



India Meteorological Department

FDP STORM Bulletin No. 49 (24-04-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC INFERENCE (0300UTC of the Day):

- ◆ The remnant Western Disturbance as a trough now runs roughly along longitude 88°E to the north of latitude 25°N at 5.8 km above mean sea level.
- ◆ A fresh Western Disturbance as a trough in mid-tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along longitude 53°E to the north of latitude 35°N.
- ◆ The cyclonic circulation over West Assam & neighbourhood now lies over Sub-Himalayan West Bengal & neighbourhood extending upto 0.9 km above mean level.
- ◆ The cyclonic circulation extending upto 1.5 km above mean level over south Chhattisgarh and adjoining Odisha now lies over Chhattisgarh & adjoining Odisha.
- ◆ The north-south trough from cyclonic circulation over West Assam & neighbourhood to south Tamilnadu now runs as a northeast-southwest trough from northeast Jharkhand to North Interior Karnataka across cyclonic circulation over Chhattisgarh & adjoining Odisha and Telangana and extends upto 1.5 km above mean sea level.
- ◆ A north-south wind discontinuity runs from Telangana to south Tamilnadu across Rayalaseema & South Interior Karnataka and extends upto 0.9 km above mean sea level.
- ◆ A cyclonic circulation lies over Comorin area and adjoining Tamilnadu at 1.5 km above mean sea level.

SATELLITE OBSERVATIONS during past 24 hrs and current observation:

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

Western Disturbance (WD):

Broken multi-layered clouds seen over Afghanistan & neighbourhood in association with Western Disturbance over the area.

Convective Activity:

Convective cell over Lakshadweep Islands (minimum CTT minus 71deg C)

Precipitation Nowcast Based on WMO Scope Product:

Data indicate precipitation is likely to take place during next three (03) hrs over Lakshadweep Islands.

Clouds descriptions within India:

Scattered low/medium clouds with embedded weak convection seen over Meghalaya, Assam, Tripura, Arunachal Pradesh, Gangetic West Bengal, Northeast and south Odisha. Scattered low/medium clouds with embedded isolated weak convection seen over Coastal Andhra Pradesh, Rayalaseema and East Karnataka. Scattered low/medium clouds seen over Jammu & Kashmir, North Himachal Pradesh, North Uttarakhand, and rest parts of East and south India. 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 Southeast Bay south of lat 10.5deg N and South Andaman Sea.

RADAR and RAPID RGB Observation:

Multiple significant convection is seen over North coastal Andhra Pradesh in DWR composite at 1500 IST. DWR Visakhapatnam and Machilipatnam domain at around 1500 IST indicates moderate to strong multiple echoes (max DBZ 50-55 and height around 15km). Light to moderate isolated/multiple echoes are also seen on DWR Agartala, Thiruvananthapuram, Chennai, Gopalpur, Hyderabad and Nagpur domains at around 1500IST.

RAPID RGB Satellite imagery at 1400 IST indicates significant convection over North Coastal Andhra Pradesh & adjoining Odisha, South Chhattisgarh, South Interior Karnataka, Rayalaseema 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	24.04.2018	25.04.2018
PM10 (micro-g/m3)	213	235
PM2.5 (micro-g/m3)	88	96

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

Low level Cycirs, Troughs:

00UTC of Day 1-4: N-S trough over southern peninsula

00UTC of Day 4-5: CYCIR over Punjab

Confluence & Wind Discontinuity Regions

12 UTC of Day 0: 925 hPa N-S discontinuity over Southern Peninsular India and SW-NE discontinuity over NI Karnataka & Telangana

Synoptic Systems:

12 UTC of Day 1-2: WD as a weak trough over J &K.

00UTC of Day 3-4: Strong southwesterlies from BoB leading over Bangladesh.

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

3. Convergence at 850 hPa:

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

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

Day1: NE_NMMT, Odisha, Madhya_Maharashtra, Chhattisgarh, NI_Karnataka, SI_Karnataka,

Day2: NE_NMMT, Gangetic_WB, Jharkhand, Odisha, East_MP, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, NI_Karnataka, SI_Karnataka,

Day3: Jharkhand, East_UP, Odisha, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, NI_Karnataka, SI_Karnataka,

Day4: Gangetic_WB, Jharkhand, Jammu_Kashmir, East_RJ, Odisha, East_MP, Madhya_Maharashtra, Marathwada, TN_Puducherry, NI_Karnataka, SI_Karnataka, Kerala

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Arunachal_Pradesh, Assam_Meghalaya, Gangetic_WB, Uttarakhand, Himachal_Pradesh,

Day1: Assam_Meghalaya, Gangetic_WB, Jharkhand, Uttarakhand, Himachal_Pradesh, Odisha,

Day2: NE_NMMT, Gangetic_WB, Bihar, Odisha,

Day3: Gangetic_WB, Jharkhand, Bihar, East_UP, Madhya_Maharashtra,

Day4: Gangetic_WB, Jharkhand, Bihar, West_UP, Madhya_Maharashtra, Coastal_AP

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

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Bihar, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Coastal_AP, Rayalseema, TN_Puducherry, SI_Karnataka, Kerala,

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

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_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, 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, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, Coastal_Karnataka, SI_Karnataka,

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, Odisha, TN_Puducherry, SI_Karnataka,

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

- Day3: 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,
- Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, Odisha, Coastal_AP

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

Day/Index: Subdivisions with K Index > 40

- Day0: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Jammu_Kashmir, Odisha, Chhattisgarh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, SI_Karnataka, Kerala,
- Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, SI_Karnataka, Kerala,
- Day2: Arunachal_Pradesh, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, SI_Karnataka,
- Day3: Arunachal_Pradesh, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, 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, Odisha, TN_Puducherry, Coastal_Karnataka, SI_Karnataka, Kerala

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

- Day1: Arunachal_Pradesh,
- Day2: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Jammu_Kashmir,
- Day3: Assam_Meghalaya, NE_NMMT, Jammu_Kashmir,
- Day4: Assam_Meghalaya, Jammu_Kashmir,
- Day5: Arunachal_Pradesh, Assam_Meghalaya, Sub_Himalayan_WB, Gangetic_WB, Bihar, Jammu_Kashmir

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

1. Synoptic Systems:

The analysis based on 00 UTC indicates a cyclonic circulation over SHWB and adjoining areas in lower troposphere (925hPa). The forecast shows it will become less marked in next 48 hours. The analysis shows another cyclonic circulation in lower troposphere over East Vidharbha and adjoining south Chhattisgarh. The forecast shows this cyclonic circulation will become less marked in next 24 hours. The analysis indicates a cyclonic circulation in lower troposphere (850hPa) over south Orissa and adjoining areas. The forecast shows it will merge with the trough in next 24 hours. A North- South Trough is seen in the analysis extending from North east Jharkhand to further South West up to North Interior Karnataka across the cyclonic circulation over Chhattisgarh and adjoining areas. The trough will persist in next 72 hour forecast. Another trough is seen in the analysis extending from Telangana to south Tamil Nadu.

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

Although the presence of strong westerlies is found over 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 foothills of Himalaya, Himachal Pradesh and Uttarakhand, along the Trough and Cyclonic circulation over Chhattisgarh and adjoining areas on day1; along the North South Trough during Next 3 days; It is Inferred that North West Rajasthan, adjoining Punjab, GWB, adjoining Orissa and Jharkhand has Positive Vorticity from day 2 onwards.

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, 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 Uttar Pradesh and south west and East Rajasthan on day 2 and 3; Maximum value of the index is seen over parts of GWB, Orissa, Andhra Pradesh, coastal Maharashtra, Karnataka, Konkan and Goa, coastal Tamil Nadu on all 3 days; over parts of Gujarat, Bihar, Jharkhand, Chhattisgarh, Telangana and south west Rajasthan on day 2 and 3; over parts of Vidarbha, East Uttar Pradesh, Tripura and adjoining areas on day 3.

Lifted Index (< -2): The threshold value of the index is below -2 over parts of 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 Bihar, Jharkhand and Gujarat on day 2 and 3; over parts of East Uttar Pradesh and south west Rajasthan on day 3; maximum negative value of the index less than -10 is seen over parts of Orissa, Jharkhand and GWB on day 2 and 3; over parts of Bihar, SHWB, Tripura and adjoining areas on day 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 and Jharkhand, during next 3 days; over parts of west Uttar Pradesh,

Haryana, Delhi and adjoining areas on day 2; over parts of east Uttar Pradesh, northern parts of West Madhya Pradesh and east Rajasthan on day 3; maximum value of the index >60 is seen over parts of GWB, Bihar and Jharkhand 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 Marathwada during next 3 days; maximum value of the index greater than 800 is seen over parts of GWB, Orissa and Jharkhand next 3 days; over parts of SHWB, Bihar, Tripura and adjoining areas on day 2; over parts of Bihar, SHWB, Andhra Pradesh, Tripura and adjoining areas 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, Konkan and Goa, Jharkhand, Chhattisgarh, GWB, SHWB, Sikkim, Assam, Meghalaya, Tripura and adjoining areas during next 3 days; over parts of Bihar and Gujarat on day 2 and 3; over parts of East Uttar Pradesh and south west Rajasthan 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, coastal Kerala and coastal Karnataka during next 3 days; over parts of Bihar, Jharkhand and SHWB on day 2 and 3; over parts of Tripura and adjoining areas 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 Punjab, North Rajasthan, Madhya Pradesh, west Vidarbha, Madhya Maharashtra, Marathwada, Himachal Pradesh, Uttarakhand, Haryana, Delhi, J&K and north Chhattisgarh during all 3 days; maximum value of the index greater than 400 is seen over parts of Gujarat and SHWB on day 1; on day 2 over parts of Gujarat, southwest Rajasthan, north interior Karnataka, Assam, Meghalaya, Tripura and adjoining areas on day 2; over parts of East Uttar Pradesh, Gujarat, southwest Rajasthan, coastal Maharashtra including Mumbai and North interior Karnataka on day 3.

5. Rainfall Activity:

10- 40 mm Rainfall: over parts Arunachal Pradesh, Kerala, Tamil Nadu during next 3 days; over parts of Andhra Pradesh, Orissa and Telangana on day 1; over parts of Sikkim, Assam, Tripura and adjoining areas on day 2; Over parts of Assam 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 during next 3 days; over parts of Chhattisgarh, Vidarbha and Telangana on day 1; over parts of Bihar, Jharkhand and GWB on day 2 and 3; over parts of East Uttar Pradesh, Chhattisgarh and Telangana on day 3

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

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

Over parts of Orissa, Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Sikkim, Assam, Arunachal Pradesh, Tripura and adjoining areas on day 1; over parts of J&K, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Tripura and adjoining areas on day 2; over parts of J&K, Himachal Pradesh, Uttarakhand, Sikkim, Kerala and NE states on day 3; maximum value of the Model reflectivity is seen over parts of Orissa and Andhra Pradesh on day 1.

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 Sikkim and NE states on day 1 and 2; 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, Marathwada, Vidarbha, Jharkhand, Telangana, Chhattisgarh and Karnataka on day 2 and 3; over parts of Punjab, Haryana, Rajasthan, Jharkhand, Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathwada, Karnataka, Telangana, Andhra Pradesh, Chhattisgarh, GWB and Orissa 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, southern parts of Madhya Maharashtra, parts of Bihar, Jharkhand, Chhattisgarh, 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 3; Maximum value of the index greater than 3500 is seen over the parts of Karnataka, Kerala, Orissa, coastal Andhra Pradesh, GWB, Jharkhand, Tamil Nadu, Konkan and Goa on day 1; over parts of GWB, Orissa, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Jharkhand on day 2 and 3; over parts of Bihar and some parts of Gujarat 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, Madhya Pradesh, North Chhattisgarh, west Vidharbha, North Madhya Maharashtra and Marathwada during next 3 days; the maximum value of the index > 400 is seen over parts of Gujarat, Bihar, Jharkhand, GWB, SHWB, Orissa, Chhattisgarh, Coastal Maharashtra, Karnataka, Konkan and Goa, Andhra Pradesh and Telangana during next 3 days; over parts of South West Rajasthan, East Uttar Pradesh, Assam, Meghalaya, Tripura and adjoining areas on day 2 and 3; over some parts of west Uttar Pradesh, Haryana and Uttarakhand on day 3..

3. Rainfall and thunderstorm activity:

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

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

3. IOP ADVISORY FOR 24 and 48Hrs:

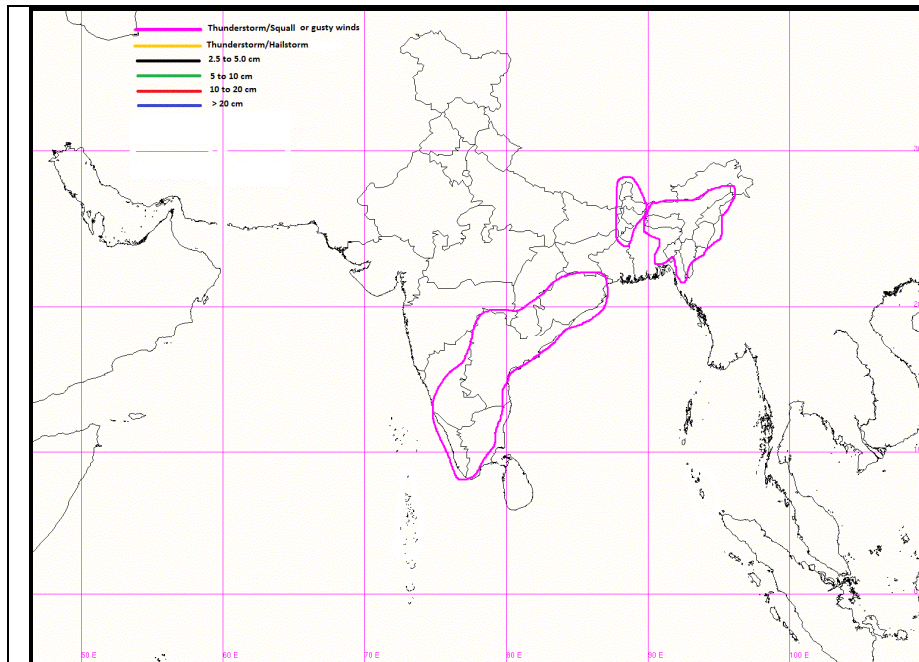
Summary and Conclusions:

- Synoptic analysis indicates that a northeast-southwest trough runs from northeast Jharkhand to North Interior Karnataka across cyclonic circulation over Chhattisgarh & adjoining Odisha and Telangana and a north-south wind discontinuity runs from Telangana to south Tamilnadu across Rayalaseema & South Interior Karnataka. This will be triggering the thunderstorm with gusty winds activity over Kerala, South Interior Karnataka, North CAP, Rayalaseema, Interior Tamilnadu and Telangana on Day-1. The activity will be continuing over Kerala and Telangana on Day-2.
- Due to the cyclonic circulation over Sub-Himalayan West Bengal & neighbourhood, the Sub-Himalayan West Bengal and Assam and Meghalaya may experience the thunderstorm with gusty winds on Day-1.
- Most thermodynamic indices (T-STORM Initiation Index, K-Index, Lifted Index, CAPE, CINE) from IMD GFS deterministic model indicate high probability of thunderstorm occurrence along the east and south peninsular coast of India on day 1
- A fresh Western Disturbance as a trough in mid-tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along longitude 53°E to the north of latitude 35°N.
-

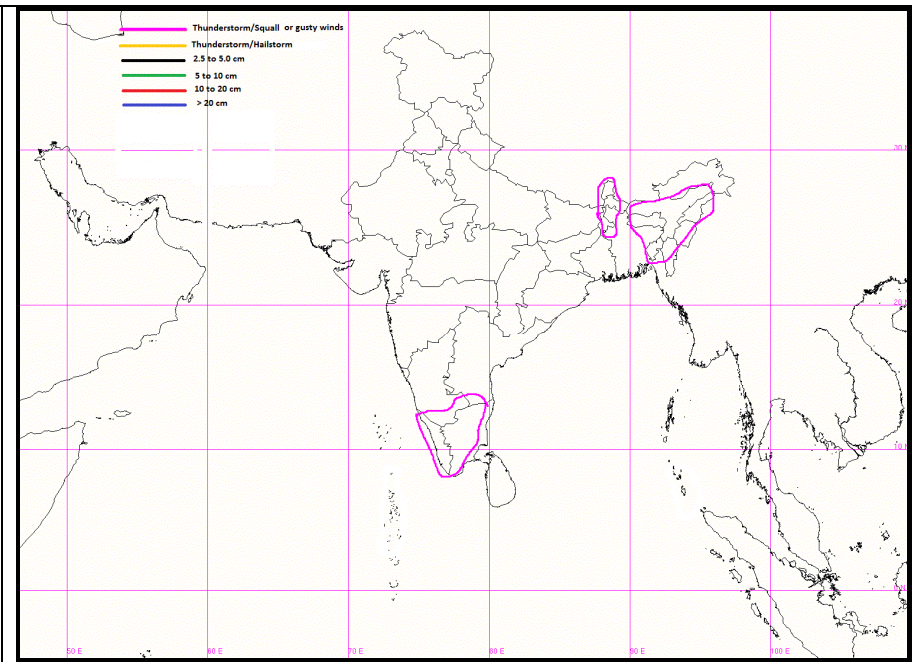
Day-1 & Day-2:

24hour Advisory for IOP:	48hour Advisory for IOP:
<p>Significant Rainfall: Nil</p> <p>Thunderstorm with squall or gusty winds: Kerala, South Interior Karnataka, Interior Tamilnadu, North coastal Andhra Pradesh, Telangana, Rayalaseema South Chhattisgarh, Sub-Himalayan west Bengal & Sikkim, Odisha Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura</p> <p>Thunderstorm with squall and hail Nil</p> <p>Thunderstorm/Duststorm: Nil</p>	<p>Significant Rainfall: Nil</p> <p>Thunderstorm with squall or gusty winds: Kerala, Interior Tamilnadu Sub-Himalayan West Bengal & Sikkim Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura</p> <p>Thunderstorm with squall and hail Nil</p> <p>Thunderstorm/Duststorm: Nil</p>

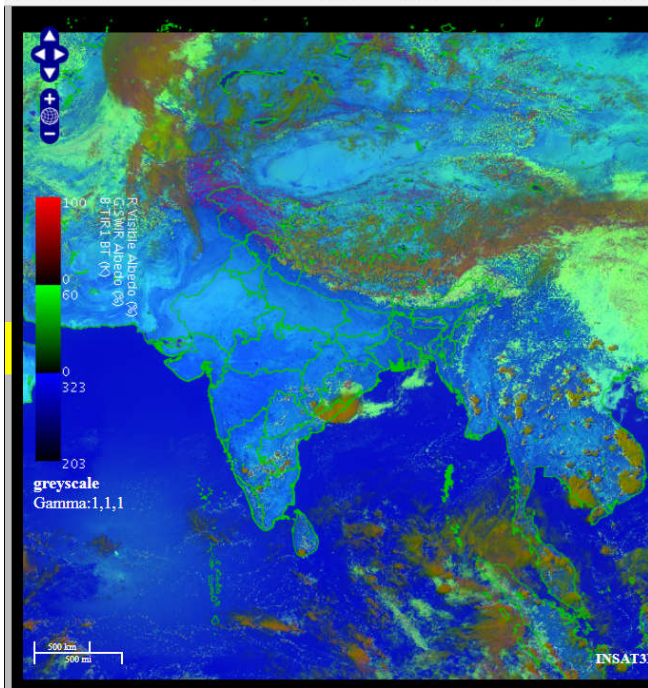
Graphical Presentation of Potential Areas for Severe Weather:



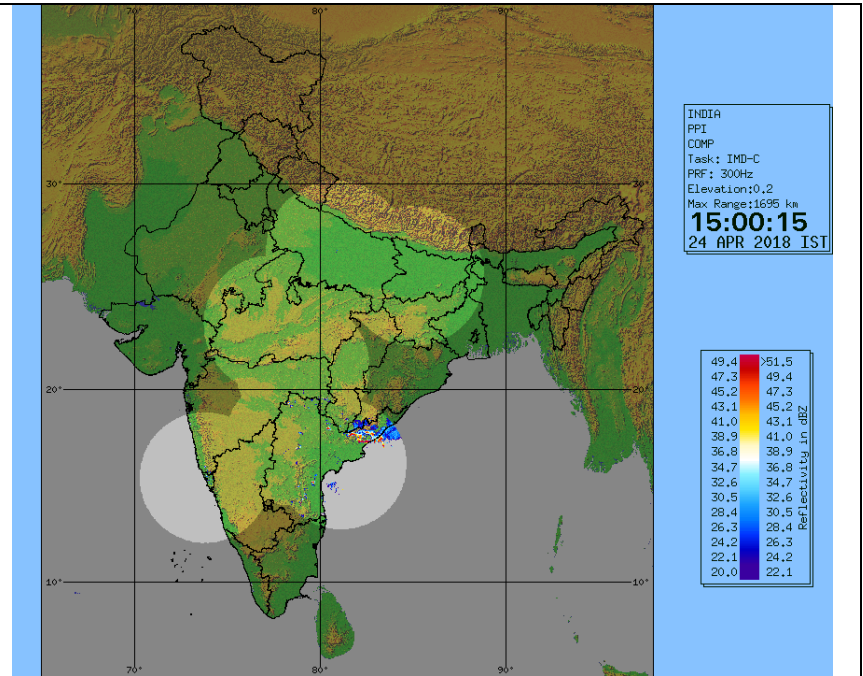
IOP Advisory for 24 hours



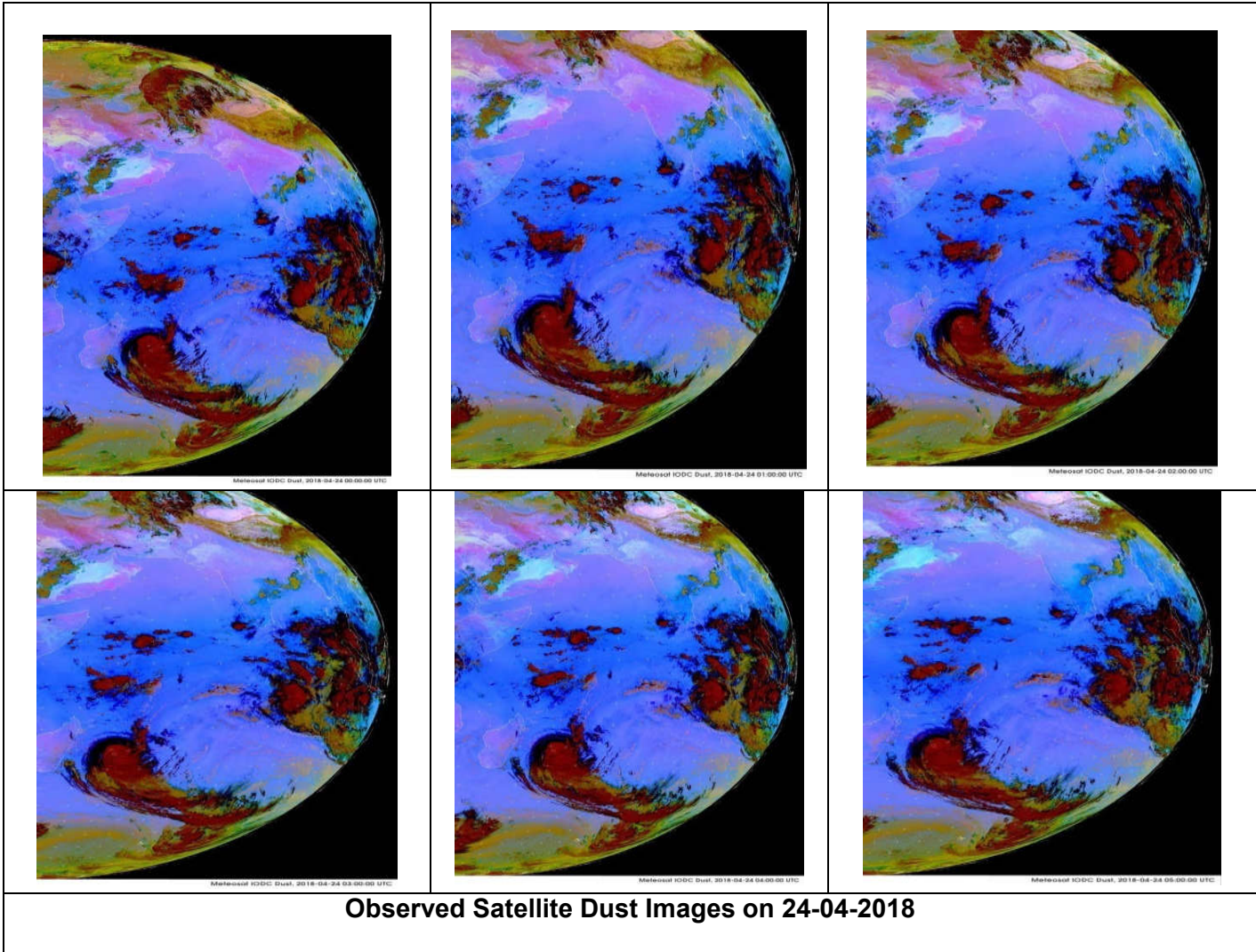
IOP Advisory for 48 hours



RAPID RGB Imagery at 1400 IST of the Day

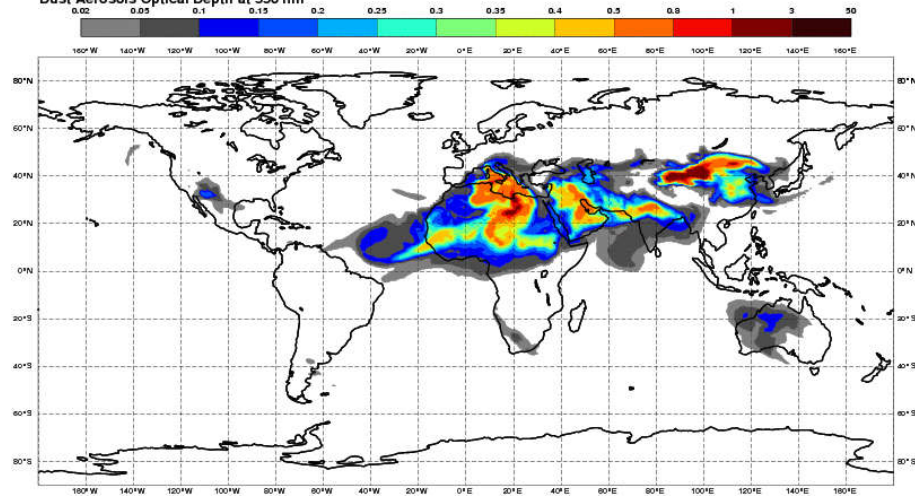


DWR Composite at 1500 IST of the Day

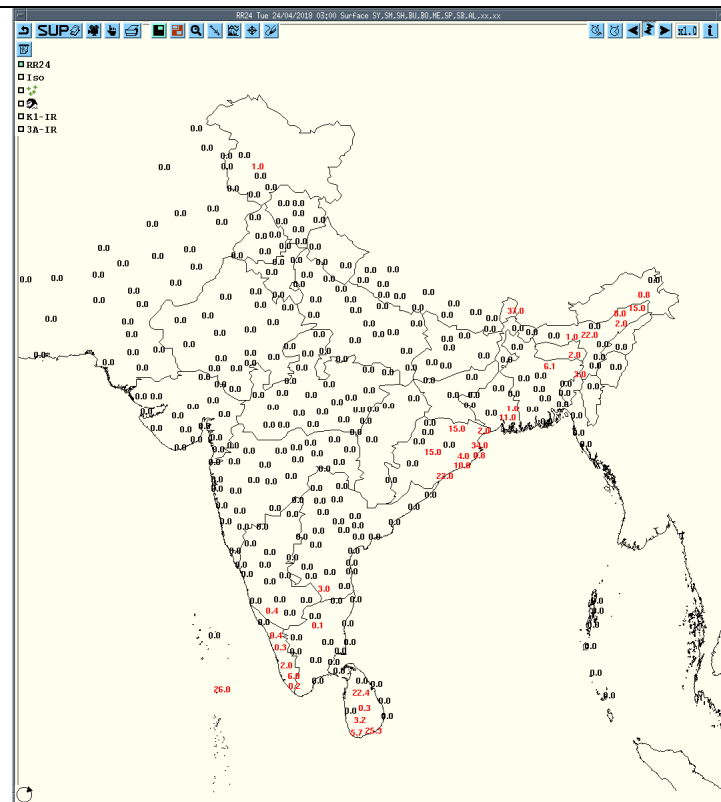


Monday 23 April 2018 00UTC CAMS Forecast t+120 VT: Saturday 28 April 2018 00UTC

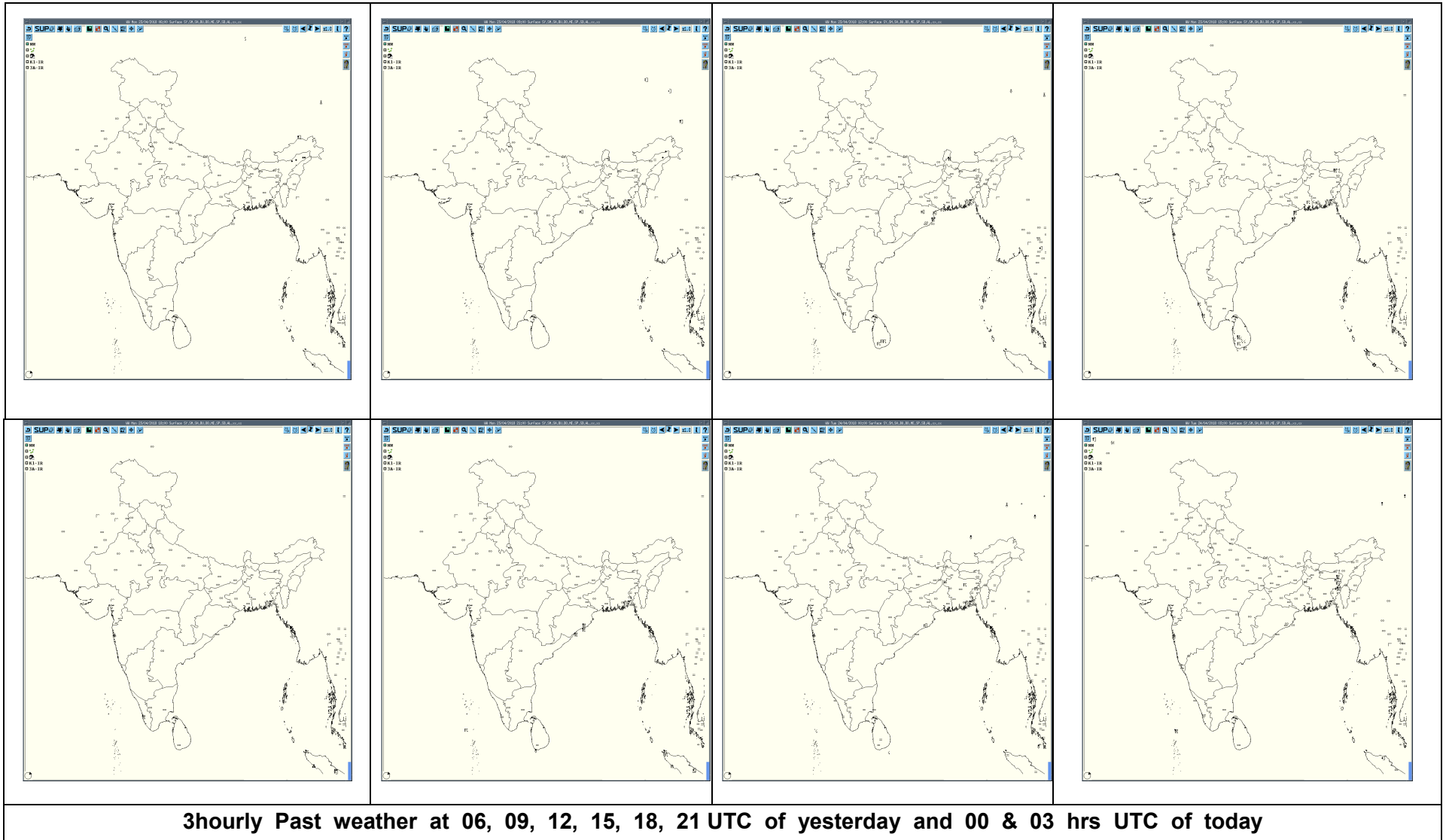
Dust Aerosols Optical Depth at 550 nm



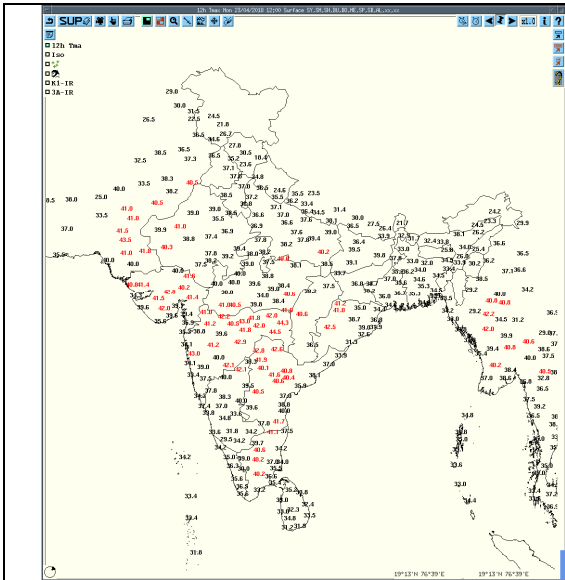
Dust Forecast



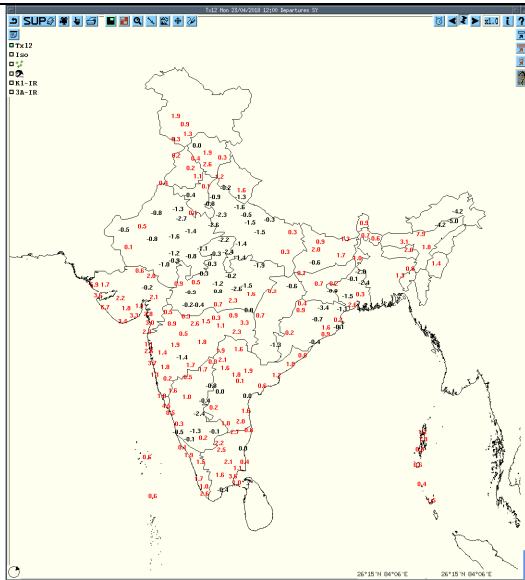
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



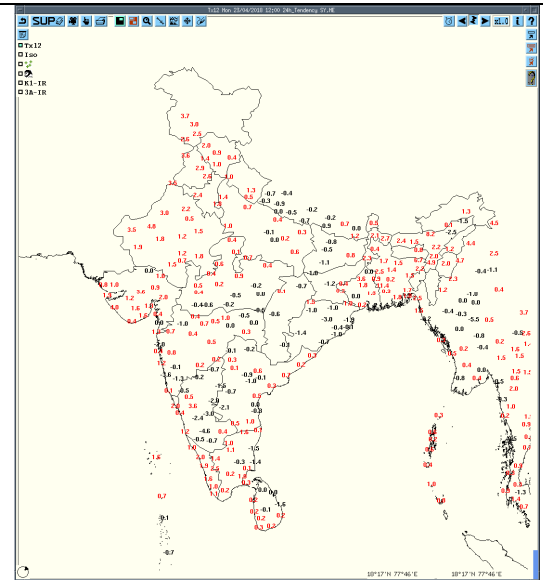
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



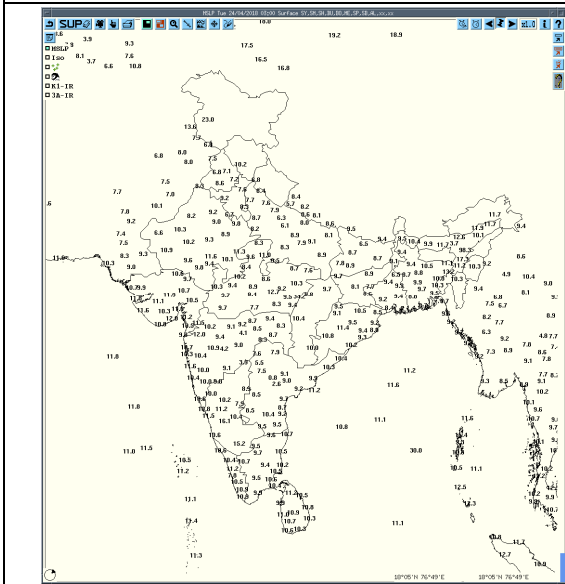
Tmax



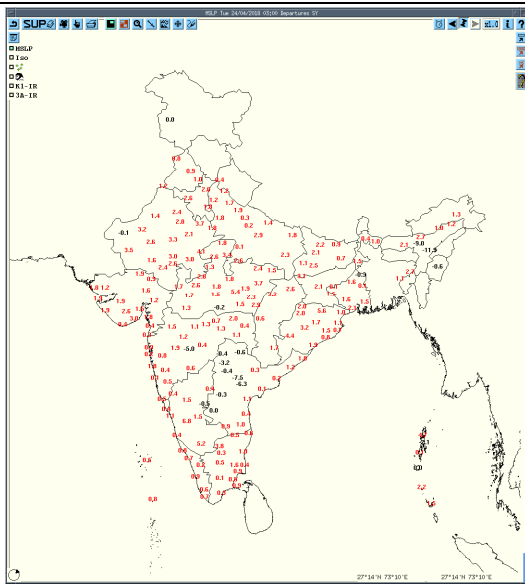
Departure Tmax



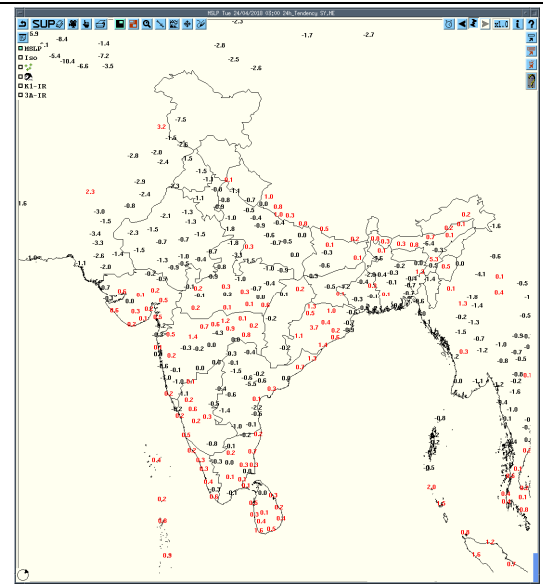
Tendency Tmax



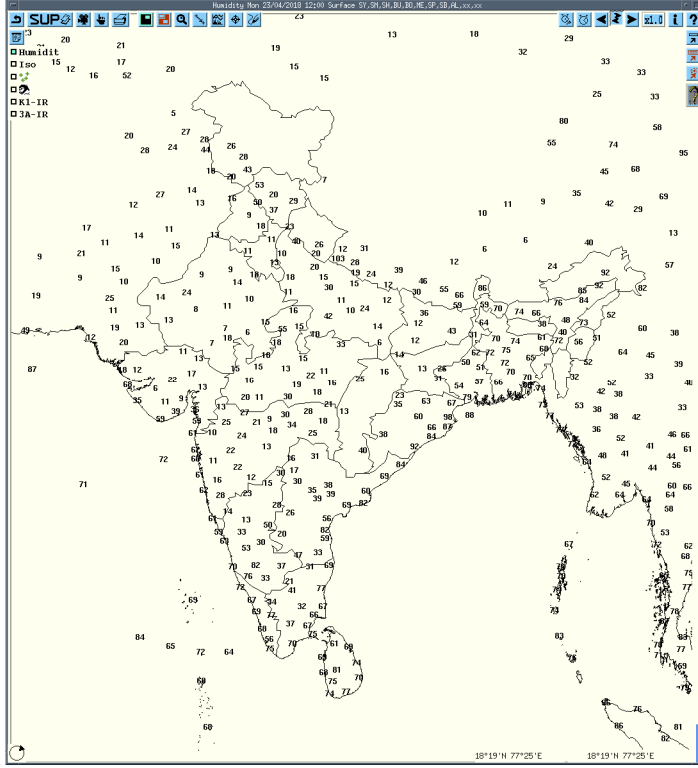
MSLP



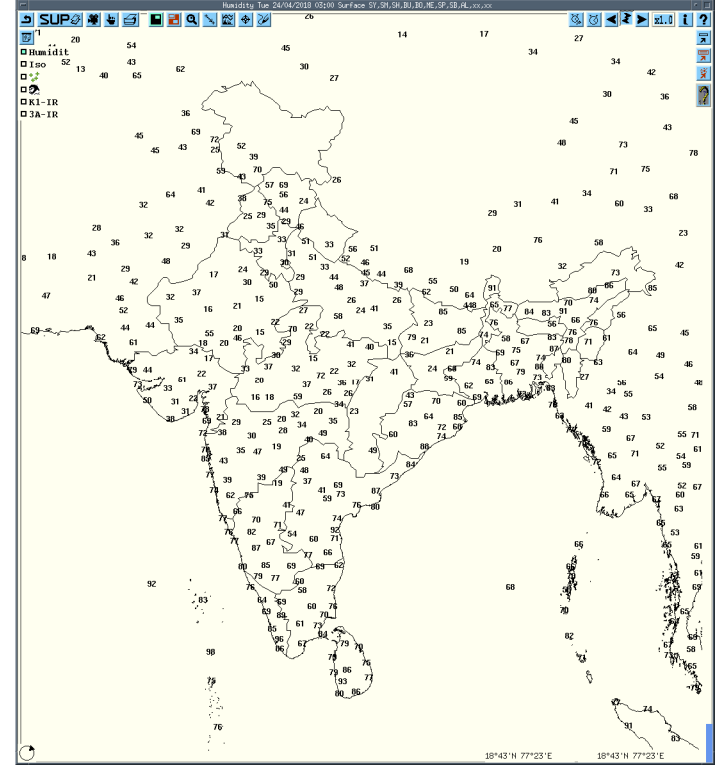
Departure MSLP



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
Patiala	24-04-18	230300-240252	No Echo	--	--	--	--
Lucknow	24-04-18	230300-240300	Nil	Nil	Nil	Nil	Nil
Jaipur	24-04-18	230300-240300	Nil	Nil	Nil	Nil	Nil
Agartala (DWR Operational from 0100 to 1400UTC)	24-04-18	230300-240300	SQUALL LINE FORMATION OVER B'DESH,ASSAM & MEGHALAYA HILLS AT 240042Z,15 KMS,60dBZ	Stretching from 75 kms to 200 kms NNW/N;30 KMPH,E'LY.	SQUALL PERSISTED TILL 240300Z	+TSRA	IN KHOWAI, DHALAI & NORTH TRIPURA DIST.
Patna	24-04-18	230300-240300	Nil	Nil	Nil	Nil	Nil

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	24-04-18	230600	Convective region of Max reflectivity of 47 dBz with height of 4kms	SE(120 KMS) moving Ely	Convective region formed in Bay of Bengal at 0331UTC and dissipated at 0531utc.		In Bay of Bengal
		230900	Cb cell NW with reflectivity 47dbz and height 6kms	210kms(NW) 08:41 UTC moving SE ly.	Not remarkable conviction to associate severe weather.	-	-
		231200	Multiple cb cells in NE out of which has max reflectivity 62 dbz and height 12kms.	157kms(NE) and moving SE ly.	Formed at 11:01 UTC as convective cell.	Prevailing thundershowers.	Nuapada (srikulam Dt)(AP)and Nabarangapur(ODISSA)
		231500	Isolated cb cells towards N with max reflectivity 55 dbz and height 14kms.	141 kms and moving SEly.	CB formed since last observation and dissipating started from 1251 UTC.	Thunderstorm and lightning	Srikulam Dt(AP) and Koraput Dist (ODISSA)
		240000	Isolated cb cloud at NE with max reflectivity 54 dbz and height 12kms.	226 kms and moving SE ly.	CB formed at 1821 UTC and developing	-	Ganjam Dist (ODISSA)
		240300	Isolated cb cells over the sea and in NW with max reflectivity 48dbz and height 8kms.	99kms(ENE) and moving SE ly.	Observation at 02:51UTC. Likely to intensify.	-	Over the sea.

Radar Station Name	Date	Time Interval of Observation (UTC)	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
Kolkata	24-04-18	230301-230802	NIL	NIL	NOSIG ECHO	NIL	NIL
		230822-231051	Isolated cell with maximum reflectivity of 58.0 dBz at 0941 UTC and maximum height of 17.98 Km at 1011 UTC	SW (229.9 km) Moving in SE-ward direction with a speed of 40 kmph.	Cell started forming at 0822 UTC at SW (229.9 Km) from radar. Matured, transformed into a multicelled system in 0911 UTC, part of it dissipated and other part moving into Bay of Bengal in SW at 1051 UTC at a distance 180.2 km from radar.	Thunderstorm /Rain	N/A
		230931-231131	Isolated cell with maximum reflectivity of 61.5 dBz at 0951 UTC and maximum height of 7.30 Km at 0951 UTC	E (16.7 km) Moving in S-ward direction at a speed of 10 kmph	Cell started forming at 0931 UTC at E (16.7 Km) from radar. Matured, dissipated in SE at 1131 UTC at a distance 31.6 km from radar.	Thunderstorm /Rain	N/A
		230941-231051	Isolated cell with maximum reflectivity of 57.0 dBz at 1011 UTC and maximum height of 7.48 Km at 1001 UTC	W (99.9 km) Moving in SE-ward direction at a speed of 14 kmph.	Cell started forming at 0941 UTC at W (99.9 Km) from radar. Matured, dissipated at 1051 UTC in WSW at a distance 97.7 km from radar.	Thunderstorm /Rain	N/A

Radar Station Name	Date	Time Interval of Observation (UTC)	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
Kolkata	24-04-18	231011-231621.	Isolated cell with maximum reflectivity of 55.5 dBz at 1031 UTC and maximum height of 11.12 Km at 1031 UTC	WSW (160.7 km) Moving in ENE-ward direction	Cell started forming at 1011 UTC at WSW (160.7 Km) from radar. Matured, transformed into a multicelled system at 1041 UTC, dissipated in ENE at 1621 UTC at a distance of 90.0 km from radar.	Thunderstorm /Rain	N/A
		231051-231251	Multi Isolated cell with maximum reflectivity of 59.5 dBz at 1121 UTC and maximum height of 7.52 Km at 1121 UTC	SW (49.6 km) Moving in ENE-ward direction at a speed of 23.5 kmph	Multi isolated Cell started forming at 1051 UTC at SW (49.6 Km) from radar. Matured, dissipated in S at 1251 UTC at a distance 17.5 km from radar.	Thunderstorm /Rain	N/A
		240000-240300	NIL	NIL	NOSIG ECHO	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)
Dhubri	Northeast India	Assam	Thunderstorm	24-04-18	0400	0430
Guwahati	Northeast India	Assam	Thunderstorm	23-04-18	1855	2045
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	24-04-18	0510	0830
Shillong	Northeast India	Meghalaya	Thunderstorm	24-04-18	0630	0830
Kailasahar	Northeast India	Tripura	Thunderstorm	24-04-18	0750	0830
Gangtok	East India	Sikkim	Thunderstorm	23-04-18	1610, 1840	1730, 1900
Tadong	East India	Sikkim	Thunderstorm	23-04-18	1620, 1740	1650, 2000
Alipore	East India	Gangetic West Bengal	Thunderstorm	23-04-18	1915	2035
Dum Dum	East India	Gangetic west Bengal	Thunderstorm	23-04-18	1535, 1845	1600, 2030
Diamond Harbour	East India	Gangetic West Bengal	Thunderstorm	23-04-18	1940	2015
Haldia	East India	Gangetic west Bengal	Thunderstorm	23-04-18	1920	1955
Digha	East India	Gangetic west Bengal	Thunderstorm	23-04-18	1700	1910
Bhubaneswar	East India	Odisha	Thunderstorm	24-04-18	0105	0450
Balasore	East India	Odisha	Thunderstorm	23-04-18	1600	2100
Chandbali	East India	Odisha	Thunderstorm	23-04-18	1635, 1900	1745, 2040
Puri	East India	Odisha	Thunderstorm	24-04-18	0130	0330
Gopalpur	East India	Odisha	Thunderstorm	24-04-18	0110	0230
Keonjhar	East India	Odisha	Thunderstorm	23-04-18	1300, 1630	1410, 1710
			Hailstorm (hail diameter:1.0cm)	23-04-18	1323	1325
Alappuzha	South India	Kerala	Thunderstorm	23-04-18	2100	0100
CIAL Kochi	South India	Kerala	Thunderstorm	23-04-18	1620	1850
Karipur A P	South India	Kerala	Thunderstorm	23-04-18	1846, 2129	2050, 2230
Kozhikode	South India	Kerala	Thunderstorm	23-04-18	1845	2045
Minicoy	South India	Lakshadweep Islands	Thunderstorm	24-04-18	0540	0830
Madikeri	South India	Karnataka (SIK)	Thunderstorm	23-04-18	1620	1815

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:



+ thunderstorm



+ heavy thunderstorm



sandstorm or dust storm



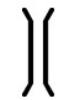
squall



hail shower



tropical storm



+ tornado



+ lightning



+ hurricane

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