



India Meteorological Department

FDP STORM Bulletin No. 94 (08-06-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC Inference (0300UTC of the day):

- ◆ Southwest Monsoon has further advanced into some more parts of Central Arabian Sea, remaining parts of Goa, Karnataka and Rayalaseema, some parts of south Konkan, south Madhya Maharashtra, Marathawada, Vidarbha, south Chhattisgarh and south Odisha, entire Telangana, most parts of Coastal Andhra Pradesh, remaining parts of West Central Bay of Bengal and most parts of North Bay of Bengal. The Northern Limit of Monsoon (NLM) passes through Lat. 17°N/ Long. 60°E, Lat. 17°N/ Long. 70°E, Ratnagiri, Solapur, Nanded, Adilabad, Bailadila, Malkangiri, Kalingapatnam, Lat. 21°N/ Long. 90°E, Agartala, Lumding, north Lakhimpur and Lat. 29°N/ Long. 95°E. Conditions are favourable for further advance of Southwest Monsoon into some more parts of Central Arabian Sea,, Maharashtra (including Mumbai), Chhattisgarh & Odisha and remaining parts of Coastal Andhra Pradesh during next 24 hours. Conditions are very likely to become favourable for further advance of Southwest Monsoon into most parts of Arabian Sea, remaining parts of Maharashtra, some parts of south Gujarat region, southern parts of Madhya Pradesh, some more parts of Chhattisgarh and Odisha, some parts of West Bengal & Sikkim, remaining parts of Northeastern States and Bay of Bengal during the subsequent 48 hours.
- ◆ The EastWest trough now runs from northwest Rajasthan to Bangladesh, across south Haryana, south Uttar Pradesh, Jharkhand and Gangetic West Bengal and extends upto 1.5 km above mean sea level.
- ◆ The cyclonic circulation over northwest Madhya Pradesh & neighbourhood now lies over north Madhya Pradesh and adjoining south Uttar Pradesh and extends upto 1.5 km above mean sea level embedded in the above trough.
- ◆ A cyclonic circulation lies over Haryana & neighbourhood at 1.5 km above mean sea level.
- ◆ A cyclonic circulation at 3.1 km above mean sea level lies over Jammu & Kashmir and adjoining Himachal Pradesh.
- ◆ The off shore trough at mean sea level from south Maharashtra coast to north Kerala coast now runs from south Maharashtra coast to Kerala coast.
- ◆ The eastwest shear zone roughly along Lat. 15°N across south Peninsular India persists and now seen between 5.8 km & 7.6 km above mean sea level.
- ◆ The cyclonic circulation over Westcentral and adjoining Northwest Bay of Bengal now lies over north Bay of Bengal & neighbourhood and extends between 1.5 km & 7.6 km above mean sea level. Under its influence, a low Pressure area is very likely to develop over North Bay of Bengal during next 24 hours. It is likely to concentrate into a depression during the subsequent 48 hours and move towards Bangladesh Coast.
- ◆ A cyclonic circulation lies over EastCentral Arabian Sea off Karnataka coast between 3.1 km & 7.6 km above mean sea level.

Satellite Observations during past 24 hrs and current observation:

Current Observation (based on 0600UTC imagery of INSAT 3D):

Clouds descriptions within India:

North

Scattered low/medium clouds with embedded moderate to intense convection seen over Central East Uttar Pradesh and Southwest Uttarakhand. Scattered low/medium clouds over rest Uttar Pradesh.

East:

Broken low/medium clouds with embedded moderate to intense convection seen over East Bihar, Jharkhand adjoining South Gangetic West Bengal, Sikkim, Sub-Himalayan West Bengal, West Assam, Chhattisgarh, Odisha, Manipur and Meghalaya. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over rest parts of the region.

West:

Broken low/medium clouds with embedded moderate to intense convection seen over Southeast Vidarbha, Marathawada and Madhya Maharashtra. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over rest Maharashtra and Madhya Pradesh.

South:

Scattered low/medium clouds with embedded moderate to intense convection seen over Karnataka, Telangana, North Central Andhra Pradesh, North Kerala, Lakshadweep and Bay Islands. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over rest parts of the region.

Arabian Sea:

Scattered low/medium clouds with embedded moderate to intense convection seen over East-central Arabian Sea, Southeast Arabian Sea off Karnataka-Kerala coast, Comorin and Maldives.

Bay of Bengal & Andaman Sea:

Scattered low/medium clouds with embedded moderate to intense convection seen over Bay, Arakana Coast, Andaman Sea, Gulf of Martaban and Tenasserim Coast.

Past Weather:

Convection (during last 24 hrs):

Moderate to Intense convection was observed over Madhya Pradesh Andhra Pradesh Telengana Orissa Chhattisgarh Vidarbha Bihar Uttar Pradesh West Assam Sub Himalayan West Bengal Tripura Karnataka Kerala Tamilnadu Lakshadweep Andaman & Nicobar Islands.

OLR:-

Up to **150** wm^{-2} was observed over North-East Uttar Pradesh Costal Karnataka South Chhattisgarh South Orissa Jharkhand Bihar SHWB Assam Meghalaya Bay islands and Lakshadweep Andaman Islands.

Between **230-280** wm^{-2} was observed over Rest Uttar Pradesh Rest Andhra Pradesh Kerala Tamilnadu Rest NE States.

Synoptic Features:

Westerly Trough & Jet-Stream - Westerly Trough & Jet Stream are not observed over Indian region.

Dynamic Features:

Wind Shear, Vorticity & Convergence- Wind shear up to 30-40 Kts is observed over Jammu & Kashmir, Arunachal Pradesh, Assam, Peninsula India and 5-20 Kts observed over rest India.

Negative Shear tendency is observed over North Interior Karnataka Telangana North Coastal Andhra Pradesh.

Vorticity (850 hPa) up to 250 is observed over South-West Rajasthan Uttar Pradesh East Madhya Pradesh East Vidarbha North Coastal Andhra Pradesh Extreme South Tamilnadu.

Positive low level convergence (5 Kts) observed over most parts of India.

Precipitation:**IMR:**

Rainfall > 150 mm was observed over Marathwada North Chhattisgarh North-East Bihar North Coastal Andhra Pradesh Bay islands Vidarbha South Orissa.

Rainfall between 50-150 mm was observed over Kerala Tamilnadu Coastal Karnataka Rest Chhattisgarh Central Uttar Pradesh Rest Bihar Sub-Himalayan-West Bengal North Interior Karnataka Telangana Lakshadweep.

Rainfall Up to 50 mm was observed over Rest Karnataka Rest Tamilnadu Kerala Rest Orissa Jharkhand South Gangetic West Bengal Assam Manipur Mizoram Tripura.

DWR and RAPID Observations:

Isolated/multiple moderate echoes are seen on DWR Delhi (dBZ around 50, height 13-14km), Patiala (dBZ around 50, height 13-14km), Nagpur (dBZ 50-55, height around 15km) and Bhopal (dBZ 50-55, height around 15km) domains at around 1530 IST. Light to moderate isolated/multiple echoes are also seen on DWR Lucknow, Patna, Agartala, Mohanbari, Paradeep, Gopalpur, Visakhapatnam, Mumbai, Hyderabad, Thiruvananthapuram, and Srinagar domains at around 1530IST.

RAPID RGB Satellite imagery at 1430 IST indicates significant convection over Southwest Jammu & Kashmir, Himachal Pradesh, Southern and Eastern parts of Uttar Pradesh, East Rajasthan, Madhya Pradesh, Jharkhand adjoining Bihar and Gangetic west Bengal, Odisha adjoining South Chhattisgarh, Telangana, South Konkan & Goa, south Madhya Maharashtra, Telangana, Karnataka, Kerala, Central Assam, Nagaland, Manipur, Lakshadweep and Andaman & 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. Dust concentration is expected to decrease for next few days over IGP and north India.

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

Delhi – SAFAR analysis & Forecast	07.06.2018	08.06.2018
PM10 (micro-g/m ³)	157	141
PM2.5 (micro-g/m ³)	66	59

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

Low level Cycirs, Troughs: Weak CYCIR at 850/925 hPa over north BoB and intensifying in day 3-5 forecast and tracking towards Bihar via Bangladesh.

00UTC Day 1-4: E-W trough at 850/925 hPa from Punjab to north Odissa across east Rajasthan, MP.

00UTC Day1-3: Trough over Gujarat and south Pakistan.

00UTC of Day 1-4: at 500 hPa CYCIR along and off coast of Goa to Mumbai

Synoptic systems: 00UTC Day 2-4: WD as a weak trough over Pakistan and J & K

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: Hry_Chhd_Delhi,

Day1: Arunachal_Pradesh,

Day2: Arunachal_Pradesh, Assam_Meghalaya, Jammu_Kashmir, SI_Karnataka,

Day3: Assam_Meghalaya, NE_NMMT, Gangetic_WB, West_UP, Jammu_Kashmir, Odisha,

Day4:

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Konkan_Goa, Madhya_Maharashtra, TN_Puducherry, Kerala,

Day1: Assam_Meghalaya, TN_Puducherry, Kerala,

Day2: Assam_Meghalaya, NE_NMMT, TN_Puducherry, Kerala,

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Gangetic_WB, West_UP, Uttarakhand, Himachal_Pradesh, Saurashtra_Kutch, TN_Puducherry, Kerala,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Jammu_Kashmir, Odisha, Chhattisgarh, TN_Puducherry, Kerala

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

Day/Index: Subdivisions with Showalter Index < -4

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, West_RJ, Odisha, East_MP, Guj_Reg, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana,

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Odisha, West_MP, East_MP, Guj_Reg, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana,

Day2: 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, West_RJ, Odisha, West_MP, East_MP, Guj_Reg, Saurashtra_Kutch, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana,

Day3: Arunachal_Pradesh, Sub_Himalayan_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Odisha, East_MP, Guj_Reg, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana,

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_RJ, Odisha, West_MP, East_MP, Guj_Reg, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, NI_Karnataka

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

Day/Index: Subdivision with Total Totals Index > 52

Day0: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Saurashtra_Kutch,

Day1: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ,

Day2: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Saurashtra_Kutch,

Day3: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, East_RJ, Saurashtra_Kutch,

Day4: Arunachal_Pradesh, Sub_Himalayan_WB, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, East_RJ, West_MP, East_MP, Guj_Reg, Saurashtra_Kutch, Chhattisgarh

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

Day/Index: Subdivisions with K Index > 40

Day0: Arunachal_Pradesh, NE_NMMT, 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, Guj_Reg, Saurashtra_Kutch, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, TN_Puducherry, NI_Karnataka,

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_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, Guj_Reg, Saurashtra_Kutch, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, NI_Karnataka,

Day2: 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, West_RJ, East_RJ, Odisha, West_MP, East_MP, Guj_Reg, Saurashtra_Kutch, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, TN_Puducherry, NI_Karnataka,

Day3: 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, West_RJ, East_RJ, Odisha, West_MP, East_MP, Guj_Reg, Saurashtra_Kutch, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana,

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, West_RJ, East_RJ, Odisha, West_MP, East_MP, Guj_Reg, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana,

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Jharkhand, Bihar, Uttarakhand, Himachal_Pradesh, Odisha, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Andaman_Nicobar, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day2: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Gangetic_WB, Jharkhand, Uttarakhand, Punjab, Himachal_Pradesh, Odisha, West_MP, East_MP, Konkan_Goa, Madhya_Maharashtra, Vidarbha, Chhattisgarh, Andaman_Nicobar, Coastal_AP, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, West_MP, East_MP, Guj_Reg, Konkan_Goa, Madhya_Maharashtra, Vidarbha, Chhattisgarh, Andaman_Nicobar, Coastal_AP, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, East_UP, Uttarakhand, Odisha, East_MP, Konkan_Goa, Madhya_Maharashtra, Vidarbha, Chhattisgarh, Andaman_Nicobar, Coastal_AP, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day5: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, Uttarakhand, Jammu_Kashmir, Odisha, Konkan_Goa, Madhya_Maharashtra, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala

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

1. Synoptic Systems:

The analysis based on 00 UTC indicates an East- West Oriented Trough extends from Northwest Rajasthan to GWB across South Haryana, South Uttar Pradesh and Jharkhand in lower Troposphere (850hPa). The forecast shows the Trough persist till day2. Analysis shows another cyclonic circulation over North Madhya Pradesh and adjoining South Uttar Pradesh is embedded in the above Trough. The analysis shows another cyclonic circulation over Haryana and adjoining areas. The forecast shows it will persist till day 2 with eastward shift. The analysis shows an off shore Trough extends from South Maharashtra to Kerala coast. The forecast shows it will persist till day2.

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

Although the presence of strong westerlies is found over extreme South Peninsular and Southwest India but no jet core over the Indian region for the next 3 days.

3. Low Level Vorticity {850hPa Positive Vorticity ($>12 \times 10^{-1}/s$):}

Low level Positive Vorticity is seen mostly along the East-West Trough, around the cyclonic circulations, central parts of India, Northwest Rajasthan, Madhya Pradesh, Vidharbha adjoining areas and over South Peninsular India, Kerala, Tamil Nadu, Karnataka, Konkan and Goa during next 3 days; Low level Positive Vorticity is also seen over parts J&K, Himachal Pradesh, Punjab, Haryana Delhi, Madhya Pradesh, Vidharbha and adjoining areas from 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): Over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Gujarat, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, SHWB, Orissa, coastal Maharashtra, North Interior Karnataka, Telangana, Madhya Maharashtra, Marathwada, Vidharbha, Chhattisgarh, East and west Madhya Pradesh, along Northern parts of east and west coast of India, Sikkim, NE states on day 1 and 2 ; on day 3 it remains over same region but disappear over parts of Punjab, Haryana, Delhi, Himachal Pradesh and Uttarakhand and appears over coastal Tamil Nadu; Significant zone lies over Gujarat and Rajasthan.

Lifted Index (< -2): Similar to T-storm Index lies over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Gujarat, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, SHWB, Orissa, coastal Maharashtra, Konkan & Goa, coastal and North

Interior Karnataka, Tamil Nadu, Telangana, Madhya Maharashtra, Marathwada, Vidharbha, Chhattisgarh, East and west Madhya Pradesh, Andhra Pradesh, along east and west coast of India, Sikkim, NE states and extreme south coastal parts of the country during next 3 days.

Total Total Index (> 50): Higher than Threshold value of the Index is seen over parts of J&K, Himachal Pradesh, Uttarakhand, Rajasthan, Madhya Pradesh, Vidharbha, Sikkim, Foothills of Himalaya and Arunachal Pradesh during next 3 days; over parts of Punjab, Haryana, Delhi, Telangana, Uttar Pradesh and Orissa on day 2 and 3; over parts of Marathwada and adjoining area on day 2.

Sweat Index (> 300): Is seen over the sub-divisions along east and west coast, areas along foothills of Himalayas, Central India, South Peninsular India, NE states and most parts of the country during next 3 days; significant zone lies over parts of J&K, Himachal Pradesh, Uttarakhand, Foothills of Himalaya, Sikkim, Arunachal Pradesh, Gujarat and west Rajasthan during next 3 days.

CAPE (> 1000): Mostly seen over parts of Gujarat, Rajasthan, Himachal Pradesh, Uttarakhand, Haryana, Punjab, Delhi and adjoining area, Uttar Pradesh along west coast and east coast, GWB, SHWB, Orissa, Bihar, Jharkhand, Andhra Pradesh, Rayalaseema, Karnataka, Konkan and Goa, Telangana, coastal Maharashtra including Mumbai, Madhya Maharashtra, Marathwada, Vidharbha, Chhattisgarh, coastal Tamil Nadu, East and West Madhya Pradesh, Sikkim, NE states and adjoining areas during next 3 days; maximum value of the index is seen over parts of Gujarat, Rajasthan, coastal Maharashtra including Mumbai, Haryana adjoining Punjab, Himachal Pradesh, Uttarakhand, West Madhya Pradesh, Vidharbha, Chhattisgarh, Orissa, GWB, Bihar, Jharkhand and Northeast states.

CIN (50-150): Over sub-divisions along east and west coast of India, extreme south over Kerala, Tamil Nadu and south Peninsular India, central, North and Northwest India mainly the value of index lies in above range over most of the parts of the country on day 1; over most of the parts of the country except South Interior Karnataka adjoining North Kerala and J&K on day 2 and 3; significant zone with highest value of the index lies over parts of Gujarat and West Rajasthan.

5. Rainfall Activity:

Above 200 mm Rainfall: over parts of South coastal Maharashtra, Konkan and Goa adjoining North Interior Karnataka on day 1; over parts of North coastal Maharashtra on day 2.

130- 200 mm Rainfall: over coastal Maharashtra on day 1 and 2; over parts of Konkan and Goa, North Interior Karnataka on day 1; over some parts of Madhya Maharashtra on day 2.

70-130 mm Rainfall: over parts of coastal and Interior Karnataka, coastal Maharashtra, Konkan and Goa during on day 1; over parts of South Madhya Maharashtra, Marathwada adjoining Vidharbha on day 2; over parts of coastal Maharashtra including Mumbai, Konkan and Goa on day 2 and 3; over parts of South coastal Karnataka, Madhya Maharashtra, East Madhya Pradesh and adjoining East Vidharbha on day 3.

40-70 mm Rainfall: over coastal areas along the west coast including coastal Maharashtra adjoining Madhya Maharashtra, coastal and Interior Karnataka, Kerala, Konkan and Goa during next 3 days; over parts of Uttarakhand, Orissa, Manipur and Nagaland on day 1; over parts of Marathwada adjoining Vidharbha, Chhattisgarh, Foothills of Himalaya and Assam on day 2; over parts of Sikkim, Mizoram Tripura, East and West Madhya Pradesh, East Vidharbha, Chhattisgarh and Orissa on day 3.

10-40 mm Rainfall: over parts of J&K, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Foothills of Himalaya, Bihar, Jharkhand, Chhattisgarh, Sikkim, NE states, GWB, SHWB, Orissa, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, Vidharbha, coastal Maharashtra including Mumbai, Konkan and Goa during next 3 days; over parts of Northwest

Rajasthan adjoining Punjab and Haryana, East Rajasthan and West Uttar Pradesh on day 2; over parts of Madhya Pradesh on day 2 and 3; over parts of Gujarat on day 3.

Up to 10 mm rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, East Rajasthan, Haryana, Uttar Pradesh, Madhya Pradesh, Foothills of Himalaya, GWB, SHWB, Sikkim, NE states, Bihar, Jharkhand, Orissa, Chhattisgarh, Kerala, Interior Karnataka, Konkan & Goa, coastal Maharashtra, South Madhya Maharashtra, Marathwada, Vidharbha, Tamil Nadu, Telangana, Rayalaseema, Andhra Pradesh and Gujarat during next 3 days; over most of the parts of Punjab, Haryana, Delhi, Rajasthan and Gujarat on day 2 and 3.

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

1. Model Reflectivity (Max. dBz):

>25 dBZ Model Reflectivity: On day 1, over parts of Himachal Pradesh, Uttarakhand, Kerala, Tamil Nadu, Karnataka, NE states, Orissa, Bihar, Jharkhand, GWB, SHWB, Sikkim, Telangana, Rayalaseema, Andhra Pradesh, Madhya Maharashtra, Marathwada, Vidharbha, coastal Maharashtra including Mumbai, Konkan and Goa, East Madhya Pradesh, Chhattisgarh, East Uttar Pradesh and East Rajasthan; On day 2 and 3 over parts of J&K, Himachal Pradesh, Uttarakhand, Kerala, Tamil Nadu, Karnataka, Orissa, Andhra Pradesh, Chhattisgarh, Telangana, Vidharbha, Madhya Pradesh, Assam, Arunachal Pradesh Tripura, Mizoram, Meghalaya and adjoining area, Rayalaseema, Madhya Maharashtra, Marathwada, coastal Maharashtra, Konkan and Goa, GWB, North Bihar and some parts of North Haryana; On day 3 over parts of Punjab, Haryana, Delhi, Rajasthan and adjoining areas.

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

Total Index (> 50): Below threshold value is observed over parts of Gujarat, Rajasthan, East and West Uttar Pradesh, Uttarakhand, coastal areas of west coast, coastal Maharashtra, Konkan & Goa, coastal areas along the east coast, SHWB, GWB, Orissa, Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Bihar, Jharkhand, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, Chhattisgarh, Telangana, Madhya Pradesh, Vidharbha and NE states during next 3 days; below threshold value is also seen over parts of J&K, Himachal Pradesh, Punjab, Haryana, Delhi and adjoining area on day 2 and 3.

K-Index (> 35): Less than threshold value is observed over most of the part of the country during the next 3 days. Prominent values are found over parts of Gujarat, Madhya Pradesh, Vidharbha, Interior Karnataka, Telangana, Chhattisgarh, Kerala, Tamil Nadu, Andhra Pradesh, Orissa, Bihar, Jharkhand, Uttar Pradesh, Himachal Pradesh, Uttarakhand, J&K, Punjab, Haryana, Delhi, Rajasthan, GWB, SHWB, South Madhya Maharashtra, Marathwada, Konkan and Goa, South coastal Maharashtra, Foothills of Himalaya, Sikkim and NE states.

CAPE (> 1500): Greater than threshold value over parts of J&K, Himachal Pradesh, Uttarakhand Punjab, Haryana, Rajasthan, Delhi, Rajasthan, Gujarat, Uttar Pradesh, coastal areas of west coast, coastal Maharashtra, including Mumbai, Konkan & Goa, coastal areas along the east coast, SHWB, GWB, Orissa, Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Bihar, Jharkhand, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, East and West Madhya Pradesh, Chhattisgarh, Vidharbha and NE states during next 3 days; Maximum value of the index is seen over the parts of Gujarat, Rajasthan, coastal Maharashtra including Mumbai, coastal Andhra Pradesh, coastal Orissa, GWB, Sikkim and NE states.

CIN (50-150): The value of the index lies in above range over most of the parts of the country except southern Peninsular India on day 1; over most of the parts of the country except Eastern parts of the country Bihar, Jharkhand, GWB, SHWB, and south peninsular India on day 2; on day 3 value of the index lies in the above range over North and North-western parts of the country including J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Gujarat, Rajasthan, West Madhya Pradesh, Uttar Pradesh and adjoining areas; it has significant larger values over North-western parts of country including Punjab, Haryana, Gujarat and Rajasthan.

3. Rainfall and thunderstorm activity:

Above 200 mm Rainfall: over parts of coastal Karnataka, South Coastal Maharashtra, Konkan and Goa during next 3 days.

130- 200 mm Rainfall: over parts of coastal Maharashtra, coastal Karnataka, Kerala, Konkan and Goa during next 3 days; over some parts of South Madhya Maharashtra on day 2.

70- 130 mm Rainfall: over parts of coastal and Interior Karnataka, Kerala adjoining Tamil Nadu, Coastal Maharashtra Including Mumbai, South Madhya Maharashtra, Konkan and Goa during next 3 days; over parts of Assam, Meghalaya, Manipur and Tripura on day 1; over parts of Himachal Pradesh, South Chhattisgarh adjoining Vidharbha and Telangana, parts of Andhra Pradesh on day 2; over parts of Orissa, Chhattisgarh, Vidharbha, Madhya Pradesh, North Madhya Maharashtra, GWB and NE states on day 3.

40- 70 mm Rainfall: over parts of Kerala, coastal and Interior Karnataka, coastal Maharashtra including Mumbai, Madhya Maharashtra, including Mumbai, Tamil Nadu, Telangana, NE states, Konkan and Goa during next 3 days; over parts of J&K, Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Orissa, Andhra Pradesh, Chhattisgarh, Jharkhand, Marathwada and Vidharbha on day 2; over parts of Madhya Pradesh, West Uttar Pradesh, Uttarakhand, Vidharbha, Chhattisgarh, Orissa, and Jharkhand on day 3.

10- 40 mm Rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Kerala, Tamil Nadu, Karnataka, Konkan and Goa, Andhra Pradesh, Sikkim, GWB, SHWB, Foothills of Himalaya, Bihar, Jharkhand, Orissa, coastal Maharashtra including Mumbai, Madhya Maharashtra, Telangana, Rayalaseema, Chhattisgarh and NE states during next 3 days; over parts West Uttar Pradesh, Punjab, Haryana, Madhya Pradesh, Vidharbha and Rajasthan on day 2 and 3; over parts of West Gujarat on day 3.

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

3. IOP ADVISORY FOR 24 and 48Hrs:

Summary and Conclusions:

o Most thermodynamic indices (T-STORM Initiation Index, K-Index, Lifted Index, CAPE) from IMD GFS deterministic model indicate high probability of thunderstorm occurrence over central and North Indian region, with highest values over Gujarat and adjoining Rajasthan on day 1. In day 2, the probability of convection increases over North Indian, especially Rajasthan. SWEAT index, which accounts for the wind shear between 850 and 500 hPa levels in addition to thermodynamic parameters, has high values over the entire Indian region, especially over Gujarat and adjoining Rajasthan on day 1. On day 2, the probability increases over Rajasthan. The 850-200 hPa wind shear is weak over the Indian region excluding the extreme northern parts of Jammu and Kashmir region and extreme south peninsular India region on day 1, increasing over peninsular India on day 2.

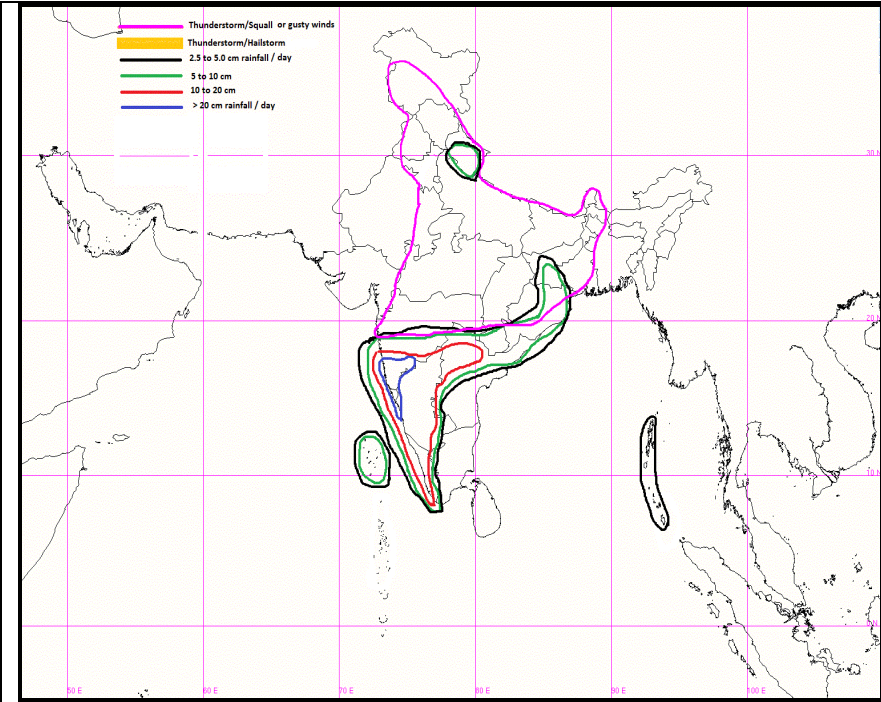
o Synoptic analysis indicates that an eastwest oriented trough in the lower levels, runs from northwest Rajasthan to Bangladesh. Two cyclonic circulations are embedded in the above trough (a) over north Madhya Pradesh and adjoining south Uttar Pradesh and (b) over Haryana & neighbourhood. Over North India, to the north of the trough, easterlies from the Bay will bring in moisture and severe weather will occur on day 1 and 2. The cyclonic circulation at mod levels over Jammu & Kashmir and adjoining Himachal Pradesh is likely to move eastwards and some heavy spells are expected on day 1 over Uttarakhand. IMD GFS deterministic model indicates that a low Pressure area is very likely to develop over North Bay of Bengal during next 24 hours. This system is likely to move eastwards. Associated heavy rainfall is expected over Tripura and Mizoram region on day 2.

o Synoptic analysis also indicates that there is an off shore trough at mean sea level from south Maharashtra coast to Kerala coast. An eastwest shear zone persists along Lat. 15°N across south Peninsular India. A combination of these factors is likely to result in extremely heavy rainfall in isolated pockets over the west peninsular coast of India and the west interior coast on day 1 and 2.

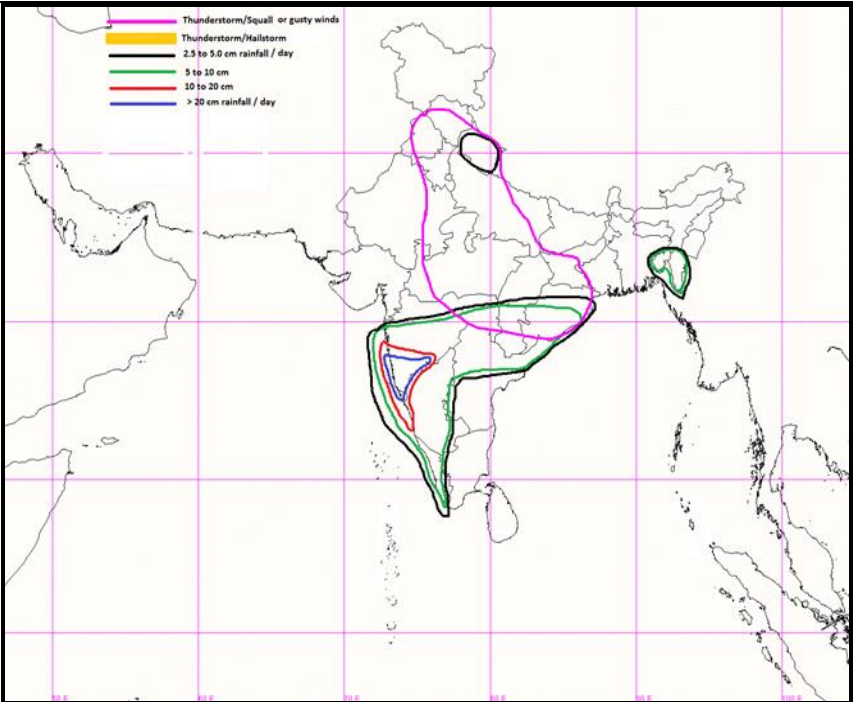
IOP Area for Day-1 & Day-2:

24 hour Advisory for IOP:	48 hour Advisory for IOP:
<p>Significant Rainfall: Coastal Karnataka, Interior Karnataka, Kerala, Telengana, Coastal Andhra Pradesh, Lakshadweep South Konkan and Goa, South Madhya Maharashtra, Marathawada Chhattisgarh Jharkhand, Odisha Uttarakhand Andaman & Nicobar</p> <p>Thunderstorm with squall or gusty winds: North Konkan and Goa, North Madhya Maharashtra, Marathwada Madhya Pradesh, Vidarbha, Chhattisgarh, Uttarakhand, Haryana, Delhi, Chandigarh, Uttar Pradesh, East Rajasthan, Jammu & Kashmir, Himachal Pradesh, Punjab West Bengal & Sikkim, Jharkhand, Bihar</p> <p>Thunderstorm with squall and hail Nil</p> <p>Duststorm: Nil</p>	<p>Significant Rainfall: Konkan and Goa, Madhya Maharashtra Coastal Karnataka, Interior Karnataka, Kerala, Telengana, Coastal Andhra Pradesh, Chhattisgarh, Vidarbha Odisha Nagaland, Manipur, Mizoram, Tripura Uttarakhand</p> <p>Thunderstorm with squall or gusty winds: Madhya Pradesh, Vidarbha, Chhattisgarh, Uttarakhand, Himachal Pradesh, Punjab, Haryana, Delhi, Chandigarh, Uttar Pradesh, East Rajasthan Jharkhand</p> <p>Thunderstorm with squall and hail Nil</p> <p>Duststorm: Nil</p>

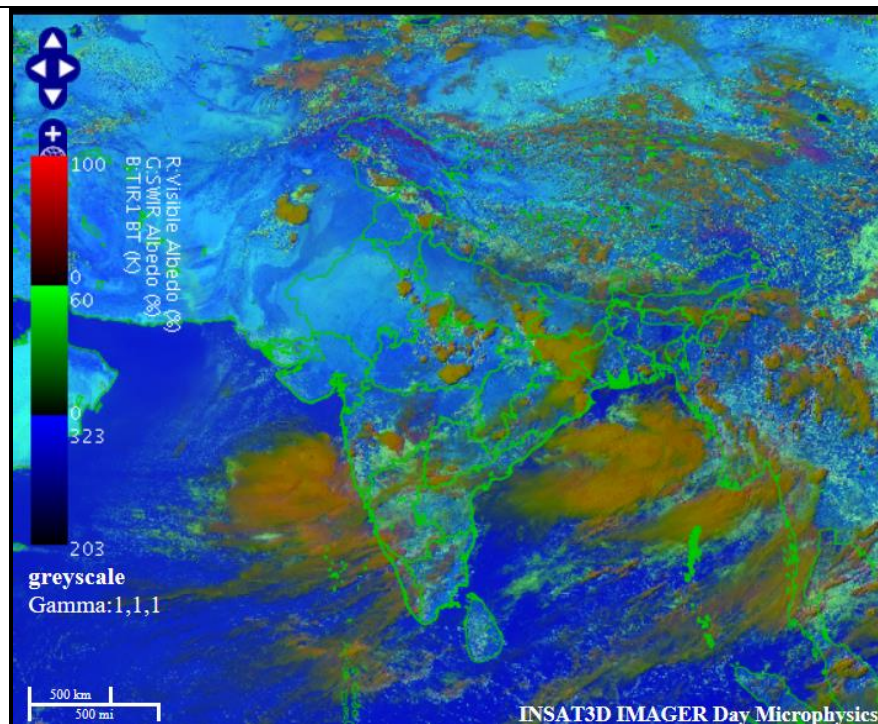
Graphical Presentation of Potential Areas for Severe Weather:



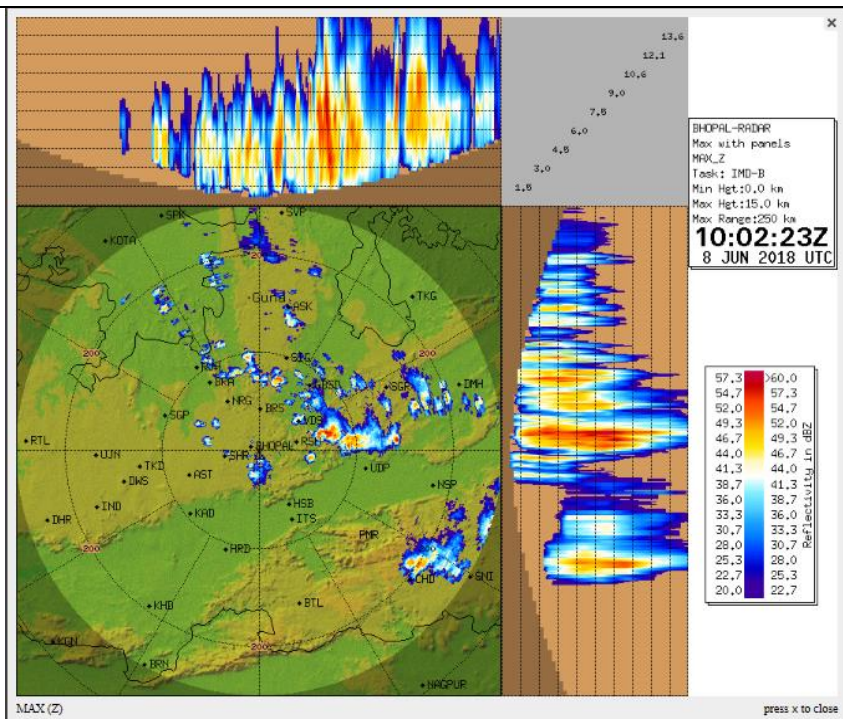
IOP Advisory for 24 hours



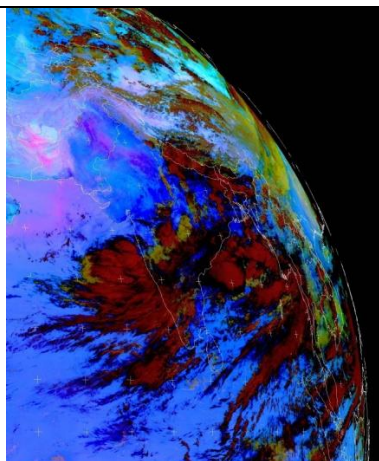
IOP Advisory for 48 hours



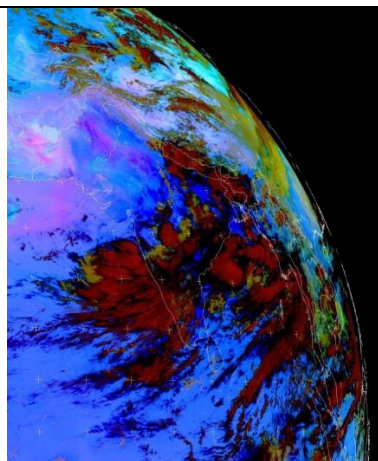
RAPID RGB Imagery at 1430 IST of the Day



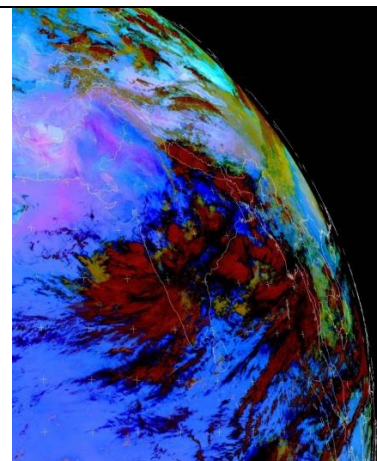
DWR Bhopal reflectivity at 1532 IST



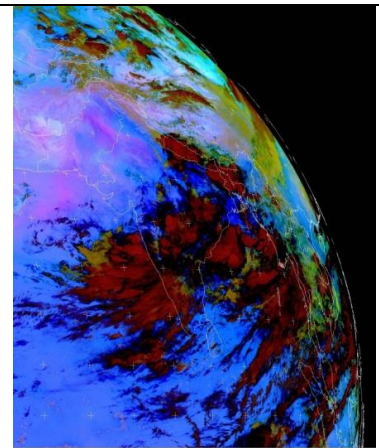
Meteosat IODC Dust, 2018-06-08 06:00:00



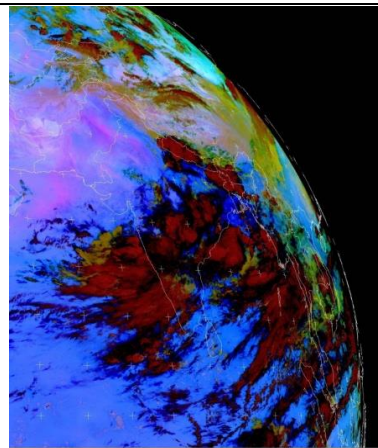
Meteosat IODC Dust, 2018-06-08 05:00:00



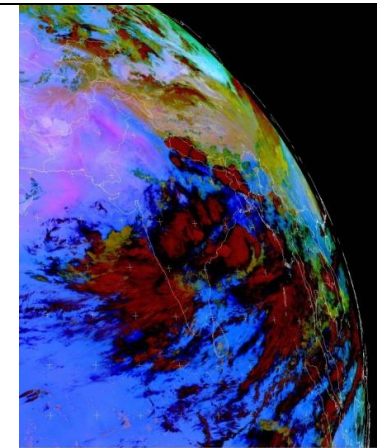
Meteosat IODC Dust, 2018-06-08 04:00:00



Meteosat IODC Dust, 2018-06-08 03:00:00



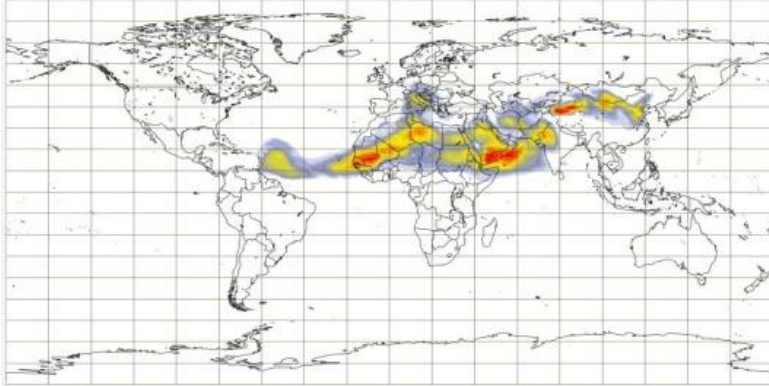
Meteosat IODC Dust, 2018-06-08 02:00:00



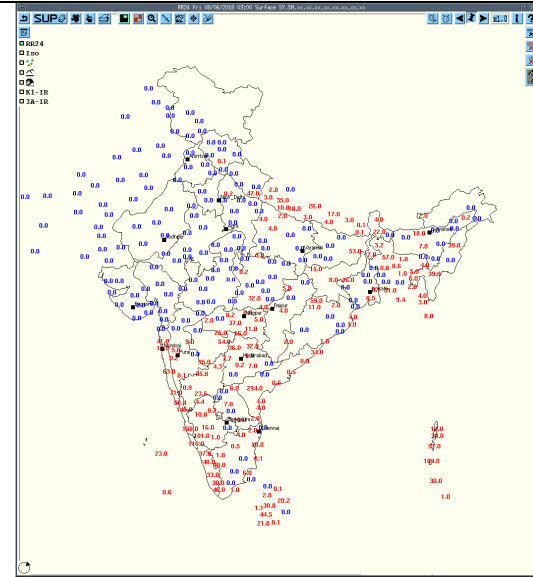
Meteosat IODC Dust, 2018-06-08 01:00:00

Observed Satellite Dust Images of today

Dust aerosol optical depth at 550 nm (provided by CAMS, the Copernicus Atmosphere Monitoring Service)
Thursday 7 Jun, 00 UTC T+120 Valid: Tuesday 12 Jun, 00 UTC

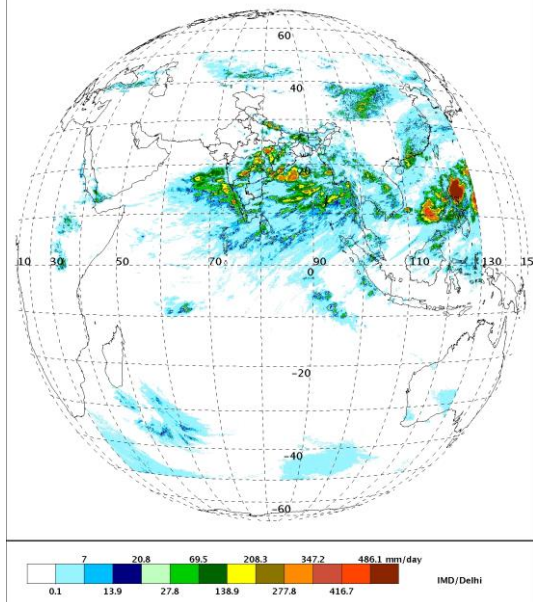


Dust Forecast



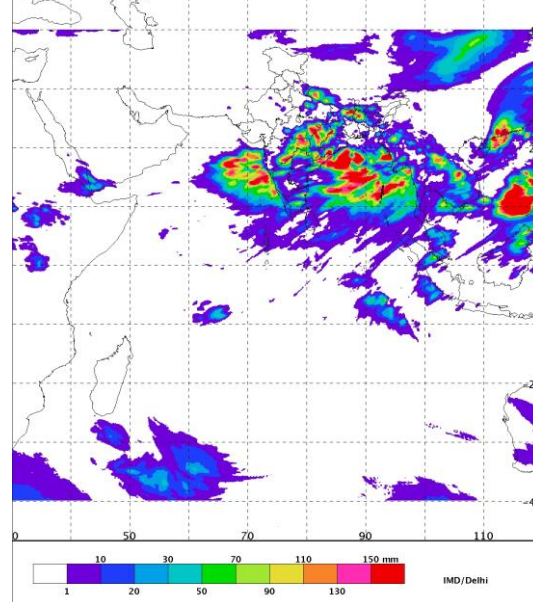
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today

SAT-INSAT-3D IMG
Precipitation(HE) Daily
L3B BINNED GEOPHYSICAL PARAMETER FULL DISK

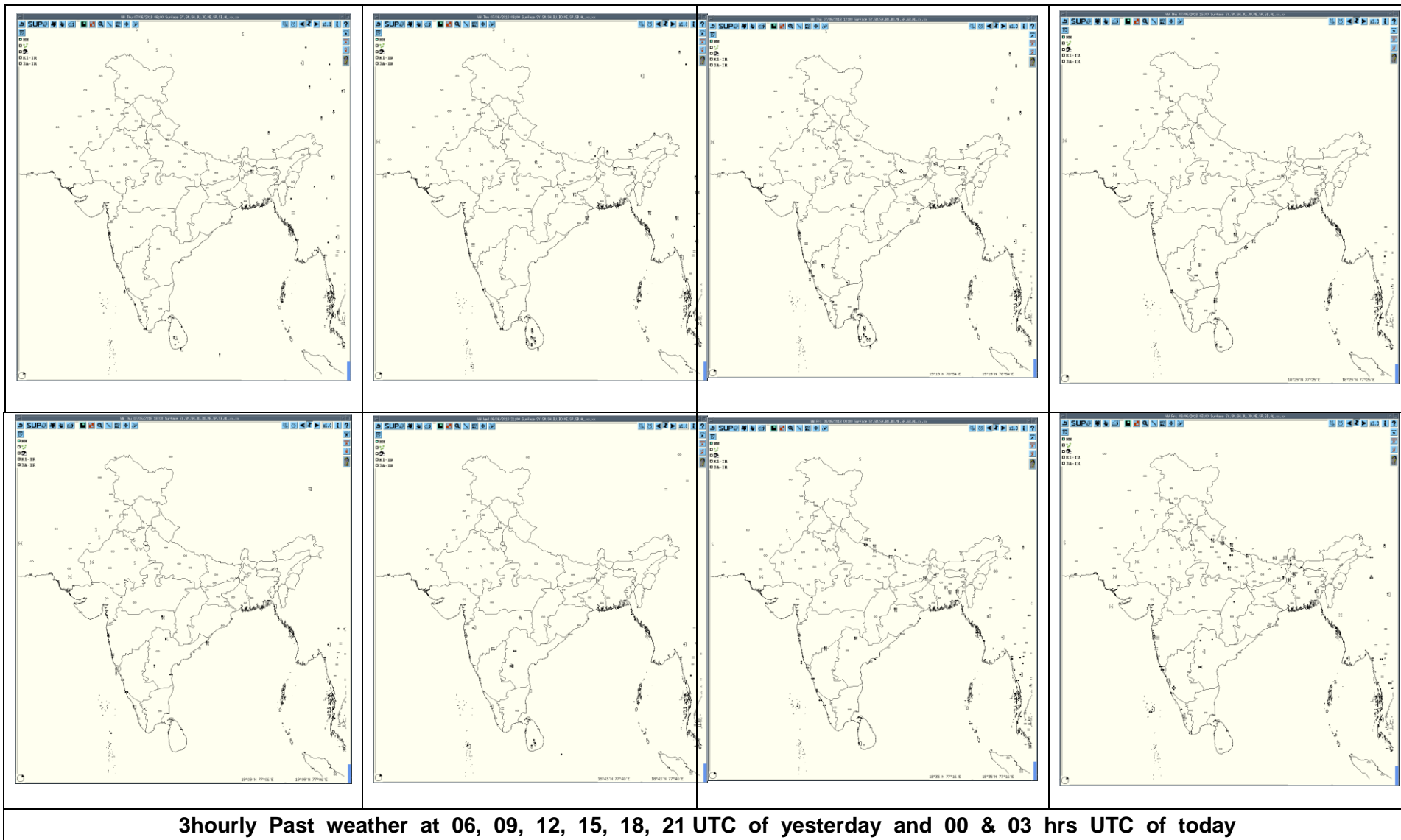


HEM

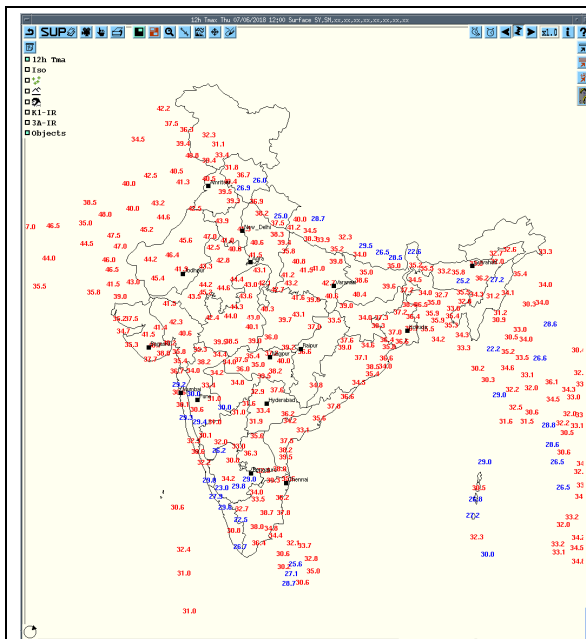
SAT-INSAT-3D IMG
INSAT Multispectral Rainfall(Daily)
L3G BINNED GEOPHYSICAL PARAMETER GRIDDED



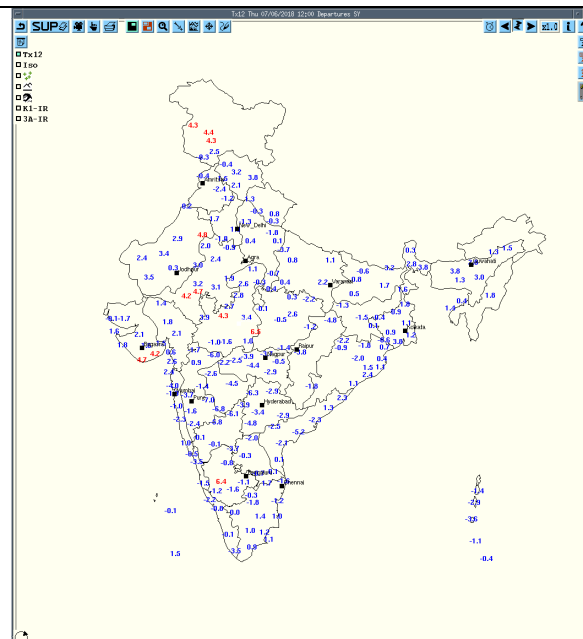
IMR



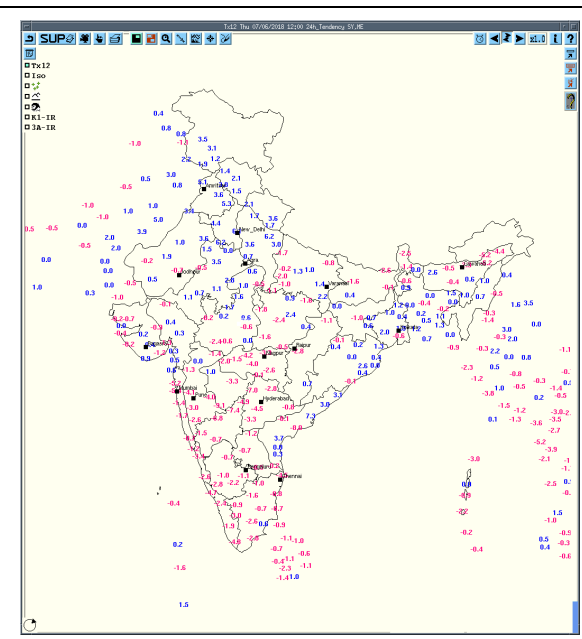
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



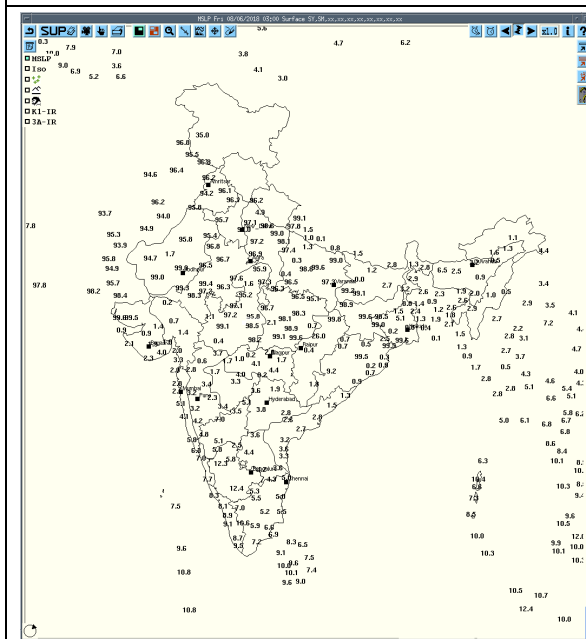
Tmax



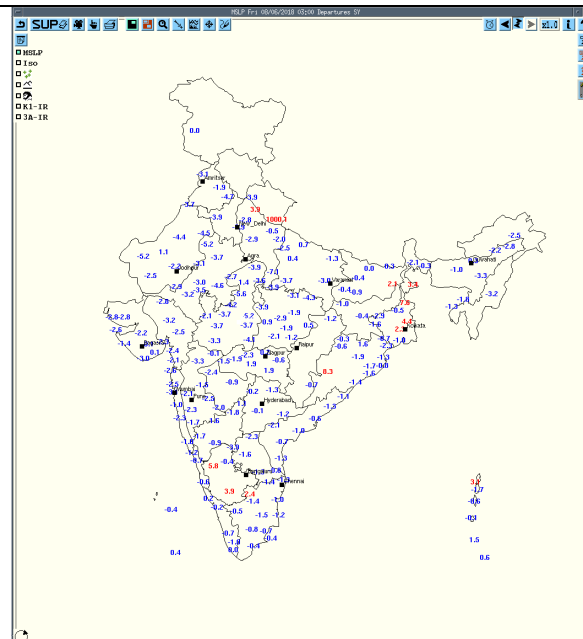
Departure Tmax



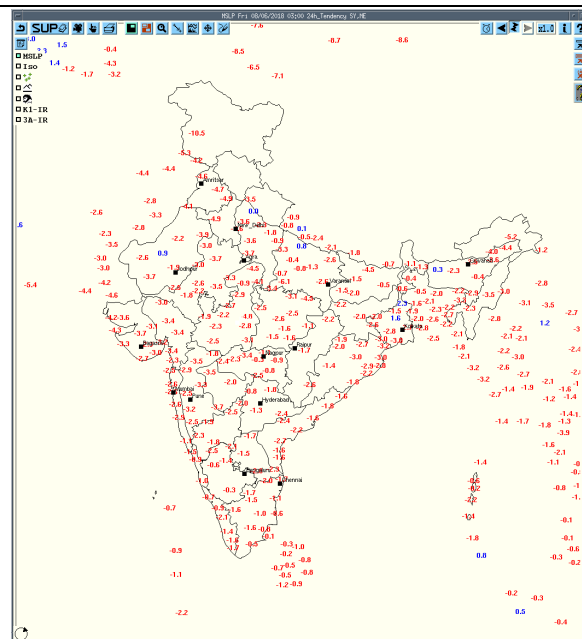
Tendency Tmax



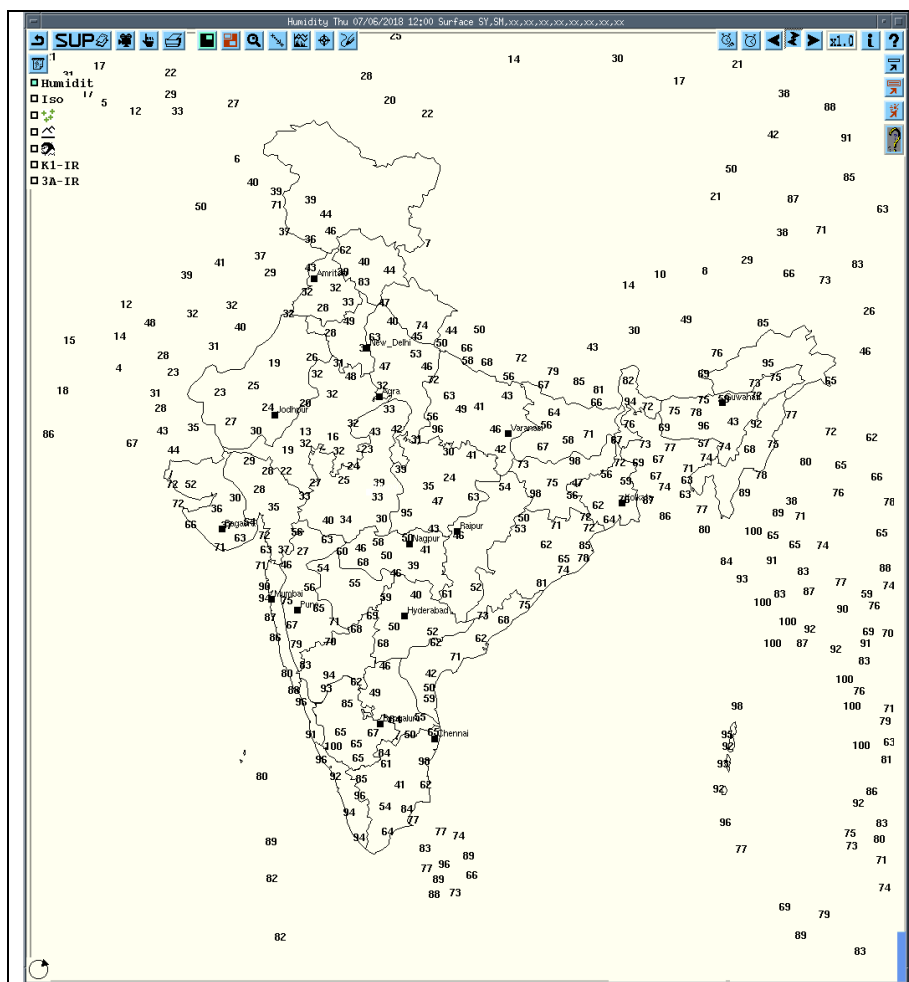
MSLP



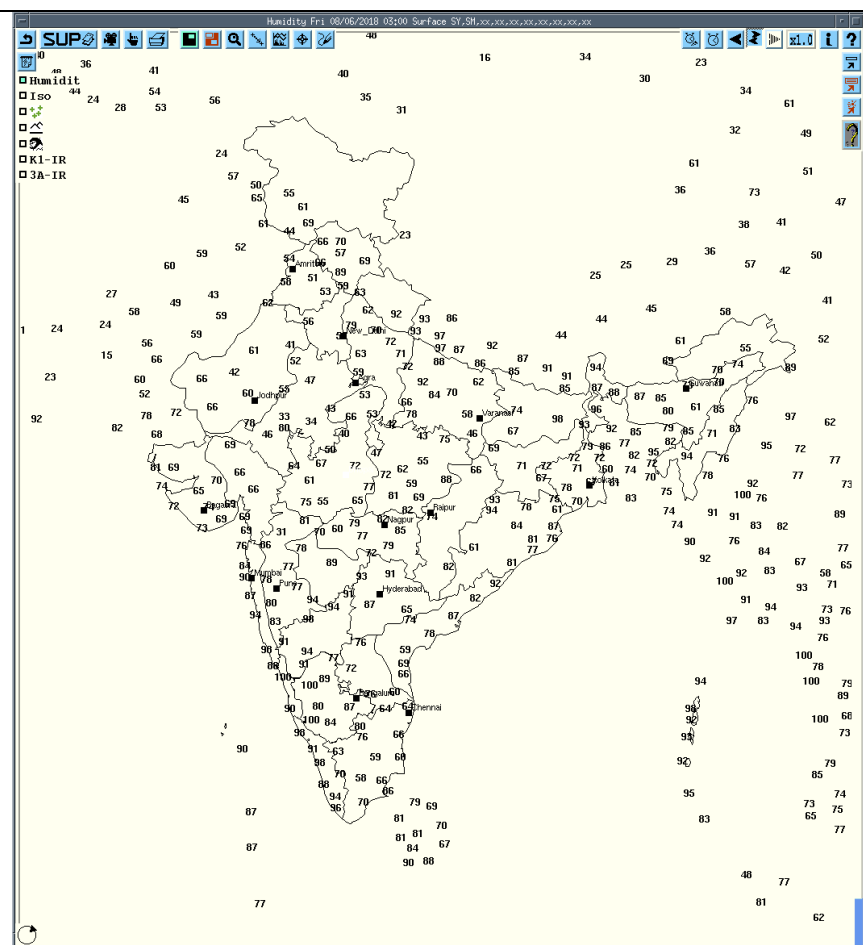
Departure MSLP



Tendency MSLP



RH at 1200UTC yesterday



RH at 0300UTC 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	08-06-18	070600	Multiple cb cells with max reflectivity 55dbz and height 8kms.	171kms(SE) 04:01UTC and moving	Forming continuous cb cells over the sea.	-	Over the sea.
		070900	Multiple cb cells over the sea and towards NE with max reflectivity 52dbz and height	141kms (SE) and 191 kms (NE) and	CB cells dissipated over the sea and again formed towards NE.	-	Ganjam(Odisha) and Bay of Bengal
		071200	Multiple cb cells formed towards NE with max reflectivity 57dbz and height 10kms.	218kms (NE) and moving SEly.	CB cells formed since last observation and developing.	Thunderstorm with rain	Srikakulam, Visakhapatnam(AP) and Ganjam(Odisha)
		071500	Multiple cb cells formed towards NE and West with max reflectivity 57dbz and height 10kms.	135kms (NE), 42 kms(W) and moving SEly.	CB cells formed since last observation and developed.	Thunderstorm with rain	Srikakulam, Visakhapatnam(AP) and Dantewada(Odisha)
		071800	Multiple cb cells formed towards NE, S and NW with max reflectivity 55dbz and height 10kms.	78kms (NE), 60 kms(S) and 143 kms(NW) moving SEly.	CB cells formed since last observation and well developed and dissipating started from 1751 UTC .	Thunderstorm with rain	Srikakulam, Visakhapatnam(AP)
		080000	Multiple cb cells formed towards NE, SW and SE with max reflectivity 57dbz and	178kms (NE), 95 kms(SW) and 77	CB cells formed since last observation and well developed	Thunderstorm with rain	Ganjam(Odisha), East and West Godavari(AP) and
		080300	Multiple cb cells formed towards NE, SW and SE with max reflectivity 57dbz and height 10kms.	216 kms (NE), 104 kms(SW) and 46 kms(SE) moving SEly.	CB cells formed since last observation and dissipating maximum reflectivity of 57 dbz at 0011 UTC	Thunderstorm with rain	Visakhapatnam and Bay of Bengal

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
Agartala	08-06-18	070300 to 080300* (*DWR operational from 0600 to 2000IST)	At 070452Z MULTIPLE CELLS ARE FOUND OVER B/DESH. ABOUT 10 TO 12 KMS, 45 DBZ.	ABOUT 100 TO 200 KMS SW & NE 25KMPH SE-LY.	DISIPATED OVER B/DESH AT 070722Z	NOT KNOWN	----
			At 070802Z MULTIPLE CELLS ARE FOUND OVER HILLS MEGHALAYA. ABOUT 10 TO 12 KMS, 40 DBZ.	200 KMS NE TO NNW, NO MOVEMENT WAS OBSERVED.	DISIPATED OVER HILLS OF MEGHALAYA AT 0711032Z.	NOT KNOWN	----
			AT 080052Z MULTIPLE CELLS ARE FOUND OVER AGARTALA, KLS, AMB, LNP, DKA AND ADJOINING AREAS. ABOUT 08 TO 10 KMS, 40 DBZ.	FROM AGARTALA TO 150 KMS EAST & WEST, 30 KMPH/E-LY	PERSISTS OVER B/DESH WITH LOW INTENSITY AT 080302Z	NOT KNOWN	----
Mohanbari	08-06-18	070822-070912	Cell type- Isolated Avg. ht.- 7.1 Km MAX_Z:- 44.5 dBZ	Distance- 180 Km Direction- South-West Movement- Stationary	Dissipated	----	----

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
Patna	08-06-18	070300 - 070502	NIL	N/A	NIL	NIL	NIL
		070502 - 070832	Isolated Multiple Cell Maximum Reflectivity: 47.5 dBZ Echo Top: 10.6 KM	Range: 35 KM from DWR Patna in ESE direction Movement: towards Easterly	Warning issued	N/A	PATNA, NALANDA, SHEIKHPURA, SAMASTIPUR, BEGUSARAI, LAKHISARAI
		070632 - 071132	Isolated Multiple Cell Maximum Reflectivity: 38 dBZ Echo Top: 13.6 KM	Range: 115 KM from DWR Patna in SW direction Movement: towards Westerly	Warning issued	THUNDERSTORM, RAIN	BHOJPUR, ROHTAS, BUXAR, BHABHUA, JEHANABAD, SARAN
		070832 - 071342	Isolated Multiple Cell Maximum Reflectivity: 42 dBZ Echo Top: More than 14 KM	Range: SE & NE Parts OF BIHAR Movement: towards Stationary	Warning issued	THUNDERSTORM, RAIN	NAWADA, JAMUI, SEIKHPURA, LAKHISARAI, MUNGER, BEGUSARAI, KHAGARIA, SAMASTIPUR, DARBHANGA, MUXAFFARPUR, BHAGALPUR, KATIHAR, PURNEA
		071342 - 071902	NIL	NIL	NIL	NIL	NIL
		071902 - 072102	Single Cell Maximum Reflectivity: 41 dBZ Echo Top: 12.1 KM	Range: 212 KM from DWR Patna in NNW direction Movement: Stationary	Warning issued	N/A	EAST CHAMPARAN, WEST CHAMPARAN, SHEOHAR
		071922 - 080300	Isolated Multiple Cell Maximum Reflectivity: 42 dBZ Echo Top: 12.1 KM	Range: E & NE Parts OF BIHAR Movement: towards Easterly	Warning issued	THUNDERSTORM, RAIN	LAKHISARAI, MUNGER, BEGUSARAI, KHAGARIA, SAMASTIPUR, DARBHANGA, MUXAFFARPUR, BHAGALPUR, SAHARSA, SUPAUL, MADHEPURA, KATIHAR, PURNEA

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	08-06-18	070600 - 070900	NO significant ECHO	---	---	---	---
		070900-071200	ISOLATED CELLS DBZ 54.0 HT. 11 KM	NE SECTORS. .MOVMENT SOUTH EAST - WARDS		TS/RA	NALAGARH and its adjoining areas..
		071200 - 071500	MULTIPLE CELLS DBZ 53.0 HT. 12 KM	NE SECTOR. MOVMENT SOUTH EAST - WARDS		TS/RA	SUNDERNAGER,SHI MLA,SOLAN,ROHRU ,NAHAN,UTTARKAS
		071500 - 072100	NO significant ECHO	---	---	---	---
		072100-080000	MULTIPLE CELLS DBZ 53.0 HT. 10-14 KM	NE SECTOR. MOVMENT SOUTH EAST - WARDS		TS/RA	GANGORTRI,AGAST HAMUNI
		080000-080252	NO significant ECHO	---	---	---	---
Jaipur	08-06-18	070922-072102	Multiple cell with average height of 5.0 km & maximum reflectivity 61 dBZ	Multiple cell develop from 0922 UTC on 07/06/2018 towards W,NW,SW of Jaipur and moved to SE Wards at speed 25-30 km/hr	Multiple cell develop from 0922 UTC on 07/06/2018 towards W,NW,SW of Jaipur and reaches maximum reflectivity from 1022 UTC to 1542 UTC OF 07/06/2018 and Died at 2102 UTC.	Dust storm/Thunder storm/ Light rain at Isolated places	NAGOUR, SIKAR, SAWAIMAHOPUR, AJMER, JAIPUR, TONK, BUNDI, KOTA, BARAN DISTRICTS.

Realised past 24hrs TS/SQ/HS Data:

Realised TS/HS/SQ during past 24hours ending at 0300UTC of today (received from RMCs/MCs)						
	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Pantnagar	Northwest India	Uttarakhand	Thunderstorm	08-06-18	0515	0830
Shimla	Northwest India	Himachal Pradesh	Thunderstorm	08-06-18	1540	1600
Ballia	Northwest India	East Uttar Pradesh	Thunderstorm	07-06-18	1630	1640
Lucknow Hardoi	Northwest India	East Uttar Pradesh	Thunderstorm	07-06-18	1330	1340
Lucknow Ap	Northwest India	East Uttar Pradesh	Thunderstorm	07-06-18	1420	1435
Kanpur City	Northwest India	East Uttar Pradesh	Thunderstorm	07-06-18	1400	1530
Varanasi Bhu	Northwest India	East Uttar Pradesh	Thunderstorm	07-06-18	1420	1450
Kanpur IAF	Northwest India	East Uttar Pradesh	Thunderstorm	08-06-18	0400	0500
Vanasthali	Northwest India	East Rajasthan	Thunderstorm	07-06-18	1620	6130
			Duststorm from SW with max. speed 50kmph	07-06-18	1820	1830
Jalpaiguri	East India	West Bengal (SHWB)	Thunderstorm	07-06-18	1500	1635
Malda	East India	West Bengal (SHWB)	Thunderstorm	08-06-18	0700	0830
Alipore	East India	West Bengal (GWB)	Thunderstorm	07-06-18	1428	1550
Dum Dum	East India	West Bengal (GWB)	Thunderstorm	07-06-18	1455	1600
Haldia	East India	West Bengal (GWB)	Thunderstorm	07-06-18	0934	0950
					1229	1255
					1340	1520
Asansol	East India	West Bengal (GWB)	Thunderstorm	07-06-18	1230	1450
Gaya	East India	Bihar	Thunderstorm	07-06-18	1620	1745
Bhagalpur	East India	Bihar	Thunderstorm	08-06-18	0600	0730
Purnia	East India	Bihar	Thunderstorm	07/08-06-18	071715	072000
					080440	080520
					080750	080820
Ranchi	East India	Jharkhand	Thunderstorm	07-06-18	1140	1515
Jamshedpur	East India	Jharkhand	Thunderstorm	07-06-18	1625	1740
Daltonganj	East India	Jharkhand	Thunderstorm	07-06-18	1245	1400
Jharsuguda	East India	Odisha	Thunderstorm	08-06-18	0240	0600
Chandbali	East India	Odisha	Thunderstorm	07-06-18	1245	1420
Gopalpur	East India	Odisha	Thunderstorm	08-06-18	0700	0815
Keonjhar	East India	Odisha	Thunderstorm	07-06-18	1615	1800
Port Blair	East India	Andaman & Nicobar	Squall from West with max speed 89kmph	08-06-18	0110	0111
			Squall from West with max speed 91kmph	08-06-18	0245	0246
Dhubri	Northeast India	Assam	Thunderstorm	07-06-18	1300	1445
Guwahati	Northeast India	Assam	Thunderstorm	07-06-18	1320,	1910,

					2025	2055
Barapani	Northeast India	Meghalaya	Thunderstorm	07-06-18	1340	1545
Shillong	Northeast India	Meghalaya	Thunderstorm	07-06-18	1315	1600
Lengpui	Northeast India	Mizoram	Thunderstorm	08-06-18	0500	0700
Kailasahar	Northeast India	Tripura	Thunderstorm	07-06-18	0831	0940
Agartala	Northeast India	Tripura	Thunderstorm	08-06-18	0525	0750
Nagpur	Central India	Vidarbha	Thunderstorm	07-06-18	1636	2320
Amravati	Central India	Vidarbha	Thunderstorm	07-06-18	0830	1030
Bramhapuri	Central India	Vidarbha	Thunderstorm	07/08-06-18	072300	080020
Yeotmal	Central India	Vidarbha	Thunderstorm	07-06-18	0900	1000
Chhindwada	Central India	East Madhya Pradesh	Thunderstorm	07-06-18	1600	1700
Chhindwada	Central India	East Madhya Pradesh	Thunderstorm	07-06-18	1900	2100
Raipur	Central India	Chhattisgarh	Thunderstorm	07-06-18	0010	0045
Ambikapur	Central India	Chhattisgarh	Thunderstorm	07-06-18	1145	1230
Pendra Rd	Central India	Chhattisgarh	Thunderstorm	07-06-18	071930	080300
Jagdalpur	Central India	Chhattisgarh	Thunderstorm	07-06-18	1900	2115
Panaji			Thunderstorm	07-06-18	071305 072245	071320 080320
Nizamabad	South India	Telangana	Thunderstorm	07/08-06-18	072330	080130
Ramagundam	South India	Telangana	Thunderstorm	07-06-18	0400	0700
Kalingapatnam	South India	Andhra Pradesh (CAP)	Thunderstorm	07-06-18	1945	2330
Tuni	South India	Andhra Pradesh	Thunderstorm	07-06-18	2100	2130
Masulipatnam	South India	Andhra Pradesh (CAP)	Thunderstorm	07-06-18	0831	0900
Narsapur	South India	Andhra Pradesh (CAP)	Thunderstorm	07-06-18	0200	0400
Kurnool	South India	Andhra Pradesh (RYSM)	Thunderstorm	07-06-18	1850 1940	1920 2155
Anantapur	South India	Andhra Pradesh (RYSM)	Thunderstorm	07-06-18	1850	2000
Kavali	South India	Andhra Pradesh (CAP)	Thunderstorm	07-06-18	2000	2100
Nellore	South India	Andhra Pradesh (CAP)	Thunderstorm	07-06-18	1910	1930

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(upto03UTCof today)

IMR: http://satellite.imd.gov.in/img/3Ddaily_imr.jpg

HEM: http://satellite.imd.gov.in/img/3Ddaily_he.jpg

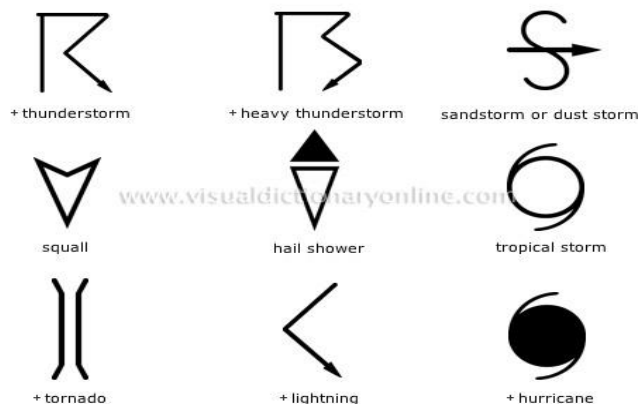
For Radar images of the past 24 hours including mosaic of images:

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	