



India Meteorological Department

FDP STORM Bulletin No. 50 (25-04-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

- ◆ The remnant Western Disturbance as a trough roughly along longitude 88°E to the north of latitude 25°N at 5.8 km above mean sea level persists.
- ◆ The Western Disturbance as a trough in midtropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along longitude 64°E to the north of latitude 35°N.
- ◆ A cyclonic circulation lies over West Uttar Pradesh & neighbourhood at 0.9 km above mean level.
- ◆ A trough from the above cyclonic circulation to South Konkan & Goa across West Madhya Pradesh and Marathawada at 0.9 km above mean level.
- ◆ The cyclonic circulation over SubHimalayan West Bengal & neighbourhood now lies over West Bengal & neighbourhood extending upto 0.9 km above mean level.
- ◆ The northsouth wind discontinuity now runs from Telangana to south Kerala across Interior Karnataka at 1.5 km above mean sea level.
- ◆ The cyclonic circulation over Comorin area and adjoining Tamilnadu now extends between 1.5 km & 2.1 km above mean sea level.

SATELLITE OBSERVATIONS during past 24 hrs and current observation:

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

Intense Precipitation Advisory for next 3 hrs:

Heavy rainfall spell (>15 mm/hr) is likely to be over off coast Kerala near Lakshadweep and adjoining Arabian Sea. Moderate rainfall spell (>5 mm/hr) is likely over Nicobar Islands (for details kindly refer to <http://sigma.cptec.inpe.br/scope/>).

Thunderstorm Advisory for Next 3 Hrs:

Thunderstorm cells likely to develop over Nicobar Islands and Southwest of Lakshadweep (for details kindly refer to <http://www.rapid.imd.gov.in/>)

Western Disturbance (WD):

Scattered multi-layered clouds seen over East Afghanistan, north Pakistan & neighbourhood in association with Western Disturbance over the area. Scattered clouds over Arunachal Pradesh associated with remnants of WD.

Clouds descriptions within India:

Scattered low/medium clouds with embedded weak to moderate convection seen over Sub-Himalayan West Bengal, Central Assam, Arunachal Pradesh, South Nagaland and North Manipur. Scattered low/medium clouds with embedded weak convection seen over Kerala, Tamilnadu, South Interior Karnataka, North Coastal Andhra Pradesh, and Lakshadweep. Scattered low/medium clouds seen over rest parts of South India. Isolated low/medium clouds seen over Jammu & Kashmir, North Himachal Pradesh and rest parts of East India except Bihar, Jharkhand, Gangetic West Bengal, Chhattisgarh, Odisha, Tripura, Mizoram and Meghalaya. No significant clouds over West India.

Arabian Sea:-

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

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded isolated moderate to intense convection seen over Nicobar Islands, Southeast Bay south of lat 11.5deg N and South Andaman Sea.

Past Weather:

Convection (during last 24 hrs):

Moderate to Intense convection was observed over Kerala near Lakshadweep South Karnataka Rayalaseema South Chhattisgarh North Coastal Andhra Pradesh Meghalaya Adjoining Assam Nicobar Islands .

OLR:-

Up-to 230wm^{-2} observed over Jammu & Kashmir, Himachal Pradesh Sikkim Arunachal Pradesh Andhra Pradesh South Karnataka Kerala and Nicobar Island.

Synoptic Features:

Westerly Trough: Trough in Westerlies runs roughly along Longitude **65.0E** & north of Latitude **35.0N** and

Another WD over Longitude **89.0E** & north of Latitude **20.0N**

Dynamic Features:

Up to 30- 60 kts **wind shear** is observed over North India, Central India & North East India and 10-15 kts over south peninsula India.

No Shear tendency and low level convergence was observed over India.

Positive Vorticity observed Vidarbha Marathawada Gangetic plains and coastal NE AP and adjoining Orissa

Precipitation:

IMR:

Rainfall up-to 50-70 mm observed over South Karnataka Kerala Rayalaseema & North Coastal Andhra Pradesh .

Rainfall up-to 20-50 mm observed over Rest South Karnataka Kerala & North Coastal Andhra Pradesh .

Rainfall up-to 01-20 mm observed over E Jammu and Kashmir North Uttarakhand South Chhattisgarh South Orissa Sikkim & Meghalaya (.)

HEM :

Rainfall up-to 140 mm observed over South Karnataka & Central Kerala Andhra Pradesh and Nicobar.

Rainfall up-to 15 mm observed over west Assam South Himalayan west Bengal Meghalaya and Arunachala Pradesh

RADAR and RAPID RGB Observation:

Significant isolated/multiple convection is seen over extreme East Jharkhand, South-eastern parts of Sub-Himalayan West Bengal and Northern parts of Rayalaseema adjoining Coastal Andhra Pradesh & Telangana in DWR composite at 1430 IST. Isolated/multiple moderate echoes are seen on DWR Kolkata (max DBZ >55 and height around 10km), Agartala (max DBZ 45-50 and height 10-12km), Machilipatnam (max DBZ 45-50 and height around 10km), Thiruvananthapuram (max DBZ 45-50 and height 12-15km), Srinagar (max DBZ around 45 and height 8-10km) and Hyderabad (max DBZ around 45 and height 6-10km) domains at around 1515 IST.

RAPID RGB Satellite imagery at 1400 IST indicates significant convection over West Assam adjoining Meghalaya, over West Arunachal Pradesh, Sub-Himalayan West Bengal and Sikkim, North Gangetic west Bengal adjoining extreme Jharkhand, South Kerala and Nicobar Islands.

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

Higher Dust concentration was observed over northern Africa, Arab countries and western part of India. Widespread higher concentration of dust is observed over North India. Higher concentration of dust to persist for next two days.

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

Delhi – SAFAR analysis & Forecast	25.04.2018	26.04.2018
PM10 (micro-g/m3)	230	253
PM2.5 (micro-g/m3)	92	102

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

Low level Cycirs, Troughs:

00UTC of Day 1-2: N-S trough over central southern peninsula

00UTC of Day 3-5: NW-SE trough over NW India

00UTC of Day 3: CYCIR over Punjab

Confluence & Wind Discontinuity Regions

12 UTC of Day 1-2: 925 hPa N-S discontinuity over Southern Peninsular India and SW-NE discontinuity over NI Karnataka & Telangana

Synoptic Systems:

12 UTC of Day 0-1: WD as a weak trough over J &K.

00UTC of Day 2-4: Strong southwesterlies from BoB leading over Bangladesh shifting towards Myanmar.

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

3. Convergence at 850 hPa:

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

Day0: Jharkhand, Odisha, Madhya_Maharashtra, Coastal_AP, TN_Puducherry, NI_Karnataka, SI_Karnataka,

Day1: Gangetic_WB, Jharkhand, West_MP, East_MP, Madhya_Maharashtra, Vidarbha, SI_Karnataka,

Day2: Gangetic_WB, Jharkhand, East_UP, Madhya_Maharashtra, Chhattisgarh, NI_Karnataka, SI_Karnataka,

Day3: Jharkhand, Jammu_Kashmir, Odisha, West_MP, Madhya_Maharashtra, Chhattisgarh, TN_Puducherry, NI_Karnataka, SI_Karnataka,

Day4: Assam_Meghalaya, Bihar, East_RJ, Odisha, Madhya_Maharashtra, TN_Puducherry, NI_Karnataka, SI_Karnataka

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Jharkhand, West_UP, Uttarakhand, Himachal_Pradesh, Odisha,

Day1: Gangetic_WB, Jharkhand, Odisha,

Day2: Gangetic_WB, Jharkhand, Bihar, East_UP, Hry_ChD_Delhi, Punjab, West_RJ, Odisha, East_MP, Coastal_AP, NI_Karnataka,

Day3: Gangetic_WB, Jharkhand, Bihar, Odisha, Madhya_Maharashtra, Chhattisgarh, Coastal_AP, NI_Karnataka,

Day4: Assam_Meghalaya, Gangetic_WB, Jharkhand, Bihar, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir

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, Bihar, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Coastal_AP, Rayalseema, TN_Puducherry, Coastal_Karnataka, SI_Karnataka, Kerala,

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, Uttarakhand, Jammu_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal_AP, TN_Puducherry, Kerala,

Day2: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Chhattisgarh, Coastal_AP, TN_Puducherry, SI_Karnataka, Kerala,

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Coastal_AP, TN_Puducherry, SI_Karnataka, Kerala,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Saurashtra_Kutch, Chhattisgarh, Coastal_AP, TN_Puducherry, 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, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, Odisha,

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal_AP, Telangana,

Day2: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_ChD_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal_AP, Telangana,

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_ChD_Delhi, Himachal_Pradesh, Jammu_Kashmir, Odisha, East_MP, Vidarbha, Chhattisgarh, Coastal_AP,

Day4: Arunachal_Pradesh, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal_AP

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

Day/Index: Subdivisions with K Index > 40

Day0: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Uttarakhand, Himachal_Pradesh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, SI_Karnataka, Kerala,

Day1: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Gangetic_WB, Uttarakhand, Jammu_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, SI_Karnataka, Kerala,

Day2: Arunachal_Pradesh, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Jammu_Kashmir, Odisha, Chhattisgarh, Coastal_AP, Telangana, TN_Puducherry, SI_Karnataka, Kerala,

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, East_UP, West_UP, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Chhattisgarh, Coastal_AP, TN_Puducherry, SI_Karnataka, Kerala,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Himachal_Pradesh, Odisha, Chhattisgarh, Coastal_AP, TN_Puducherry, SI_Karnataka, Kerala

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Arunachal_Pradesh, Jammu_Kashmir, Andaman_Nicobar, SI_Karnataka, Kerala,

Day2: Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Bihar, Jammu_Kashmir, Odisha,

Day3: Assam_Meghalaya, Sub_Himalayan_WB, Gangetic_WB, Bihar, Jammu_Kashmir,

Day4: Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar,

Day5: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB,

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

1. Synoptic Systems:

The analysis based on 00 UTC indicates a cyclonic circulation over GWB and adjoining areas in lower troposphere (925hPa). The forecast shows it will become less marked in next 24 hours. The analysis shows another cyclonic circulation in lower troposphere over west Uttar Pradesh and adjoining areas. The forecast shows it will persist till day3. A North- South Trough extends from this cyclonic circulation up to Konkan and Goa across west Madhya Pradesh and Marathawada. The forecast shows south-eastward shift of the trough till day4. A feeble cyclonic circulation is seen

in the analysis over North Pakistan and adjoining areas. Another Trough is seen in the analysis extending from Telangana to south Kerala across south interior Karnataka. The forecast shows the trough will persist for next 72 hour.

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):

Low level Positive Vorticity is seen mostly along the North South Trough during Next 3 days; It is Inferred that North West Rajasthan, adjoining Punjab, Himachal Pradesh, Uttarakhand, some parts of North Haryana and adjoining areas has Positive Vorticity on day 1; Punjab, Haryana, West Uttar Pradesh and adjoining northern parts of Madhya Pradesh on day 2 and 3.

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 is seen over parts of Gujarat, coastal areas of Gangetic West Bengal and Kolkata, parts of Orissa, Bihar, Jharkhand, East Uttar Pradesh, south west Rajasthan, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Karnataka, Tamil Nadu, coastal Maharashtra including Mumbai, Konkan & Goa, Vidarbha, Chhattisgarh, coastal areas along the east coast and west coast, Sikkim, Assam, Meghalaya, Tripura and adjoining area, SHWB on all 3 days; over parts of East Madhya Pradesh on day 1; over parts of west Uttar Pradesh and East Rajasthan on day 2 and 3; Maximum value of the index is seen over parts of GWB, Orissa, Bihar, Jharkhand, Chhattisgarh, Telangana, Gujarat, Andhra Pradesh, coastal Maharashtra, coastal Tamil Nadu and SHWB on all 3 days; over parts of East Uttar Pradesh, Tripura and adjoining areas, Vidarbha and south west Rajasthan on day 2; over parts of Vidarbha, East Uttar Pradesh, Tripura and adjoining areas, East Madhya Pradesh and south west Rajasthan on day 3.

Lifted Index (< -2): The threshold value of the index is below -2 over parts of Gujarat, East Uttar Pradesh, Bihar, Jharkhand, Andhra Pradesh, Karnataka, Telangana, Rayalaseema, Konkan and Goa, Kerala, Tamil Nadu, southern part of west coast, coastal areas along the east coast, Chhattisgarh, Vidarbha, Orissa, GWB, SHWB, Sikkim, Assam, Arunachal Pradesh, Meghalaya, Tripura and adjoining areas on all 3 days; over parts of East Madhya Pradesh on day 1; over parts of south west Rajasthan on day 2; over parts of west Uttar Pradesh, Uttarakhand, west Rajasthan and East Madhya Pradesh on day 3; maximum negative value of the index less than -10 is seen over parts of Orissa, Jharkhand and GWB on day 1; over parts of Bihar, Jharkhand, GWB, SHWB, Orissa, coastal Andhra Pradesh, Tripura and adjoining areas on day 2 and 3.

Total Total Index (> 50): The threshold value of the index is > 50 is seen over parts of J&K, Himachal Pradesh, Uttarakhand, Sikkim, NE states, GWB, Orissa, Chhattisgarh, Vidarbha, Andhra Pradesh, Telangana, Bihar, Jharkhand and East Madhya Pradesh during next 3 days; over parts of Punjab on day 1; over parts of east Uttar Pradesh on day 2; over parts of east and west Uttar Pradesh, Foothills of Himalaya, Punjab, Haryana, Delhi, Rajasthan, east and west Madhya Pradesh on day 3; maximum value of the index >60 is seen over parts of Orissa, GWB, Bihar and Jharkhand on day 2 and 3; over parts of East Uttar Pradesh, Tripura and adjoining areas on day 3.

Sweat Index (> 300): Although the threshold value of the Index >300 is seen in most parts of the country except central parts of Madhya Pradesh, Northern parts of Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh, northern parts of Chhattisgarh, west Vidarbha, Northern parts of Madhya Maharashtra and Marathawada on day 1 and 2; over most of the part of country except some parts of Punjab, extreme northwest Rajasthan and

west Vidarbha on day 3; maximum value of the index greater than 800 is seen over parts of Bihar, GWB, Orissa and Jharkhand for next 3 days; over parts of Andhra Pradesh, SHWB, Tripura and adjoining areas on day 2 and 3; over some parts of north Chhattisgarh on day 3.

CAPE (> 1000): Mostly in areas of southern peninsular India, along west coast and east coast, parts of Orissa, Andhra Pradesh, Telangana, Rayalaseema, Kerala, Tamil Nadu, Karnataka, coastal Maharashtra including Mumbai, Gujarat, Konkan and Goa, Bihar, Jharkhand, Chhattisgarh, GWB, SHWB, Sikkim, Assam, Meghalaya, Tripura and adjoining areas during next 3 days; over parts of Vidarbha and Telangana on day 1; over parts of Chhattisgarh, East Uttar Pradesh and south west Rajasthan on day 2; over parts of East and west Uttar Pradesh, west Rajasthan, Chhattisgarh and Telangana on day 3; Maximum value of the index greater than 2500 is seen mostly over parts of GWB, coastal Orissa, coastal Andhra Pradesh, Coastal Tamil Nadu and coastal Kerala during next 3 days; over parts of Bihar, Jharkhand, SHWB, Tripura and adjoining areas 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 Punjab, extreme North Rajasthan, Madhya Pradesh, west Vidarbha, Madhya Maharashtra, Marathawada, Himachal Pradesh, Uttarakhand, Haryana, Delhi and north Chhattisgarh on day 1 and 2; over most of the part of country except J&K, Himachal Pradesh, Punjab, North west Rajasthan, central part of Madhya Pradesh, north Madhya Maharashtra and Marathawada on day 3; maximum value of the index greater than 400 is seen over parts of Gujarat and South West Rajasthan on day 1; over parts of Gujarat, south west Rajasthan, north coastal Maharashtra, Bihar, Jharkhand, Chhattisgarh, Karnataka on day 2; over parts of Gujarat, southwest Rajasthan, coastal Karnataka, west Uttar Pradesh, Chhattisgarh, Telangana, GWB, SHWB, Bihar, Jharkhand and coastal Maharashtra on day 3.

5. Rainfall Activity:

10- 40 mm Rainfall: over parts of Sikkim, NE states, Kerala and Tamil Nadu during next 3 days; over parts of J&K, Uttarakhand and Karnataka on day 1; over parts of GWB on day 2; over parts of Himachal Pradesh, GWB, Orissa and Foothills of Himalaya on day 3.

Up to 10 mm rainfall: Over parts of J&K, Foothills of Himalaya, Himachal Pradesh, Uttarakhand, Sikkim, NE states, Orissa, Andhra Pradesh, Kerala, Karnataka, Tamil Nadu, Bihar, Jharkhand, Chhattisgarh and Telangana during next 3 days; over parts of East Uttar Pradesh on day 2; over parts of Punjab, Haryana, Delhi, Rajasthan and Uttar Pradesh on day 3.

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

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

Over parts of J&K, GWB, Orissa, Kerala, Tamil Nadu, Sikkim, Assam, Arunachal Pradesh, Tripura and adjoining areas on day 1; over parts of J&K, Jharkhand, Orissa, Sikkim, Assam, Arunachal Pradesh, Tripura and adjoining areas on day 2; over parts of J&K, Himachal Pradesh, Uttarakhand, GWB, Orissa, Jharkhand and Bihar on day 3; maximum value of the Model reflectivity is seen over parts of GWB, Orissa, Assam, Meghalaya, Tripura and adjoining areas on day 1; over parts of North Bihar 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, extreme southern parts of west coast and the east coast, southern parts of Karnataka, Konkan and Goa, Kerala and Tamil Nadu during the next 3 days; below threshold value is seen over some parts South Madhya Maharashtra, Telangana, Sikkim and NE states on day 1; over some parts of Assam on day 2; over some parts of North Bihar and North East Uttar Pradesh on day 3; the maximum value of the index is seen over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Rajasthan, Madhya Pradesh, Uttar Pradesh, Bihar, Jharkhand, GWB, Orissa, Madhya Maharashtra, Marathawada, Vidarbha, Jharkhand, Telangana, Chhattisgarh and Karnataka on day during next 3 days; over parts of Gujarat on day 3.

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, southern parts of Madhya Maharashtra, parts of Bihar, Jharkhand, Chhattisgarh, Vidarbha, Orissa, GWB and Kolkata, SHWB, parts of Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Telangana, Rayalaseema, Extreme south peninsular India and NE states on all 3 days; over some parts of East Uttar Pradesh on day 2 and 3; over some parts of South West Rajasthan on day 2; Maximum value of the index greater than 3500 is seen over the parts of south interior Karnataka, Kerala, Orissa, coastal Andhra Pradesh, GWB and Tamil Nadu on day 1 and 2; over some parts of Telangana on day 1; over parts of Bihar and Jharkhand on day 2; over parts of GWB, Orissa, Andhra Pradesh, Kerala, Bihar and Jharkhand 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 except Haryana, Delhi, North Rajasthan, Madhya Pradesh, North Chhattisgarh, west Vidarbha, North Madhya Maharashtra and Marathawada on day 1 and 2; over most of the parts of country except central parts of Madhya Pradesh and North west Rajasthan on day 3; the maximum value of the index > 400 is seen over parts of Gujarat, south west Rajasthan, Bihar, Jharkhand, GWB, Orissa, Chhattisgarh, Coastal Maharashtra and East Uttar Pradesh during next 3 days; over parts of West Uttar Pradesh, Telangana, East Madhya Pradesh and Andhra Pradesh on day 2; over parts of West Uttar Pradesh, Punjab, Haryana, Delhi, Madhya Pradesh, Telangana and Andhra Pradesh on day 3.

3. Rainfall and thunderstorm activity:

70- 130 mm Rainfall: over some parts of North Bihar on day 3.

40- 170 mm Rainfall: over parts of Tamil Nadu on day 1; over parts of North Bihar on day 3.

10- 40 mm Rainfall: over parts of Sikkim, GWB, Foothills of Himalaya, NE states, Kerala and Tamil Nadu during next 3 days, over parts of J&K, GWB and Orissa on day 1; over some parts of Andhra Pradesh on day 2; over parts of GWB, Jharkhand, Orissa and Bihar on day 3.

Up to 10 mm Rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, Kerala, Tamil Nadu, Karnataka, Orissa, foothills of Himalaya, GWB, Andhra Pradesh, Sikkim and NE states during next 3 days; over parts of Telangana, Rayalaseema and Chhattisgarh on day 1; over parts of Telangana and south Chhattisgarh on day 2; over some parts of East Uttar Pradesh and south Chhattisgarh on day 3.

3. IOP ADVISORY FOR 24 and 48Hrs:

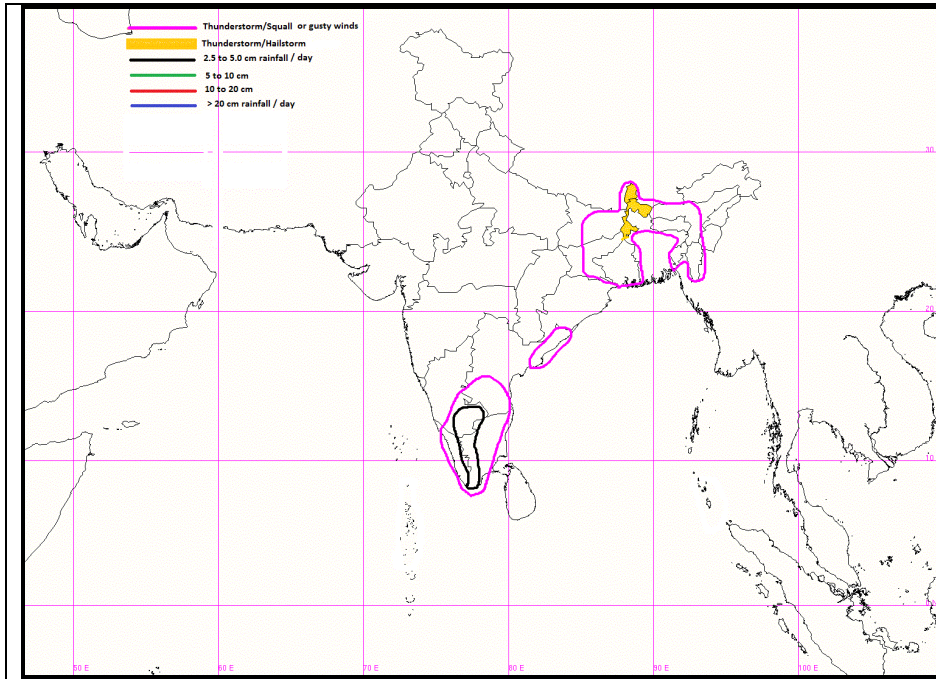
Summary and Conclusions:

- o Most thermodynamic indices (T-STORM Initiation Index, TTI Index, K-Index, Lifted Index, CAPE, CINE) from IMD GFS deterministic model indicate high probability of thunderstorm occurrence along the east coast and south peninsula of India on day 1 and increasing on day 2 over Gangetic West Bengal. SWEAT index, which also accounts for the wind shear between 850 and 500 hPa levels, indicates a maximum probability of thunderstorms over Gangetic West Bengal on day 1, increasing on day 2 over the same region. Reflectivity values from IMD WRF model indicate high probability of convection over Gangetic West Bengal, Sub Himalayan West Bengal, west Assam and Meghalaya and Tripura on day 1. The 850-200 hPa wind shear is decreasing over central India on day 1 and is higher over east India and Northwest India on day 2.
- o Synoptic analysis and NWP models indicate there is a cyclonic circulation over West Bengal & neighbourhood in the lower levels. The radar derived VVP2 winds also indicate a strong southerly component in the wind flow in the lower levels over Gangetic West Bengal and Tripura. Associated thunderstorm activity accompanied by squall winds is expected over Northeast and East India and thunderstorms accompanied by hail is expected over Sub Himalayan West Bengal on day 1. On day 2, the region is likely to continue to be convectively active.
- o There is also a cyclonic circulation over West Uttar Pradesh & neighbourhood and a trough that extends from this circulation to South Konkan & Goa. The north end of the trough is dry today and dust raising winds are expected over Northwest India, including Punjab, Haryana, Uttar Pradesh and North Rajasthan on day 1. ECMWF and IMDGFS deterministic models indicate that on day 2, moisture is likely to start flowing into this region, and thunderstorms/ Duststorm are expected over the region on day 2.
- o There is also a northsouth wind discontinuity in the lower levels from Telangana to south Kerala. There is also a cyclonic circulation over Comorin area and adjoining Tamilnadu in low levels. Associated weather is likely over the south peninsula on day 1. This trough is likely to persist on day 2 and weather over this region will continue on day 2.

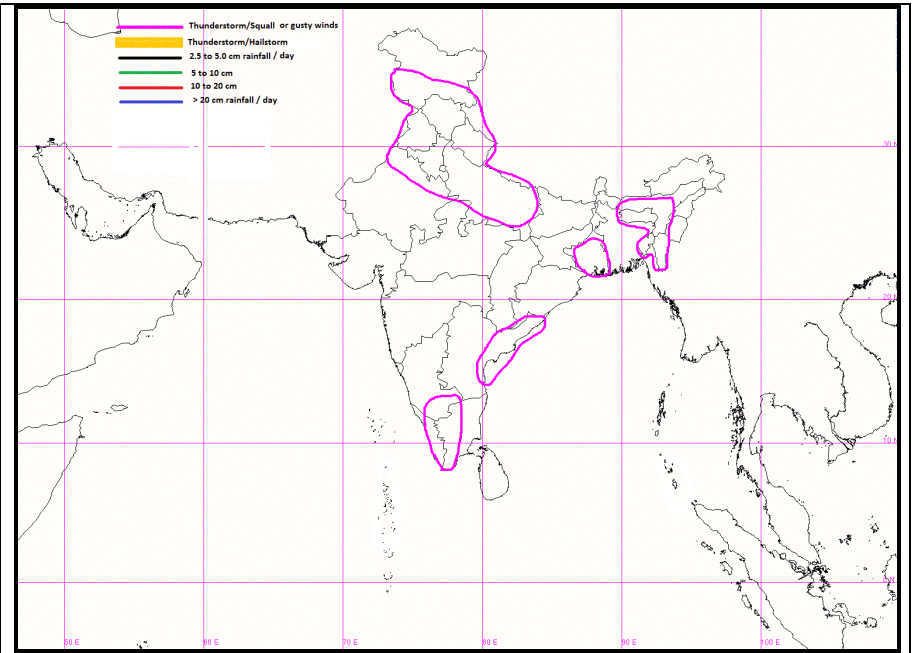
Day-1 & Day-2:

24hour Advisory for IOP:	48hour Advisory for IOP:
<p>Significant Rainfall: South Interior Karnataka, Interior Tamilnadu</p> <p>Thunderstorm with squall or gusty winds: Interior Tamil Nadu, Kerala, South Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema, Gangetic West Bengal, Jharkhand, Bihar, Mizoram, Tripura, South and west Assam and Meghalaya</p> <p>Thunderstorm with squall and hail Sub Himalayan West Bengal & Sikkim</p> <p>Thunderstorm/Duststorm: Nil</p>	<p>Significant Rainfall: Nil</p> <p>Thunderstorm with squall or gusty winds: Interior Tamil Nadu, Kerala, South Interior Karnataka, Coastal Andhra Pradesh, Jammu and Kashmir, Himachal Pradesh, Uttarakhand Punjab, Haryana, Uttar Pradesh, North Rajasthan, Gangetic West Bengal, Assam and Meghalaya, Mizoram and Tripura</p> <p>Thunderstorm with squall and hail Nil</p>

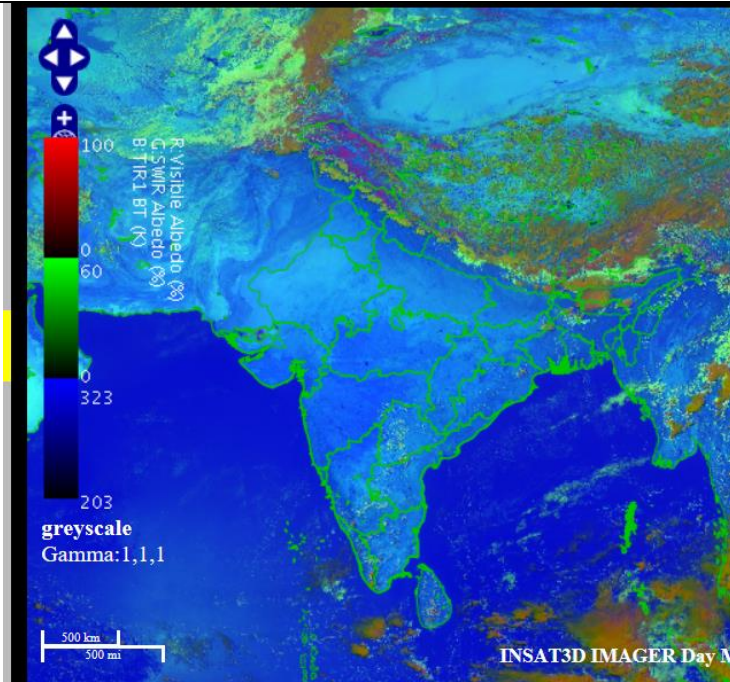
Graphical Presentation of Potential Areas for Severe Weather:



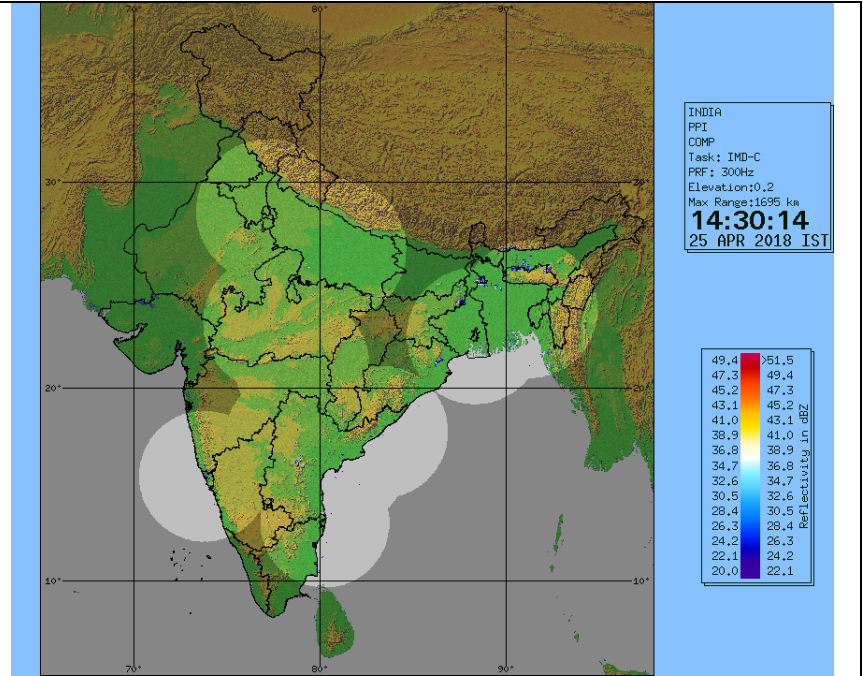
IOP Advisory for 24 hours



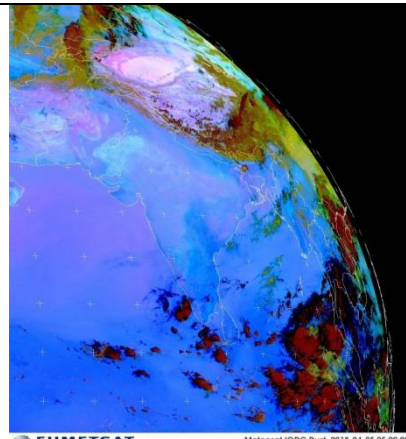
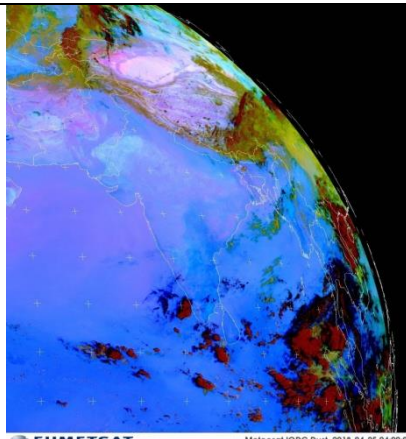
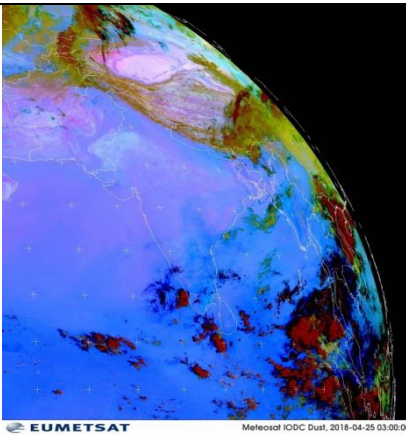
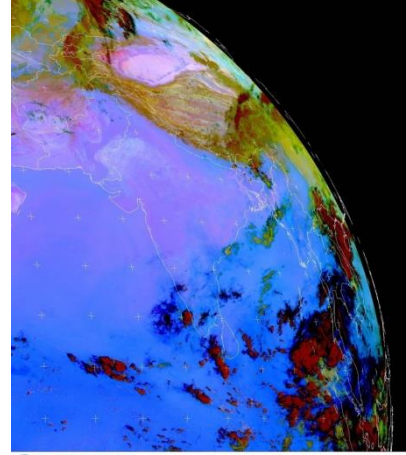
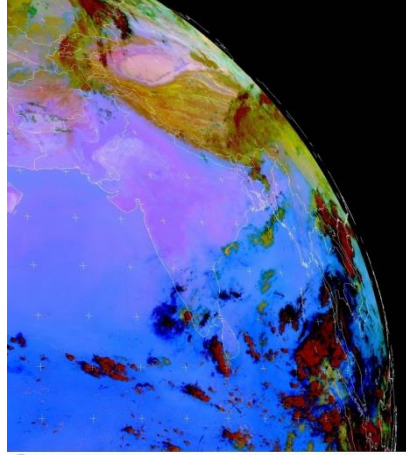
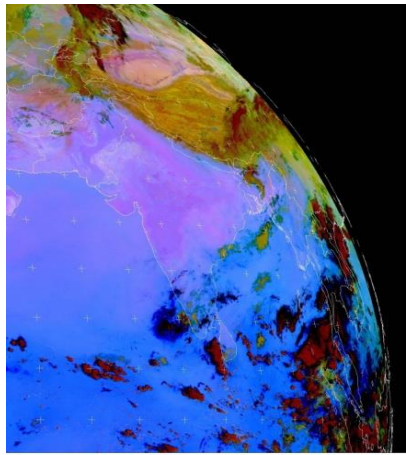
IOP Advisory for 48 hours



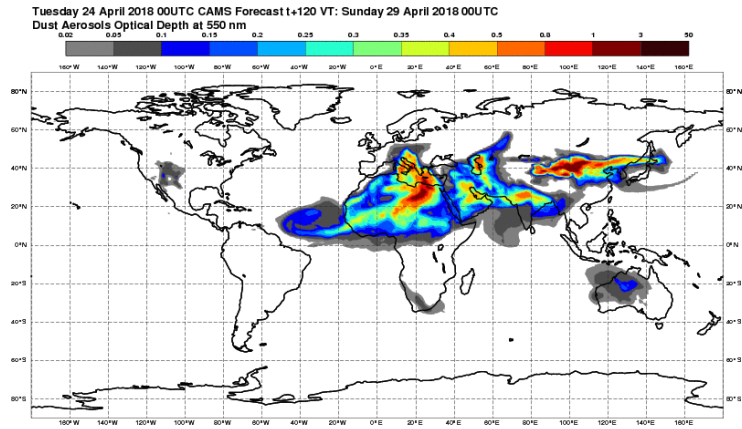
RAPID RGB Imagery at 1400 IST of the Day



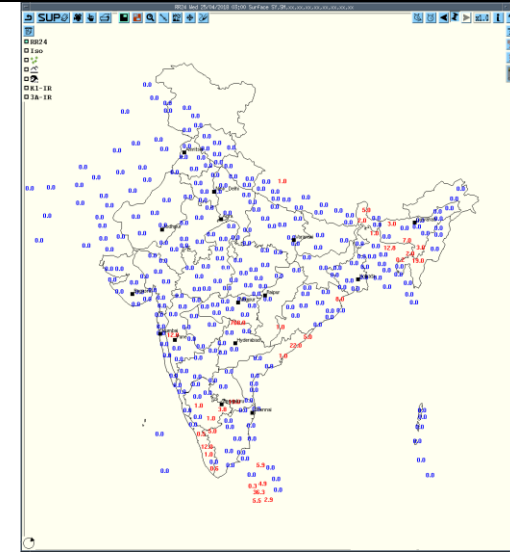
DWR Composite at 1430 IST of the Day



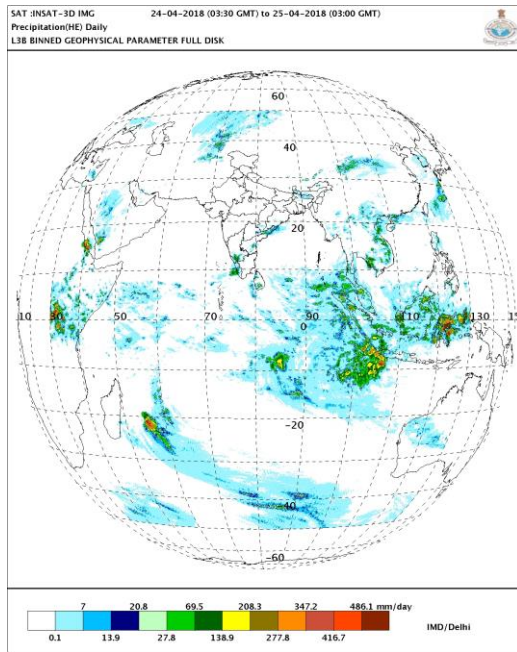
Observed Satellite Dust Images on 25-04-2018



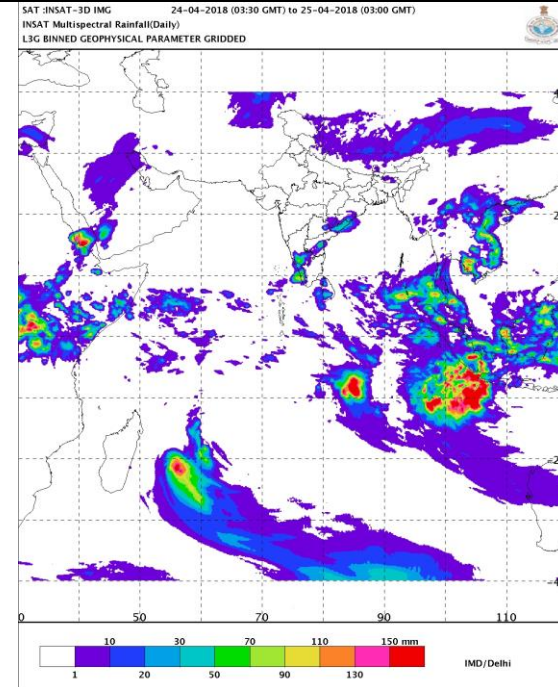
Dust Forecast



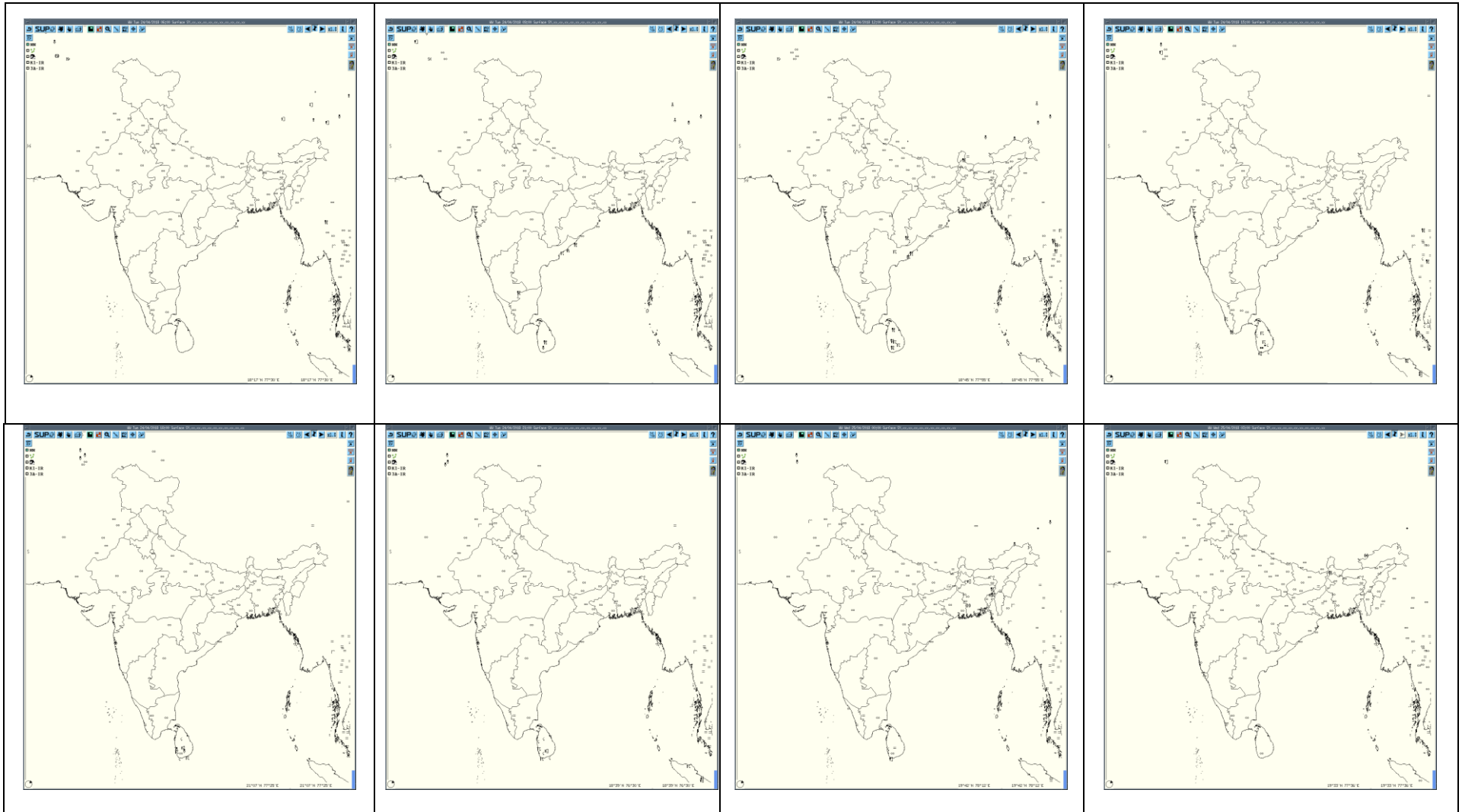
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



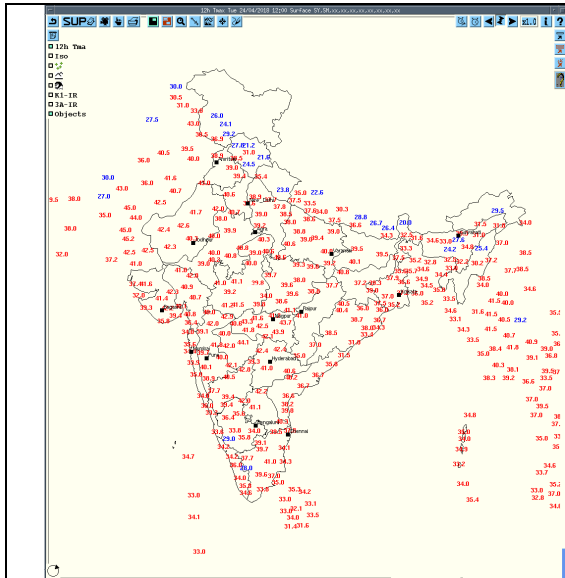
HEM rainfall



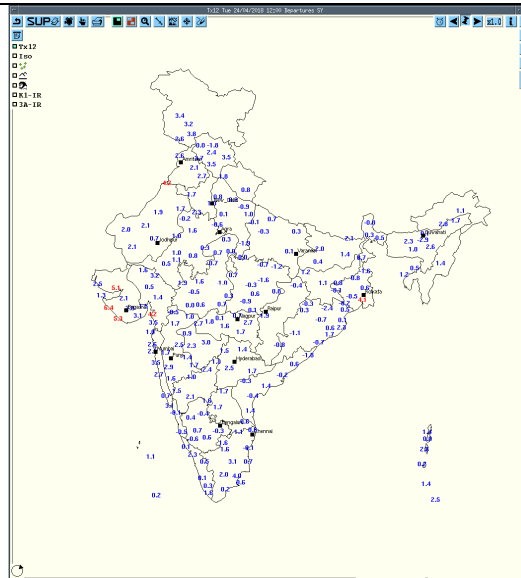
IMR Rainfall



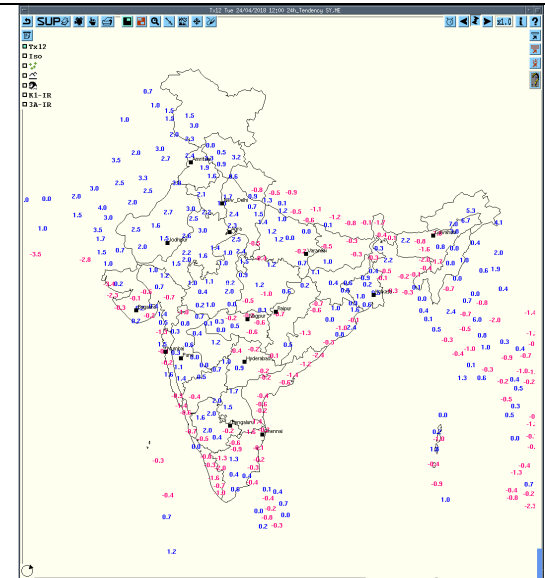
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



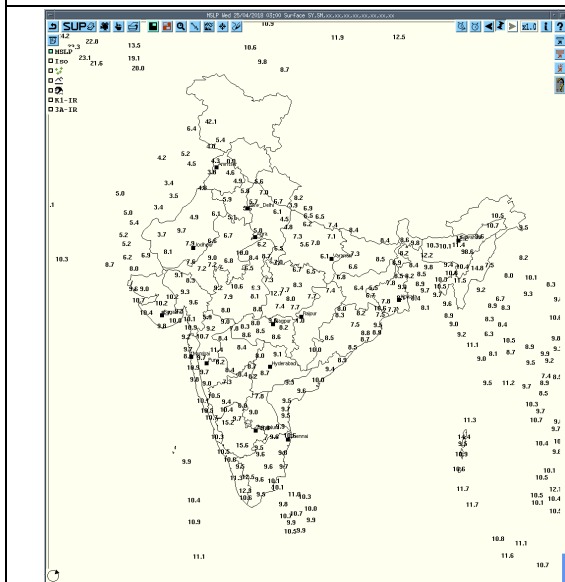
Tmax



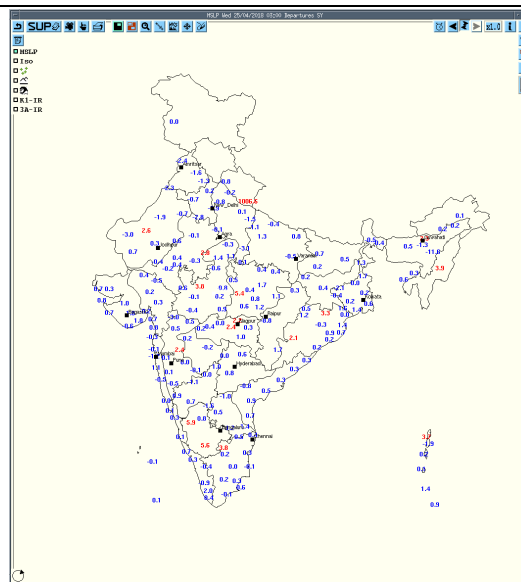
Departure Tmax



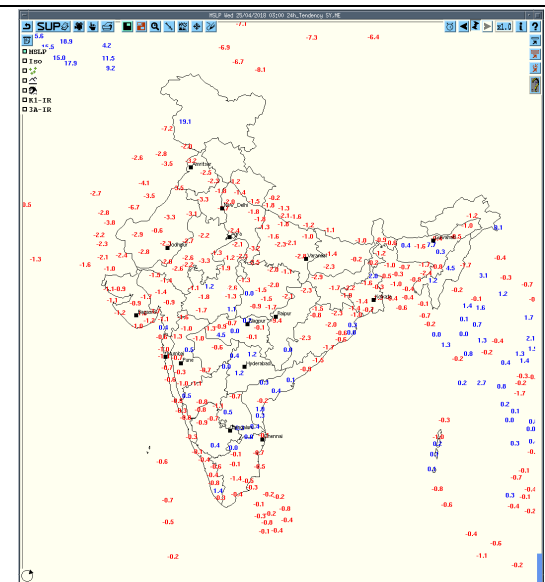
Tendency Tmax



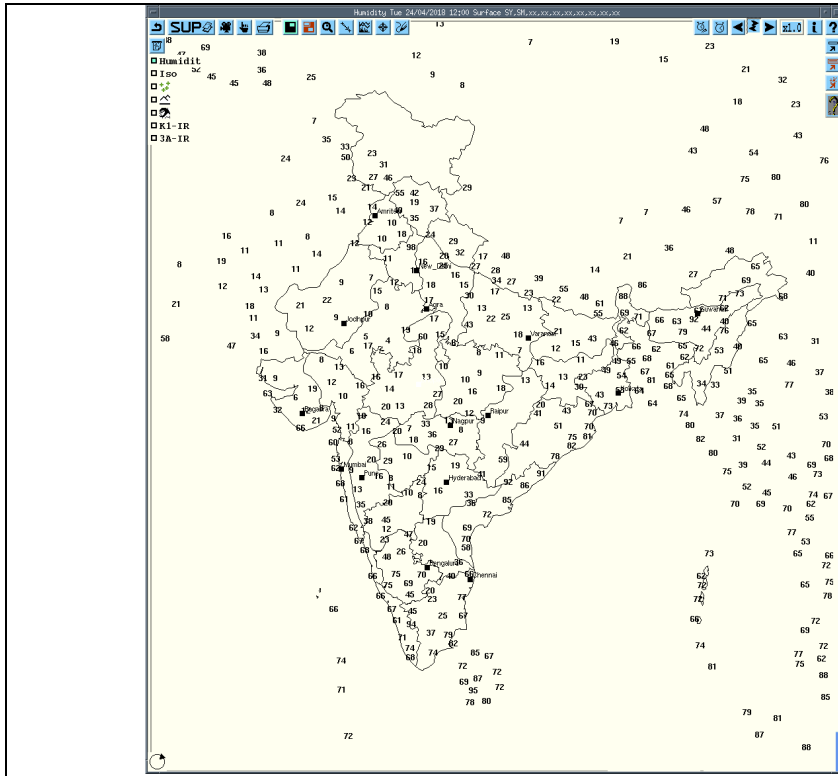
MSLP



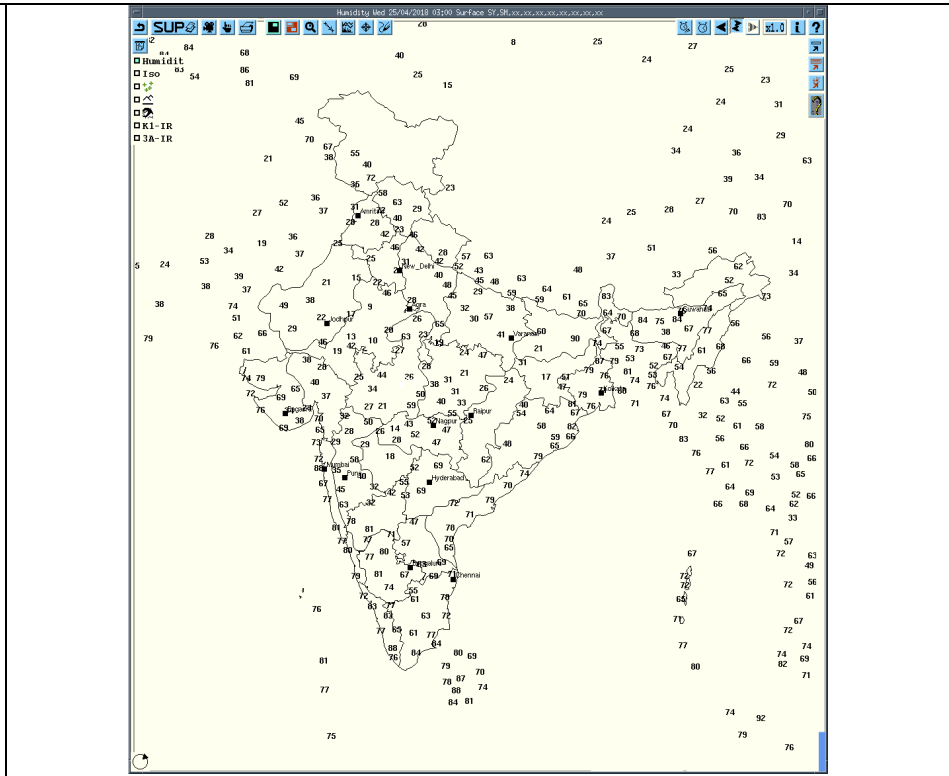
Departure MSLP



Tendency MSLP



RH at 12UTC yesterday



RH at 03UTC today

Past 24 hours DWR Report:

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
Visakhapatnam	25-04-18	240600	A line of cb cells in NW sector out of which has max reflectivity 59dbz and height 16kms.	72kms(NW) And moving SE ly.	Isolated cb cells over the sea with max reflectivity 50 dbz.	-	Koraput(Odissa) Rayagada (Odissa) Kandhmal (Odissa)
		240900	A line of cb cells in NNE sector out of which has max reflectivity 60dbz and height 12kms.	NNE (37 kms) moving SE ly.	since last observation and cb cells started dissipating	Gusty winds thunderstorm with rain	Visakhapatnam East Godavari Vizianagarm Districts Ganajm Gajapati Districts Of Orissa
		241200	A line of cb cells in WSW sector out of which has max reflectivity 62dbz and height 12kms.	WSW (145 kms) moving SE ly.	since last observation and cb cells started dissipating	Gusty winds thunderstorm with rain	Visakhapatnam East & West Godavari Vizianagarm Districts (Ap) Ganajm Gajapati Districts Of Orissa
		241500	cb cell of which has max reflectivity 50dbz and height 8 kms.	WSW (248 kms) moving SE ly.	cb cell dissipated at 1241 UTC	-	Visakhapatnam East & West Godavari
Patiala	25-04-18	Radar under Annual Maintenance					
Lucknow	25-04-18	240300-250300	Nil	Nil	Nil	Nil	Nil
Jaipur	25-04-18	240300-250300	Nil	Nil	Nil	Nil	Nil
Kolkata	25-04-18	240301-250301	Nil	Nil	Nil	Nil	Nil
Patna	25-04-18	240300-250300	Nil	Nil	Nil	Nil	Nil

Realised past 24hrs TS/SQ/HS Data:

Realised TS/HS/SQ during past 24hours 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)
Jagdalpur	Central India	Chhattisgarh	Thunderstorm	24-04-18	1710	1810
Silchar	Northeast India	Assam	Thunderstorm	24-04-18	0845	1015
Guwahati	Northeast India	Assam	Thunderstorm	25-04-18	0750	0820
Lengpui	Northeast India	Mizoram	Thunderstorm	24-04-18	0925	1020
Kailasahar	Northeast India	Tripura	Thunderstorm	24-04-18	0830	0840
Alappuzha	South India	Kerala	Thunderstorm	24-04-18	2030	2330
Kozhikode	South India	Kerala	Thunderstorm	24-04-18	1725	1730
Minicoy	South India	Lakshadweep & Minicoy Islands	Thunderstorm	24-04-18	0830	0920
Gangtok	East India	Sikkim	Thunderstorm	24-04-18	1610	1730
			Hail(Diameter-0.4 cm each)	24-04-18	1700 1722	1702 1726
Tadong	East India	Sikkim	Thunderstorm		1500	2000
Kalingapatnam	South India	Coastal Andhra Pradesh	Thunderstorm	24-04-18	0900	1600
Tuni	South India	Coastal Andhra Pradesh	Thunderstorm	24-04-18	1420	1815
Visakhapatnam	South India	Coastal Andhra Pradesh	Thunderstorm	24-04-18	1235	1545
Narsapur	South India	Coastal Andhra Pradesh	Thunderstorm	24-04-18	1750	1820
Kakinada	South India	Coastal Andhra Pradesh	Thunderstorm	24-04-18	1545	1740
Yelahanka IAF	South India	Karnataka (SIK)	Thunderstorm	24-04-18	1330, 1530	1430, 1900
Mandya	South India	Karnataka (SIK)	Thunderstorm	24-04-18	1730	1815
Bengaluru City	South India	Karnataka (SIK)	Thunderstorm	24-04-18	1340	1440
			Squall from NW with max. wind 35Kt	24-04-18	1405	1410
AMS HAL Bengaluru	South India	Karnataka (SIK)	Thunderstorm	24-04-18	1430, 1825	1600, 2005
KIAL Bengaluru	South India	Karnataka (SIK)	Thunderstorm	24-04-18	0800, 1139	0920, 1458
GKVK	South India	Karnataka (SIK)	Thunderstorm	24-04-18	1400	1500
Chamarajanagar	South India	Karnataka (SIK)	Thunderstorm	24-04-18	1710	1845

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

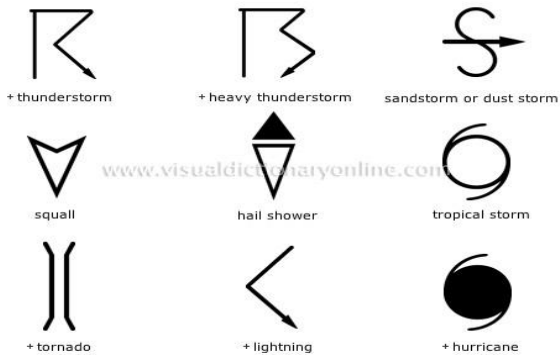
For Radar images of the past 24 hours including mosaic of images:

http://ddgmui.imd.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