 UTC of 06/04/2018 and died down at 2112 UTC.	Hailstorm/ Thunder storm with Light rain at a isolated places	Jaipur, Tonk, Ajmer, Alwar, Sikar, Nagaur, Bharatpur, Churu, Jhunjhunu, Dausa Karauli, Bhilwara, Dholpur Districts.
Agartala	07-04-18	060300 to 070300	MLTPL CELLS FORMING SQUALL LINE OVER BLN & SBR AT 060412Z, 57 DBZ, 14KMS	90-110 Kms SSE, 30 kmph SE'ly	Dissipated over South Coastal B'DESH	+TSRA	SOUTH TRIPURA
			MLTPL CELLS FORMING SQUALL LINE OVER BLN & UDP AT 060632Z, 57DBZ, 11 KMS	50-80 Kms SE, 30 Kmph, E'ly.	Dissipated over MIZO hills near LNP @061022z	+TSRA	GOMATI & SOUTH TRP
			SQUALL LINE FORMATION OVER SOUTH B/DESH @ 061042Z, 60DBZ, 15KMS	110 kms, S, 30 kmph NE-LY.	DISSIPATED OVER BLN & SBR @061242Z	+TSRA	SOUTH TRP
			MULTIPLE CELLS STRETCHING FROM DHAKA(BD) TO UDP FOUND OVER B/DESH @	50-60 KMS, E TO SE, 25KMPH, SE-LY	DISSIPATED OVER UDP & BLN @070300Z	+TSRA	GOMATI & SOUTH TRP
DWR KOLKATA	06-04-18	0301-2351 UTC	NIL	NIL	NOSIG ECHO	NIL	NIL
	07-04-18	0001 – 0301 UTC	NIL	NIL	NOSIG ECHO	NIL	NIL

Realised past 24hrs TS/SQ/HS Data:

Realised TS/HS/SQ during past 24 hours ending at 0300UTC of today(received from RMCs/MCs)						
Name of Station Reporting	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Pantnagar	Northwest India	Uttarakhand	Thunderstorm	06-04-18	2115	2300
Pantnagar	Northwest India	Uttarakhand	Hail	06-04-18	2145	2150
Mukteshwar	Northwest India	Uttarakhand	Thunderstorm	06-04-18	1950	2040
Tehri	Northwest India	Uttarakhand	Thunderstorm	06-04-18	1450	1620
Sikar	Northwest India	East Rajasthan	Thunderstorm	06-04-18	1630	1730
Jaipur	Northwest India	East Rajasthan	Thunderstorm	06-04-18	1715	2115
Pilani	Northwest India	East Rajasthan	Thunderstorm	06-04-18	1515	1645
Vanasthali	Northwest India	East Rajasthan	Thunderstorm	06-04-18	1900	1930
Bikaner		West Rajasthan	Thunderstorm	06-04-18	1050	1130
Churu	Northwest India	West Rajasthan	Thunderstorm	06-04-18	1500	180
Gwalior	Central India	East MP	Thunderstorm	06-04-18	1520 2120 2350	1650 2240 0045
Hissar	Northwest India	Haryana	Thunderstorm	06-04-18	1600	1630
Raipur	Central India	Chhattisgarh	Thunderstorm	06-04-18	0530	1930
Ambikapur	Central India	Chhattisgarh	Thunderstorm	06-04-18	1640	1700
Jagdalpur	Central India	Chhattisgarh	Thunderstorm	06-04-18	1700 2240	1930 2300
Bilaspur	Central India	Chhattisgarh	Thunderstorm	06-04-18	1630	1740
Nizamabad	South India	Telangana	Thunderstorm	06-04-18	2030	2130
Ramagundam	South India	Telangana	Thunderstorm	06-04-18	2300	0030
Hyderabad	South India	Telangana	Thunderstorm	06-04-18	1930	2400
Mahabubnagar	South India	Telangana	Thunderstorm	06-04-18	2045	2100
Kukernag	Northwest India	Jammu & Kashmir	Thunderstorm	06-04-18	1245 1540	1255 1620
Banihal	Northwest India	Jammu & Kashmir	Thunderstorm	06-04-18	1313 1510	1400 1540
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	06-04-18	1318 1710	1450 1925
Batote	Northwest India	Jammu & Kashmir	Hail (Diameter:1.0 cm)	06-04-18	1320	1321
Bhaderwah	Northwest India	Jammu & Kashmir	Thunderstorm	06-04-18	1530	1630
Safdarjung	Northwest India	Delhi	Thunderstorm	06-04-18	1745	1940
Palam	Northwest India	Delhi	Thunderstorm	06-04-18	1715	2040

Realised TS/HS/SQ during past 24 hours ending at 0300UTC of today(received from RMCs/MCs)						
Name of Station Reporting	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Gangtok	East India	Sikkim	Thunderstorm	06-04-18	1435	1440
Bhubaneswar	East India	Odisha	Thunderstorm	06/07-04-18	2242 0145	0030 0230
Jharsuguda	East India	Odisha	Thunderstorm	06-04-18	2310	2340
Paradeep	East India	Odisha	Thunderstorm	06-04-18	2350	0230
Puri	East India	Odisha	Thunderstorm	07-04-18	0200	0225
Keonjhar	East India	Odisha	Thunderstorm	06-04-18	1510 1915	1800 2200
Port Blair	Andaman & Nicobar	Andaman & Nicobar	Thunderstorm	06-04-18	1118 1255	1135 1400
Belagavi Airport	Karnataka	NIK	Thunderstorm	06-04-18	1420	1730
Belagavi Airport	Karnataka	NIK	Hail (Diameter: 0.5 cm)	06-04-18	1535	1540
Gadag	Karnataka	NIK	Thunderstorm	07-04-18	0245	0415
Kalaburgi	Karnataka	NIK	Thunderstorm	06/07-04-18	1700 1930 2200	1740 2100 0200

IMPORTANT LINKS:

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 RANDHRA PRADESHID tool:

http://rAndhra_Pradeshid.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

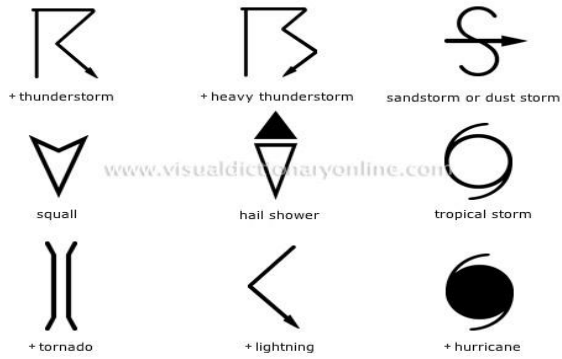
For Radar images of the past 24 hours including mosaic of images:

http://ddgmu.iimd.gov.in/dwr_img/

Satellite sounder based T- Phigram

http://satellite.imd.gov.in/mAndhra_Pradesh_skm2.html

WEATHER SYMBOLS:



∞	haze
☁	smoke
☁	dust or sand storm
☁	fog
☁	drizzle
•	rain
*	snow
▽	showers
△	hail
⚡	thunderstorm
Weather Symbols	