



India Meteorological Department

FDP STORM Bulletin No. 92 (06-06-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC Inference (0300UTC of the day):

- ◆ Southwest Monsoon has further advanced into some more parts of South Interior Karnataka, most parts of Rayalaseema, South Coastal Andhra Pradesh and West Central Bay of Bengal, remaining parts of eastcentral Bay of Bengal and some more parts of northwest Bay of Bengal. The Northern Limit of Monsoon (NLM) passes through Lat. 14°N/ Long. 60°E, Lat. 14°N/ Long. 70°E, Shirali, Chitradurga, Kurnool, Narsapur, Machilipatnam, Lat. 17°N/ Long. 85°E, Lat. 19°N/ Long. 90°E, Agartala, Lumding, north Lakhimpur and Lat. 29°N/ Long. 95°E. Conditions are favorable for further advance of Southwest Monsoon into some more parts of Central Arabian Sea, some parts of south Konkan & Goa, remaining parts of Karnataka and Rayalaseema, some parts of Telangana, some more parts of Coastal Andhra Pradesh and West Central Bay of Bengal during next 24 hours. Conditions are very likely to become favorable for further advance of Southwest Monsoon into some more parts of Maharashtra, Telangana & Coastal Andhra Pradesh in subsequent 48 hours. Conditions are also likely to become favorable for further advance of Southwest Monsoon into most parts of Arabian Sea, remaining parts of Maharashtra, some parts of Gujarat, southern parts of Madhya Pradesh & Chhattisgarh, Odisha, West Bengal & Sikkim, remaining parts of Northeastern states and most parts of Bay of Bengal during 09th to 11th June.
- ◆ A cyclonic circulation extending upto 1.5 km above mean sea level lies over Punjab & neighbourhood.
- ◆ The EastWest trough now runs from the above cyclonic circulation to north Chhattisgarh across Haryana, northeast Rajasthan and North Madhya Pradesh and extends upto 1.5 km above mean sea level.
- ◆ The cyclonic circulation over northeast Rajasthan & neighbourhood now lies over northwest Madhya Pradesh & neighbourhood and extends upto 1.5 km above mean sea level and lies embedded in the above trough.
- ◆ The cyclonic circulation between 1.5 & 2.1 km above mean sea level over northeast Chhattisgarh & neighbourhood now lies over Jharkhand & neighbourhood.
- ◆ The cyclonic circulation over southwest Uttar Pradesh & neighbourhood now lies over East Uttar Pradesh & neighbourhood and extends between 3.1 km & 5.8 km above mean sea level.
- ◆ The off shore trough at mean sea level from south Maharashtra coast to north Kerala coast extending upto 0.9 km above mean sea level persists.
- ◆ A cyclonic circulation lies over south Madhya Maharashtra and adjoining south Konkan and extends upto 1.5 km above mean sea level.

- ◆ The eastwest shear zone now runs roughly along Lat. 14°N across south Peninsular India and seen between 5.8 & 7.6 km above mean sea level.
- ◆ The cyclonic circulation over northern parts of Westcentral Bay of Bengal & neighbourhood between at 3.1 & 4.5 km above mean sea level now lies over northern parts of Central Bay of Bengal and adjoining north Bay of Bengal.
- ◆ A Low Pressure Area is very likely to develop over North Bay of Bengal around 08th June.
- ◆ A trough in westerlies between 3.1 km & 5.8 km above mean sea level runs roughly along long.77° E to the north of Lat. 30°N.

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 East –central Punjab, Northwest Uttar Pradesh, Southeast Uttarakhand, and weak to moderate convection seen over Himachal Pradesh, North Punjab, Haryana, Delhi , rest Uttarakhand, and extreme Southeast Uttar Pradesh. Scattered low/medium clouds seen over Jammu & Kashmir, rest Punjab and rest Uttar Pradesh.

East:

Scattered low/medium clouds with embedded moderate to intense convection seen over extreme North Chhattisgarh, Northwest Jharkhand, North Coastal Odisha, Coastal Gangetic West Bengal, West Meghalaya, adjoining West Assam, Northwest Bangladesh and isolated weak to moderate convection seen over rest Odisha, West Bihar, and Northeastern states. Scattered low/medium clouds seen over rest parts of the region.

West:

Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Northeast Rajasthan, adjoining Northwest Rajasthan, South Gujarat, Madhya Pradesh and Maharashtra. Scattered low/medium clouds seen over Southeast Rajasthan, North Gujarat and Goa.

South:

Broken low/medium clouds with embedded intense to very intense convection seen over central Coastal Andhra Pradesh, adjoining Rayalaseema, Bay Islands, and isolated weak to moderate convection seen over Telangana, South Kerala, South Tamilnadu, and Lakshadweep. Scattered low/medium clouds 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 and weak to moderate convection seen over southeast Arabian Sea and Comorin.

Bay of Bengal & Andaman Sea:

Broken low/medium clouds with embedded intense to very intense convection seen over Westcentral Bay and North Andaman Sea. Scattered low/medium clouds with embedded moderate to intense convection seen over South Bay & East-central Bay.

Past Weather:

Convection (during last 24 hrs):

Moderate to Intense convection was observed over J&K Himachal Pradesh Punjab North Rajasthan Haryana Delhi Uttarakhand Uttar Pradesh Madhya Pradesh Bihar Jharkhand Chhattisgarh Odisha West Bengal Sikkim North-East States Telangana Andhra Pradesh South Gujarat Maharashtra Goa Karnataka Kerala Tamilnadu Lakshadweep Andaman & Nicobar Islands.

OLR:-

Up to **230** wm^{-2} was observed over J&K Himachal Pradesh Uttarakhand Gangetic West Bengal Meghalaya South Assam Manipur Mizoram Tripura Odisha Chhattisgarh South Madhya Pradesh Maharashtra Telangana Andhra Pradesh Karnataka Kerala Tamilnadu Lakshadweep Andaman & Nicobar Islands.

Synoptic Features:

Westerly Trough & Jet-Stream-Trough in Westerlies roughly along Longitude 78.0E & north of Latitude 30.0N.

Dynamic Features:

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

Negative Shear tendency is observed over North Gujarat South Rajasthan West Madhya Pradesh Vidarbha & North-East States (.)

Vorticity (850 hPa) up to 250 is observed over East Uttar Pradesh West Madhya Pradesh North Interior Karnataka Telangana Extreme South Tamilnadu.

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

Precipitation:

IMR:

Rainfall Up to 150 mm was observed over South-West J&K.

Rainfall Up to 130 mm was observed over West Vidarbha East Telangana adjoining South Chhattisgarh Central Coastal Andhra Pradesh.

Rainfall Up to 110 mm was observed over South-West Madhya Pradesh North Madhya Maharashtra North Marathwada.

Rainfall Up to 90 mm was observed over South Odisha Andaman Islands.

Rainfall Up to 70 mm was observed over West Punjab North-West Himachal Pradesh Gangetic West Bengal Mizoram adjoining South Assam South Konkan North Interior Karnataka North-East Rayalseema .

Rainfall Up to 50 mm was observed over West Uttarakhand South Haryana North-East Rajasthan South-East Gujarat rest South Chhattisgarh West Telangana North Coastal Andhra Pradesh South Parts of South Interior Karnataka North Tamilnadu

Rainfall Up to 30 mm was observed over North-East Haryana South Himachal Pradesh.

Rainfall Up to 20 mm was observed over South-East J&K North-West Uttar Pradesh North Madhya Pradesh North Odisha Nagaland Nicobar Island.

Rainfall Up to 10 mm was observed over East Punjab rest Himachal Pradesh E Uttarakhand rest Haryana Delhi East Uttar Pradesh West Bihar Jharkhand East Manipur rest Maharashtra Rest Karnataka rest Andhra Pradesh Kerala South Tamilnadu & Lakshadweep.

DWR and RAPID Observations:

DWR Chennai domain at 1600IST indicates multiple moderate to strong echoes with dBZ around 55 & height 14-18km. DWR Hyderabad, Machilipatnam, Thiruvananthapuram, Kochi, Gopalpur, Visakhapatnam, Paradeep, Mumbai, Nagpur, Bhopal, Patna, Agartala, Mohanbari, Jaipur, Patiala domains also indicates isolated/multiple light to moderate echoes at around 1600IST.

RAPID RGB Satellite imagery at 1500 IST indicates significant convection over East Madhya Pradesh adjoining extreme southeast Uttar Pradesh, Chhattisgarh, Coastal Andhra Pradesh, Telangana, South Rayalaseema, North Tamilnadu, Coastal & North Interior Karnataka, Konkan & Goa, Madhya Maharashtra, South Gangetic West Bengal, Odisha, Northeastern parts of Sub-Himalayan West Bengal, West Assam, West Meghalaya, Himachal Pradesh, Uttarakhand, eastern parts of Haryana, East Rajasthan, 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	06.06.2018	07.06.2018
PM10 (micro-g/m ³)	150	180
PM2.5 (micro-g/m ³)	58	69

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

Low level Cycirs, Troughs: 00 UTC Day2-5: Weak CYCIR at 850/925 hPa over north BoB and intensifying in day 3-5 forecast and tracking towards Bangladesh

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

00UTC of Day 2-3: Trough along and off coast of Gujarat and Maharashtra.

Synoptic systems: 00UTC Day 5: WD as trough over 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: East_RJ, West_MP, TN_Puducherry,

Day1: Arunachal_Pradesh, Assam_Meghalaya, Punjab, East_MP, Coastal_AP,

Day2: Arunachal_Pradesh, Assam_Meghalaya, Punjab, Jammu_Kashmir, East_MP,

Day3: Nil

Day4: Nil

4. Low level Vorticity:-Positive Vorticity:

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

Day0: West_RJ, East_RJ, West_MP, TN_Puducherry,

Day1: Jammu_Kashmir, TN_Puducherry, Kerala,

Day2: TN_Puducherry, Kerala,

Day3: Assam_Meghalaya, NE_NMMT, Gangetic_WB, Punjab, Konkan_Goa, TN_Puducherry, Kerala,

Day4: Assam_Meghalaya, NE_NMMT, Gangetic_WB, Bihar, Odisha, Guj_Reg, Konkan_Goa, Chhattisgarh, TN_Puducherry, Kerala

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

Day/Index: Subdivisions with Showalter Index < -4

- Day0: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Jharkhand, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Odisha, West_MP, Guj_Reg, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, Rayalseema, TN_Puducherry, NI_Karnataka, SI_Karnataka,
- Day1: Arunachal_Pradesh, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, Odisha, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, TN_Puducherry, 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, Odisha, Guj_Reg, Saurashtra_Kutch, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, 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, Odisha, West_MP, East_MP, Guj_Reg, Saurashtra_Kutch, Vidarbha, Chhattisgarh, Coastal_AP,
- Day4: Arunachal_Pradesh, 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, Vidarbha, Chhattisgarh, Coastal_AP

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, West_MP, Guj_Reg, Vidarbha,
- Day1: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir,
- Day2: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Vidarbha,
- Day3: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, Chhattisgarh,
- Day4: Arunachal_Pradesh, Sub_Himalayan_WB, Uttarakhand, Hry_Chhd_Delhi, Punjab, Himachal_Pradesh, Jammu_Kashmir, West_RJ, East_MP, Chhattisgarh

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

Day/Index: Subdivisions with K Index > 40

- Day0: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, Hry_Chhd_Delhi, 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, Rayalseema, TN_Puducherry, NI_Karnataka, SI_Karnataka,

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Jharkhand, Bihar, East_UP, West_UP, Uttarakhand, 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, Rayalseema, TN_Puducherry, NI_Karnataka, SI_Karnataka,

Day2: 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, Rayalseema, 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, Madhya_Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal_AP, Telangana, NI_Karnataka,

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, Saurashtra_Kutch, Konkan_Goa, Vidarbha, Chhattisgarh, Coastal_AP, Telangana

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day1: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Gangetic_WB, Konkan_Goa, Madhya_Maharashtra, Marathwada, Andaman_Nicobar, Telangana, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day2: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Sub_Himalayan_WB, Jharkhand, Uttarakhand, Himachal_Pradesh, Odisha, Konkan_Goa, Madhya_Maharashtra, Marathwada, Andaman_Nicobar, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day3: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Gangetic_WB, Jharkhand, Uttarakhand, Himachal_Pradesh, Odisha, Guj_Reg, Konkan_Goa, Madhya_Maharashtra, Chhattisgarh, Andaman_Nicobar, Coastal_AP, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day4: Arunachal_Pradesh, Assam_Meghalaya, NE_NMMT, Gangetic_WB, Jharkhand, East_UP, West_UP, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Saurashtra_Kutch, Konkan_Goa, Madhya_Maharashtra, Chhattisgarh, Andaman_Nicobar, Coastal_AP, Telangana, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

Day5: Arunachal_Pradesh, NE_NMMT, Gangetic_WB, Jharkhand, Uttarakhand, Himachal_Pradesh, Jammu_Kashmir, Odisha, Guj_Reg, Konkan_Goa, Madhya_Maharashtra, Chhattisgarh, Andaman_Nicobar, TN_Puducherry, Coastal_Karnataka, NI_Karnataka, SI_Karnataka, Kerala,

**** Heavy rainfall activity > 8cm at few places along west coast in Day 4-5 (includes Mumbai)**

**** Heavy rainfall activity > 8cm along Odisha coast and some parts of interior Odisha in Day 3-5.**

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

1. Synoptic Systems:

The analysis based on 00 UTC indicates a cyclonic circulation over Punjab and adjoining Northwest Rajasthan in lower Troposphere (850hPa). The forecast shows it will merge with Trough on day1. An East- West Oriented Trough extends from this cyclonic circulation to North Chhattisgarh across Haryana, North East Rajasthan, and North Madhya Pradesh. The forecast shows the Trough persist till day3 with Northward shift. Analysis shows another cyclonic circulation over Northwest Madhya Pradesh and adjoining area. The forecast shows it will become less marked on day2. The analysis shows another cyclonic circulation at 850hPa over Jharkhand and adjoining area. The forecast shows it will persist till day2. The analysis shows an off shore Trough extends from South coastal Maharashtra to North Kerala coast at (925hPa). The forecast shows it will persist till day3. Another cyclonic circulation is seen in the analysis over South Madhya Maharashtra and South Konkan at 850hPa. The forecast shows it will become less marked on day 2.

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

Although the presence of strong westerlies is found over extreme South Peninsular India on day 3 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)}:850hPa Positive Vorticity (>12 x 10⁻¹/s): Low level Positive Vorticity is seen mostly along the East-West Trough, around the cyclonic circulations, central parts of India, Punjab, Haryana, Northwest Rajasthan, Madhya Pradesh, Vidharbha and adjoining areas during next 3 days; Low level Positive Vorticity is also seen over parts Tamil Nadu and Kerala 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, Punjab, Haryana, Gujarat, Rajasthan, East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, SHWB, Orissa, coastal Maharashtra, Konkan & Goa, coastal and Interior Karnataka, Tamil Nadu, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, Vidharbha, Chhattisgarh, East and west Madhya Pradesh, Andhra Pradesh, along east and west coast of India, Sikkim, Assam and adjoining areas on day 1; on day 2 it remains over same region and also appear over parts of West Uttar Pradesh, Meghalaya, Tripura, Mizoram, Nagaland and adjoining areas; on day 3 it remains over same region and appears over Delhi and adjoining areas, NE states, West Uttar Pradesh, J&K, Himachal Pradesh and Uttarakhand; Significant zone lies over Gujarat, Rajasthan, Madhya Pradesh, Madhya Maharashtra, Chhattisgarh, Marathwada, Vidharbha, Uttar Pradesh, Punjab, Haryana and Delhi.

Lifted Index (< -2): Similar to T-storm Index lies over parts of J&K, Punjab, Haryana, Gujarat, Rajasthan, East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, SHWB, Orissa, coastal Maharashtra, Konkan & Goa, coastal and Interior Karnataka, Tamil Nadu, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, Vidharbha, Chhattisgarh, East and west Madhya Pradesh, Andhra Pradesh, along east and west coast of India, Sikkim, Assam and adjoining areas on day 1; on day 2 it remains over same region and also appear over parts of West Uttar Pradesh, Meghalaya, Tripura, Mizoram, Nagaland and adjoining areas; on day 3 it remains over same region and appears over Delhi and adjoining areas, NE states, West Uttar Pradesh, J&K, Himachal Pradesh and Uttarakhand.

Total Total Index (> 50): Higher than Threshold value of the Index is seen over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Gujarat, Rajasthan, Uttar Pradesh, Chhattisgarh, Madhya Pradesh, Vidharbha, Madhya Maharashtra, Marathwada, Telangana, Sikkim

and Arunachal Pradesh on day 1; on day 2 it remains over same region but appears over Orissa and disappear over Punjab and Uttar Pradesh; on day 3 also it remains over same region but appears over parts of Bihar, Jharkhand and Orissa and adjoining areas.

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 Himachal Pradesh, Uttarakhand, Foothills of Himalaya, Sikkim, Arunachal Pradesh and Northwest Rajasthan during next 3 days.

CAPE (> 1000): Mostly seen over parts of Gujarat, 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; over parts of Rajasthan and East Uttar Pradesh on day 2 and 3; over parts of Punjab, Haryana, Delhi, Himachal Pradesh, Uttarakhand and west Uttar Pradesh on day 3; maximum value of the index is seen over parts of Gujarat, coastal Maharashtra, coastal Orissa, GWB and West Rajasthan.

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 130 mm Rainfall: over parts of Vidharbha adjoining Marathwada, South coastal Maharashtra, Konkan and Goa on day 3; foothills of Himalaya on day 2.

70-130 mm Rainfall: over parts of coastal Maharashtra and adjoining Madhya Maharashtra on day 1 and 3; over parts of North Bihar and Foothills of Himalaya, Telangana, Konkan and Goa, coastal and Interior Karnataka, Konkan and Goa on day 2; over most of the parts of Vidharbha, Madhya Maharashtra and Marathwada, parts of Northwest Bihar, Telangana, Konkan and Goa on day 3.

40-70 mm Rainfall: over parts of coastal Maharashtra, Madhya Maharashtra, Marathwada, Orissa and NE states during next 3 days; over parts of Sikkim, Telangana, Bihar, Chhattisgarh, coastal and Interior Karnataka, Kerala, foothills of Himalaya, Konkan and Goa on day 2 and 3; over parts of Andhra Pradesh and most of the parts of Vidharbha on day 3.

10-40 mm Rainfall: over parts of Uttarakhand, Foothills of Himalaya, Bihar, Jharkhand, Sikkim, NE states, GWB, SHWB Orissa, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, East Madhya Pradesh, Vidharbha, coastal Maharashtra, Konkan and Goa during next 3 days; over parts of East Uttar Pradesh on day 2 and 3; over parts of West Uttar Pradesh and west Madhya Pradesh on day 3.

Up to 10 mm rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Rajasthan Haryana, Delhi, 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.

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

1. Model Reflectivity (Max. dBz):

>25 dBZ Model Reflectivity: On day 1, over parts of Kerala, Tamil Nadu, Karnataka, NE states, Orissa, Jharkhand, GWB, SHWB, Sikkim, Telangana, Rayalaseema, Andhra Pradesh, Madhya Maharashtra, Marathwada, Vidharbha, coastal Maharashtra including Mumbai, Konkan and Goa, East Madhya Pradesh, Chhattisgarh along the west coast; On day 2 over parts of Kerala, Tamil Nadu, Orissa, Andhra Pradesh, Chhattisgarh, Telangana, Assam, Tripura, Mizoram, Meghalaya and adjoining area, Rayalaseema, Madhya Maharashtra, Marathwada, Vidharbha, South coastal Maharashtra, Konkan and Goa, North Bihar and adjoining East Uttar Pradesh ; On day 3 mostly over parts of Kerala, Tamil Nadu, Andhra Pradesh, GWB, Bihar, Orissa, Sikkim, NE states, Madhya Maharashtra, Marathwada, Chhattisgarh, East Madhya Pradesh, Vidharbha, Karnataka, Telangana, Rayalaseema, Konkan and Goa, coastal Maharashtra including Mumbai, Uttarakhand, Uttar Pradesh and adjoining areas

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 Gujarat, Rajasthan, East and West Uttar Pradesh, 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, Uttarakhand and NE states during next 3 days; below threshold value is also seen over parts of Haryana and adjoining Himachal Pradesh 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. 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 Gujarat, East 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; over parts of J&K, Punjab, Haryana, Rajasthan, Delhi, West Uttar Pradesh, Himachal Pradesh and Uttarakhand from day 2 onwards; Maximum value of the index is seen over the parts of Gujarat, coastal Andhra Pradesh, Orissa, NE states, Punjab, Haryana and Delhi.

CIN (50-150): The value of the index lies in above range over most of the parts of the country except southern parts of the west coast on day 1; over most of the parts of the country except Eastern parts of the country Bihar, Jharkhand, GWB, SHWB, southern parts of the west coast on day 2 and 3; it has significant larger values over North-western and Central parts of country including Punjab, Himachal Pradesh, Haryana, Delhi, Gujarat, Rajasthan, Madhya Pradesh and Madhya Maharashtra..

3. Rainfall and thunderstorm activity:

Above 130 mm Rainfall: over parts of South coastal Karnataka, Konkan and Goa on day 2 and 3; over some parts of South Coastal Maharashtra on day 3.

70- 130 mm Rainfall: over some parts of Marathwada and South Kerala on day 1; over parts of Kerala, Coastal Karnataka, Coastal Maharashtra, Konkan and Goa on day 2 and 3; over parts of Arunachal Pradesh, Manipur, Uttarakhand adjoining West Uttar Pradesh and South Tamil Nadu on day 3.

40- 70 mm Rainfall: over parts of Kerala, Karnataka, Orissa, coastal Maharashtra, Tamil Nadu, Konkan and Goa during next 3 days; over parts of Assam, Meghalaya, Mizoram, Nagaland, Manipur on day 1; over parts of Madhya Maharashtra, Marathwada, Uttarakhand, Uttar Pradesh and Mizoram on day 2 and 3; over parts of Chhattisgarh, Arunachal Pradesh, Assam, Manipur, Nagaland and adjoining area on day 3; over parts of Andhra Pradesh on day 2.

10- 40 mm Rainfall: Over parts of Himachal Pradesh, Uttarakhand, 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, Vidharbha, Chhattisgarh and NE states during next 3 days; over parts Uttar Pradesh on day 2 and 3; over parts of East Madhya Pradesh on day 3.

Up to 10 mm Rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, Foothills of Himalaya, Rajasthan, 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; Over parts of Haryana, Delhi and adjoining area on day 1 and 3.

3. IOP ADVISORY FOR 24 and 48Hrs:

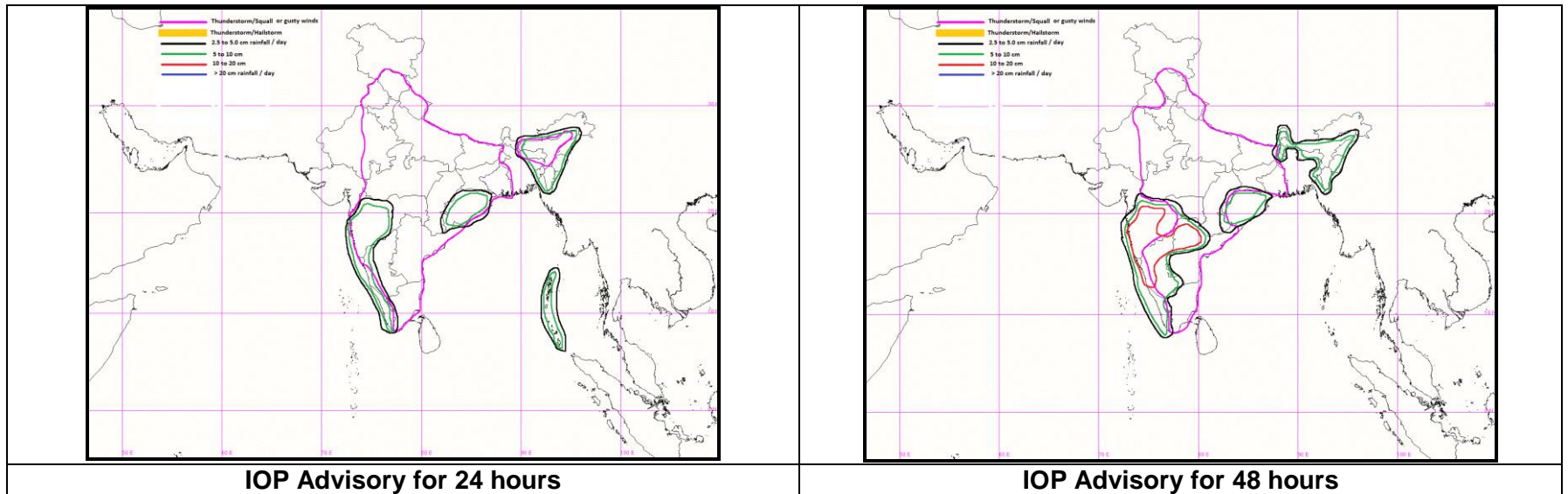
Summary and Conclusions:

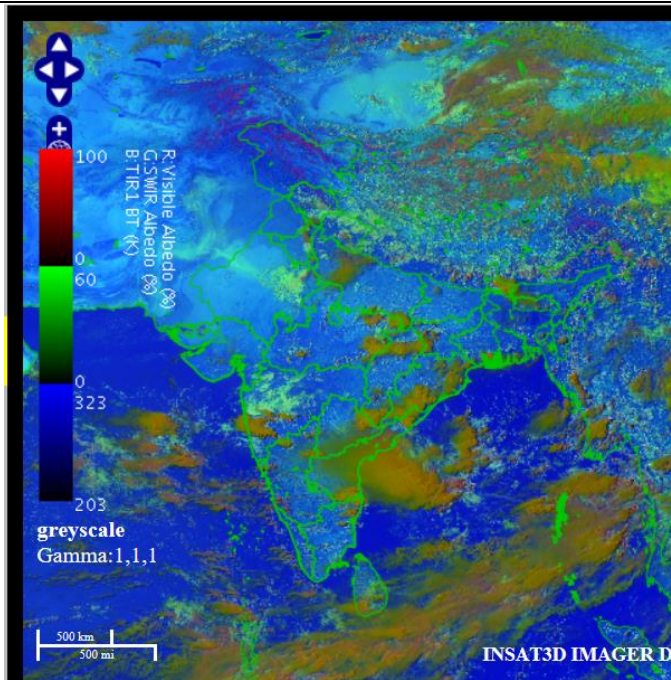
- Most thermodynamic indices (T-STORM Initiation Index, Lifted Index, CAPE) from IMD GFS deterministic model indicate high probability of thunderstorm occurrence over Gujarat region extending to east coast through central Indian region on day 1 as well as on day 2. However, K-Index shows high values along foothills and also along coastal Maharashtra, with values decreasing on day 2.
- The reflectivity forecast values from IMD WRF model indicates highest probability of rainfall over southwest Maharashtra on day 1 and over the coastal region of Andhra Pradesh on day 2.
- The synoptic analysis indicates a cyclonic circulation extending upto 1.5 km above mean sea level over Punjab & neighbourhood. An east-west trough now runs from this cyclonic circulation to north Chhattisgarh across Haryana, northeast Rajasthan and North Madhya Pradesh and extends upto 1.5 km above mean sea level. Another cyclonic circulation lies embedded in the above trough over northwest Madhya Pradesh & neighbourhood extending upto 1.5 km above mean sea level. The easterly winds over the northern plains cause moisture incursion leading to the development of thunderstorms though out north India. There are two more cyclonic circulations over Jharkhand & neighbourhood and over east Uttar Pradesh & neighbourhood. These systems also may trigger convective activity over east India.
- With the presence of the off shore trough from south Maharashtra coast to north Kerala coast, the west coast can expect 5-10 cm rainfall on day 1. With the expected northward progress of the monsoon and also due to the presence of the cyclonic circulation over south Madhya Maharashtra and adjoining south Konkan, the rainfall area will extend to interior parts of western Maharashtra and north Interior Karnataka and adjoining areas of Telengana on day 2 with the region likely to experience heavy amounts of rain in the range 10-20 cm. The east-west shear zone which is present over south Peninsular India will also help in enhancing the rainfall. The strengthening of the monsoon current also is a causative factor here.
- The cyclonic circulation over northern parts of Central Bay of Bengal and adjoining north Bay of Bengal is likely to cause thunderstorm activity and significant rainfall of the order of 5-10 cm over Odisha on day 1 and day 2.

IOP Area for Day-1 & Day-2:

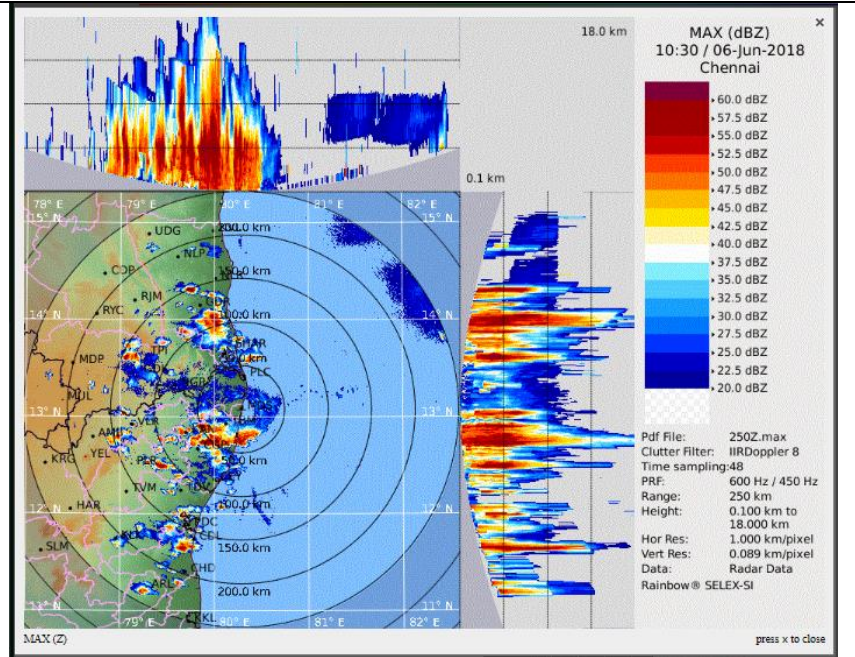
24 hour Advisory for IOP:	48 hour Advisory for IOP:
<p>Significant Rainfall: Kerala, Coastal Karnataka Konkan and Goa, Madhya Maharashtra Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura Odisha, Andaman and Nicobar Islands</p> <p>Thunderstorm with squall or gusty winds: Tamilnadu, Interior Karnataka, Telengana, Rayalaseema, Coastal Andhra Pradesh Konkan and Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Madhya Pradesh, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh, Delhi, Uttar Pradesh, East Rajasthan Jharkhand, Bihar, Odisha, Gangetic West Bengal Assam & Meghalaya</p> <p>Thunderstorm with squall and hail Nil</p> <p>Duststorm: Nil</p>	<p>Significant Rainfall: Telangana, Karnataka, Kerala Konkan and Goa, Madhya Maharashtra, Marathwada Assam, Meghalaya, Nagaland, Manipur, Mizoram, Tripura Sub-Himalayan West Bengal & Sikkim, Odisha</p> <p>Thunderstorm with squall or gusty winds: Tamilnadu, Interior Karnataka, Telengana, Rayalaseema, Coastal Andhra Pradesh Vidarbha, Chhattisgarh, Madhya Pradesh, Himachal Pradesh, Uttarakhand, Haryana, Chandigarh, Delhi, Uttar Pradesh, East Rajasthan Jharkhand, Bihar, Gangetic West Bengal</p> <p>Thunderstorm with squall and hail Nil</p> <p>Duststorm: Nil</p>

Graphical Presentation of Potential Areas for Severe Weather:

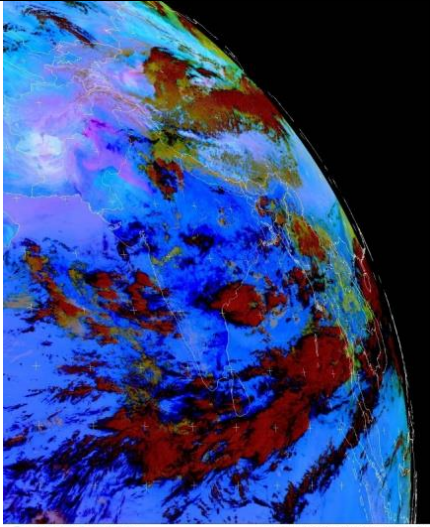




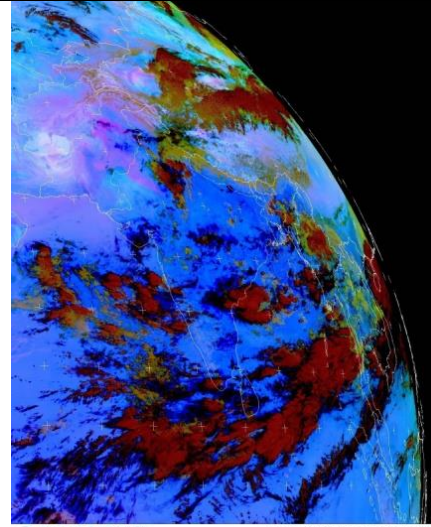
RAPID RGB Imagery at 1500 IST of the Day



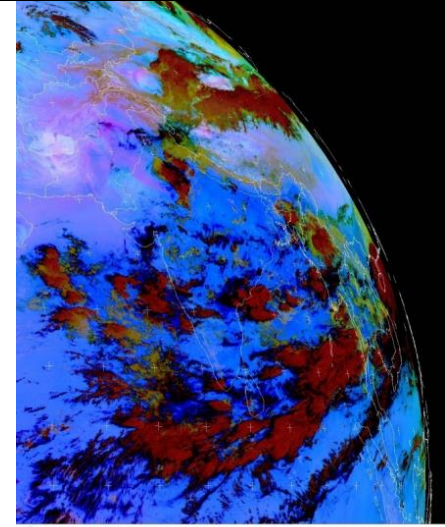
DWR Chennai reflectivity at 1600IST



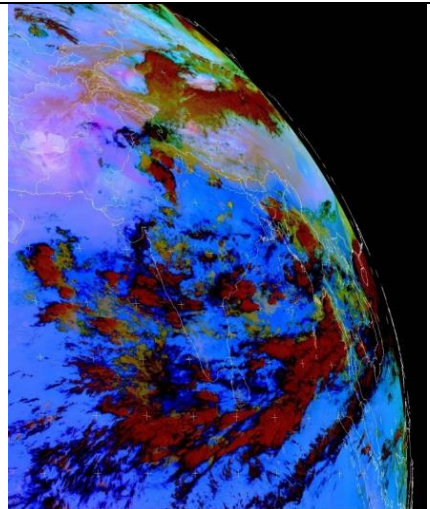
Meiosat IODC Dust, 2018-06-06 05:00:00



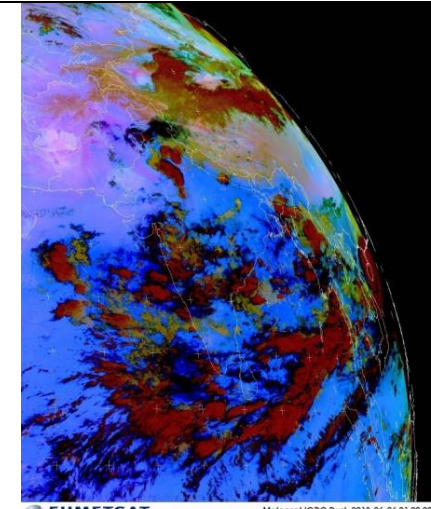
Meiosat IODC Dust, 2018-06-06 04:00:00



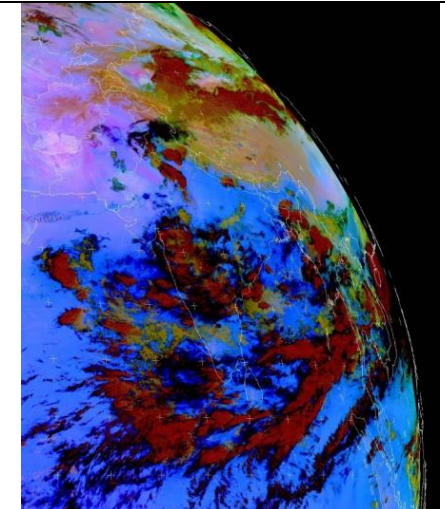
Meiosat IODC Dust, 2018-06-06 03:00:00



Meiosat IODC Dust, 2018-06-06 02:00:00



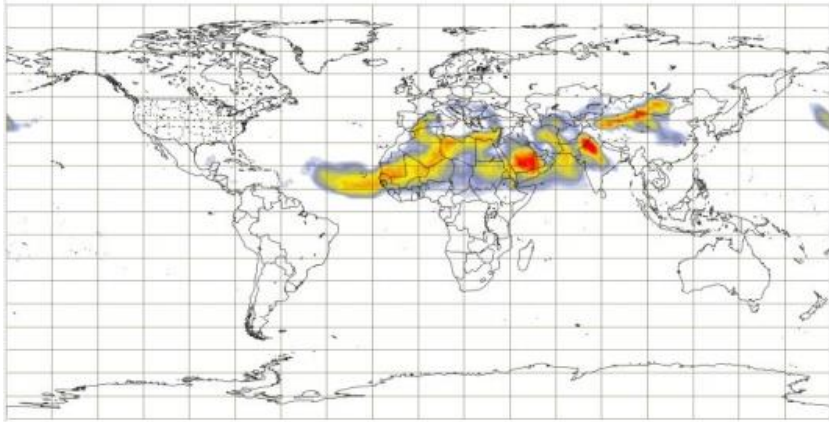
Meiosat IODC Dust, 2018-06-06 01:00:00



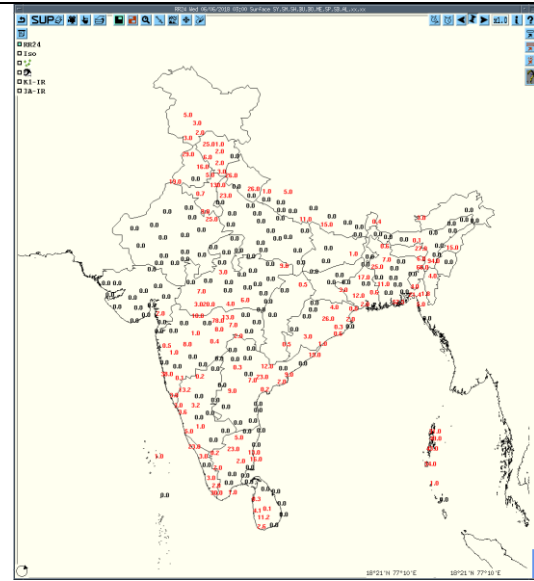
Meiosat IODC Dust, 2018-06-06 00:00:00

Observed Satellite Dust Images of today

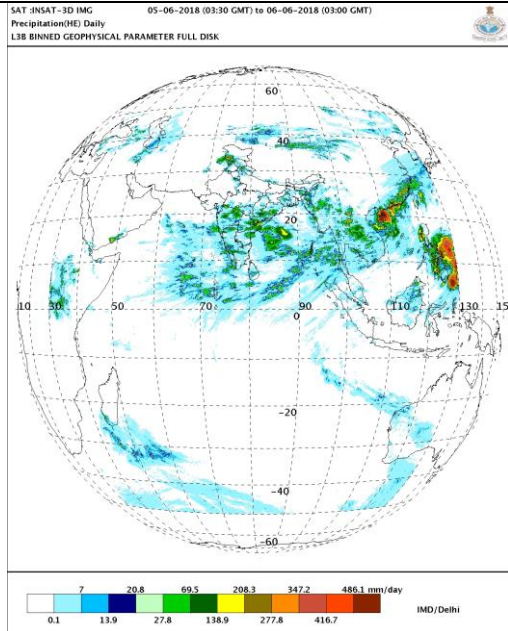
Dust aerosol optical depth at 550 nm (provided by CAMS, the Copernicus Atmosphere Monitoring Service)
 Tuesday 5 Jun, 00 UTC T+120 Valid: Sunday 10 Jun, 00 UTC



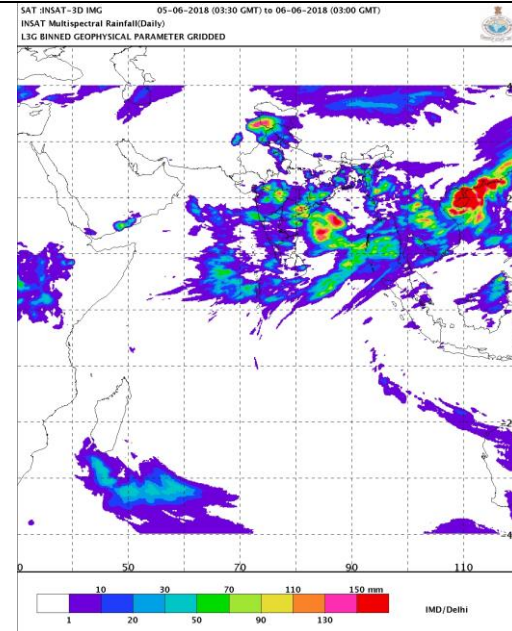
Dust Forecast



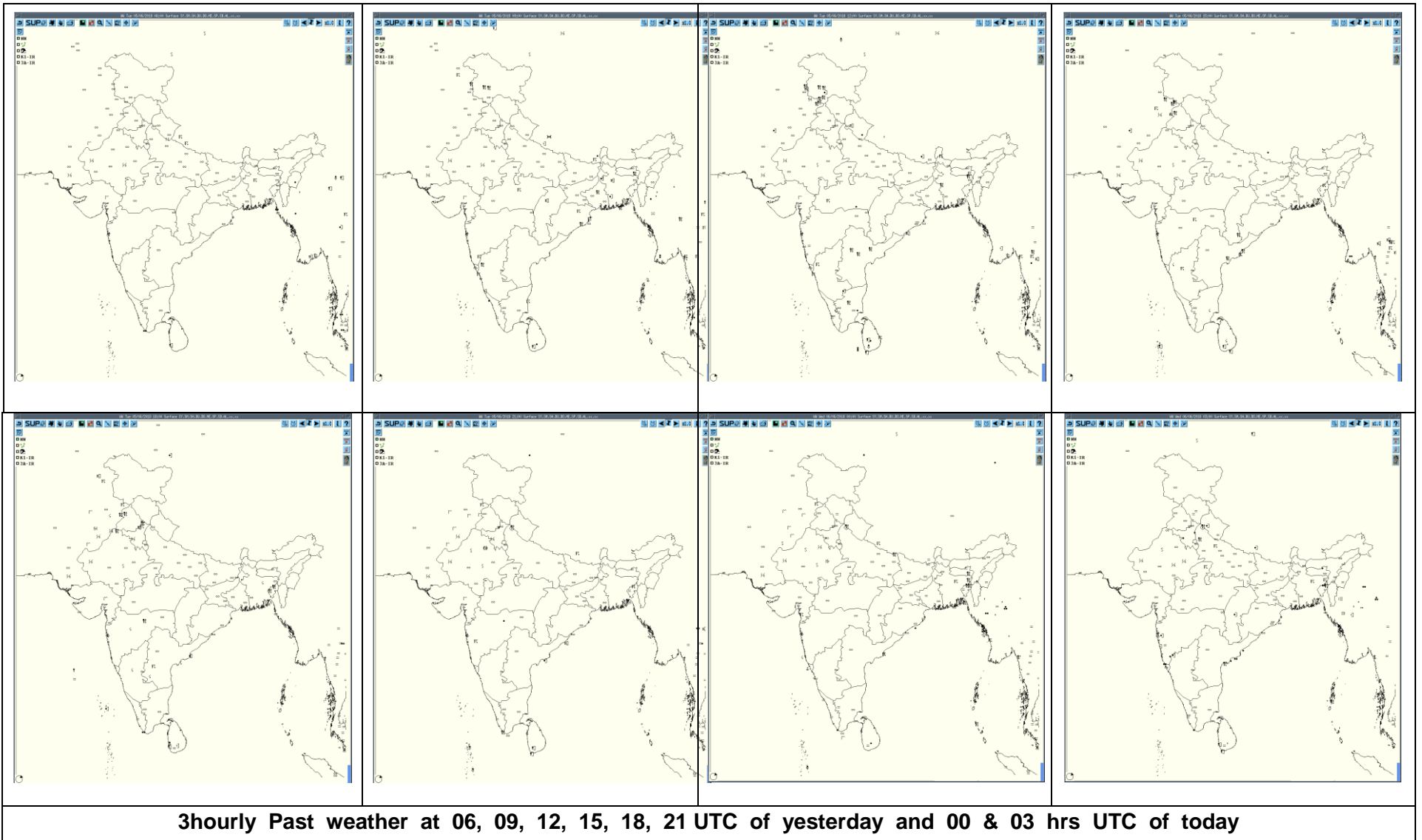
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today

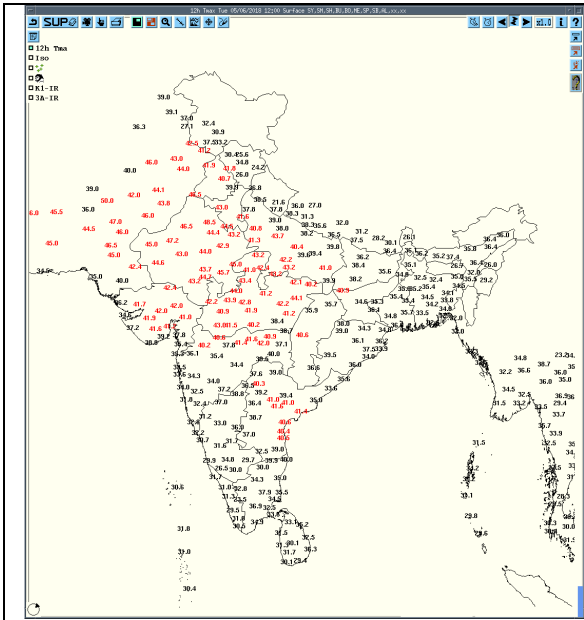


HEM

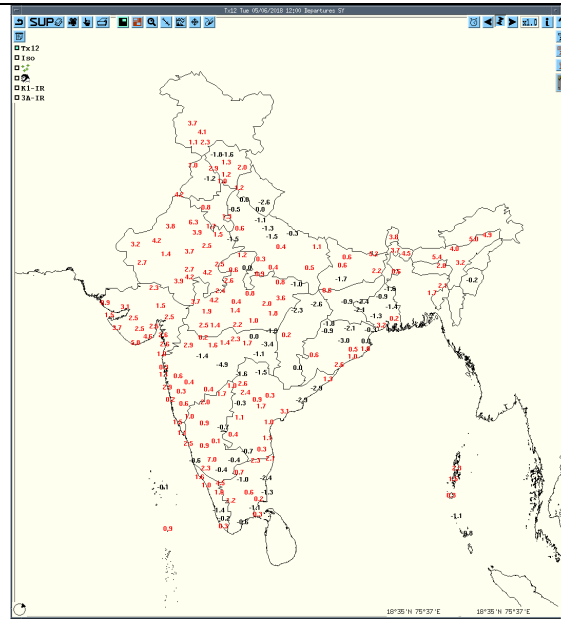


IMR

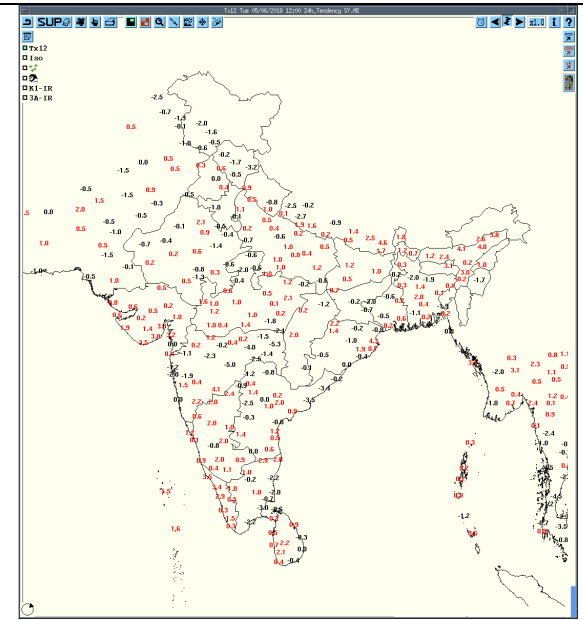




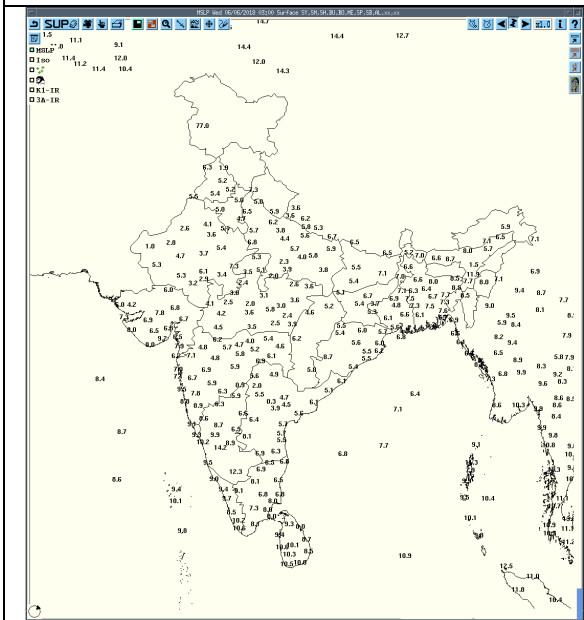
T_{max}



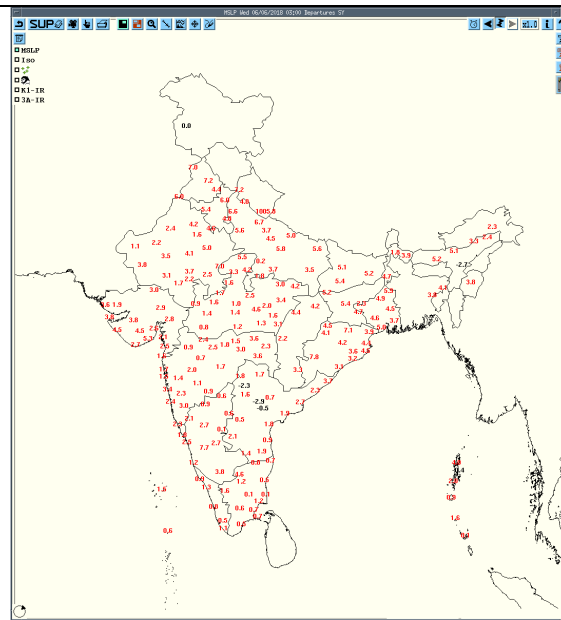
Departure T_{max}



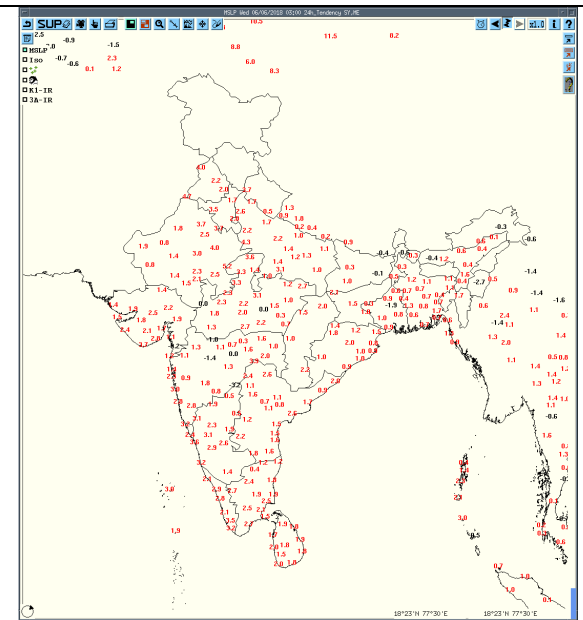
Tendency T_{max}



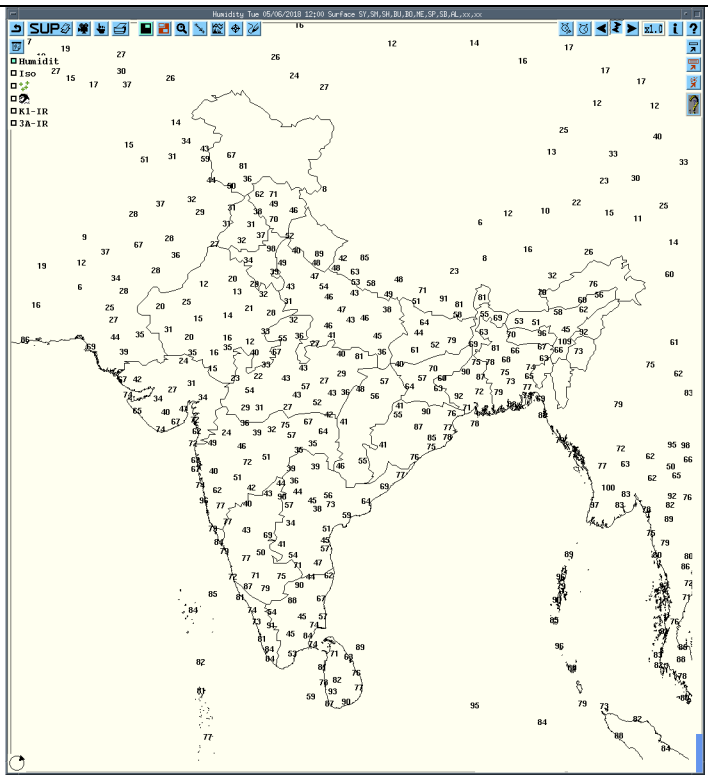
MSLP



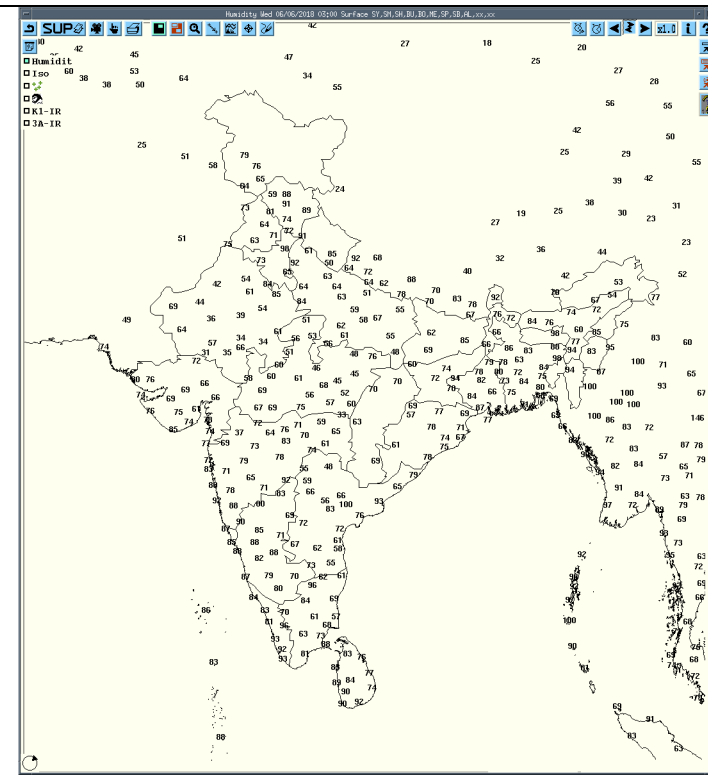
Departure MSLP



Tendency MSLP



RH at 1200UTC yesterday



RH at 0300UTC today

Past 24 hours DWR Report:

Radar Station Name	Date	Time Interval of Observation (UTC)	Organisation of cells (Isolated single cells /multiple cells/ convective regions /squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated Severe Weather if any	Districts affected
Jaipur	06-06-18	050852-051422	Multiple cell with average height of 6.5 km & maximum reflectivity 57.5 dBZ	Multiple cell develop from 0852 UTC of 05/06/2018 towards E,SE,NE of Jaipur and moved to SW Wards at speed 15-20 km/hr	Multiple cell develop from 0852 UTC on 05/06/2018 towards E,SE,NE of Jaipur and reaches maximum reflectivity at 1342 UTC OF 05/06/2018 and Died at 1422 UTC.	Dust storm/Thunderstorm/ Light rain at Isolated places	Baran, Bundi, Tonk, Sawai-Madhopur, Jhalawar, Kota & Jaipur Districts.
		060132-060302	Multiple cell with average height of 4.5 km & maximum reflectivity 29.5 dBZ	Multiple cell develop from 0132 UTC of 06/06/2018 towards E,SE,NE,N of Jaipur and moved to SW Wards at speed 10-15 km/hr	Multiple cell develop from 0132 UTC on 06/06/2018 towards E,SE,NE,N of Jaipur and reaches maximum reflectivity at 0152 UTC OF 06/06/2018 and Died at 1422 UTC	Dust storm/Thunderstorm/ Light rain at Isolated places	Baran, Alwar, Dausa, Bharatpur, Dholpur, Karauli, Sawai-Madhopur Districts.

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	06-06-18	050300 - 050600	MULTIPLE CELLS DBZ 55.0 HEIGHT 11-13 KM	IN NE SECTORS MOVEMENT TOWARDS E- DIRECTION	--	-RA/TS	HAMIRPUR, MANDI, SUNDERNAGAR, GANGOTRI AND ITS ADJOIING ARES.
		050600 - 050900	MULTIPLE CELLS DBZ 54.5 HEIGHT 12-13 KM	IN NE SECTORS MOVEMENT TOWARDS SE- DIRECTION	--	-RA/TS	SOLAN, SHIMLA, GANGOTRI AND ITS ADJOIING ARES.
		050900- 051200	MULTIPLE CELLS DBZ 46.0 HEIGHT 06-11 KM	IN NE SECTORS MOVEMENT TOWARDS SE- DIRECTION	--	-RA/TS	PALAMPUR, SOLAN, SHIMLA, GANGOTRI AND ITS ADJOIING ARES.
		051200 - 051500	MULTIPLE CELLS DBZ 55.0 HEIGHT 09-14 KM	IN NW, NE SECTORS MOVEMENT TOWARDS SE- DIRECTION	--	-RA/TS	PATHANKOT, GURDASPUR, BATALA, MUKERIAN, DASUA, AMRITSAR, PALAMPUR, HAMIRPUR, SUNDERNAGAR, AND ITS ADJOIING ARES.
		051500 - 051800	MULTIPLE CELLS DBZ 55.5 HEIGHT 09-14 KM	IN NW, NE SECTORS MOVEMENT TOWARDS SE- DIRECTION	--	-RA/TS	MOGA, NAKODAR, JAGRAON, GARHSHSANKAR, NAWANSHAHR, PHILLAUR, LUDHIANA, PATIALA, UNA, B-DAM, NALAGARH, NADAUN, MUKERIAN, DASUA, PALAMPUR, BILASPUR, SHIMLA, HAMIRPUR, SUNDERNAGAR, AND ITS ADJOIING ARES.
		051800- 052100	MULTIPLE CELLS DBZ 56.5 HEIGHT 06-12 KM	IN SW, NW, NE SECTORS MOVEMENT TOWARDS SE- DIRECTION	--	-RA/TS	GANGANAGAR, HANUMANGARH, TALWANISABO, PATIALA, SANGRUR, NABHA, CHANDIGARH, PATIALA, SHIMLA, SOLAN, MASOORIE, GANGOTRI, AGASTHMUNI AND ITS ADJOIING ARES.
		052100- 060000	MULTIPLE CELLS DBZ 57.5 HEIGHT 10-14 KM	IN SW, SE, NE SECTORS MOVEMENT TOWARDS SE- DIRECTION	--	-RA/TS	PEHOWA, KAITHAL, PATIALA, KARNAL, KURUKSETRA, PANIPAT, SHAMLI, ISRANA, NAHAN, MUZAFARNAGAR, KALSI, DEHRADOON, RISHIKESH, HARIDWAR, ROORKIE, SIWANI, BHIWANI, NARANAUL, JHUNJHUNU, REWARI AND ITS ADJOIING ARES.
		060000- 060252	MULTIPLE CELLS DBZ 52.5 HEIGHT 9-10 KM	IN NE, SE SECTORS MOVEMENT TOWARDS SE DIRECTION	--	RA/TS	DEHRADOON, RISHIKESH, HARIDWAR, ROORKIE, DEOBAND, KARNAL, KURUKSETRA, PANIPAT, SHAMLI, ISRANA MEERUT, MORADABAD AND ITS ADJOIING ARES

Radars 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	06-06-18	050300-060300*	At 050812Z MULTIPLE CELLS ARE FOUND OVER MEGHALAYAN HILLS. ABOUT 10 TO 12 KMS, 45 DBZ.	ABOUT 180 KMS NORTH, 25KMPH E-LY.	DISIPATED OVER MEGHALAYAN HILLS AT 051302Z	NOT KNOWN	-----
			At 050922Z MULTIPLE CELLS ARE FOUND OVER HILLS OF MIZORAM. ABOUT 08 TO 10 KMS, 40 DBZ.	150 TO 200 KMS, STRETCHING FROM EAST TO SOUTH-EAST, NO MOVEMENT WAS OBSERVED.	PERSISTS OVER HILLS OF MIZORAM AND ADJOINING AREAS AT 051402Z.	NOT KNOWN	-----
			AT 060122Z MULTIPLE CELLS ARE FOUND OVER AGARTALA, KLS, AMB AND ADJOINING AREAS. ABOUT 08 TO 10 KMS, 40 DBZ.	FROM AGARTALA TO 150 KMS STRETCHING FROM NORTH TO EAST, 25 KMPH/W-LY	PERSISTS OVER AMB, KML AND KLS WITH LOW INTENSITY AT 060302Z	NOT KNOWN	-----
			AT 050132Z MLTPL CELLS ARE FOUND OVER B/DESH. ABOUT 10 TO 12 KMS, 40 DBZ	150 TO 180 KMS NORTH-WEST, 25 KMPH/SE-LY	PERSISTS OVER B/DESH AT 060302Z	NOT KNOWN	-----
* DWR was non-operational from 050600-051100IST due to power failure, further due to staff shortage DWR is kept operational from 0600 to 2000 IST.							
Mohanbari	06-06-18	050702-051112	Cell type- Multiple Avg. ht.- 8.4 Km MAX_Z:- 52 dbZ	Distance- 125 Km Direction- SSW Movement- NEly	Gradually dissipated	-	-
		051012-051112	Cell type- Isolated Avg. ht.- 8.4 Km MAX_Z:- 50.5 dbZ	Distance- 177 Km Direction- Wly Movement- Stationary	-	-	-

Radar Station Name	Date	Time Interval Of Observation (UTC)	Organisation Of The Cells(Isolated Single Cells/ Multiple Cells/ Convective Regions/ Squall Lines) With Height Of 20 dbZ echo top and maximum reflectivity	Formation w.r.t. radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Patna	06-06-18	050300 - 050922	NIL	N/A	N/A	N/A	N/A
		050922 - 051122	Single Cell Maximum Reflectivity: 37.5 dBZ Echo Top: 9.0 KM	Range: 110 KM from DWR Patna in S direction Movement: Stationary	Warning issued	N/A	GAYA
		051122 - 052032	NIL	N/A	N/A	N/A	N/A
		052032 - 052312	Single Cell Maximum Reflectivity: 45 dBZ Echo Top: 10.6 KM	Range: 130 KM from DWR Patna in SSW direction Movement: towards NORTH-WEST	Warning issued	N/A	AURANGABAD, ROHTAS
		052312 - 060300	NIL	N/A	N/A	N/A	N/A

Radars 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	06-06-18	050600	Multiple Cb cells over the sea with max reflectivity 57dbz and height 10kms.	SE (232 kms) moving Sly	Since last observation maximum reflectivity of 57dbz at 0341 UTC	-	Over the sea.
		050900	Multiple Cb cells in SW,NW, NE and bay region with max reflectivity 63dbz and height 12kms.	NE (202 kms) moving Wly	Since last observation maximum reflectivity of 63 dbz at 0721 UTC	-	East Godavari, ganjam, gajapati of orissa
		051200	Multiple Cb cells in NW, NE and bay region with max reflectivity 60 dbz and height 12kms.	WNW (92 kms) moving SWly	Since last observation maximum reflectivity of 60 dbz at 0931 UTC	Thunderstorm lightning	NIL
		051500	Isolated Cb cells in W, N and convective region in bay with max reflectivity 57 dbz and height 10 kms.	W (177 kms) moving Sly	Since last observation maximum reflectivity of 57 dbz at 1221 UTC	Thunderstorm lightning	NIL
		051800	Isolated Cb cells in SW and convective region in W with max reflectivity 53 dbz and height 9 kms.	SW (122 kms) moving Sly	Since last observation maximum reflectivity of 53 dbz at 1551 UTC	NIL	NIL
		060000	Multiple Cb cells in NE, SW, near Visakhapatnam and bay region with max reflectivity 57 dbz and height 10kms.	SW (146 kms) ESE (41 kms) moving SEly	Since last observation cb cells are forming and developing maximum reflectivity of 57 dbz at 2241 UTC	Thunderstorm lightning	Visakhapatnam, East Godavari and bay of bengal
		060300	Multiple Cb cells in from West , South and East near Visakhapatnam and bay region with max reflectivity 58 dbz and height 10kms.	112 km to 192 km and moving SEly	Since last observation cb cells are forming and developing maximum reflectivity of 58 dbz at 0251 UTC	Thunderstorm and lightning	Srikakulam, Visakhapatnam, East Godavari , west Godavari and bay of bengal

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	06-06-18	050301—050731	NIL	NIL	NOSIG ECHO	NIL	N/A
		50742—050922	Small scattered Isolated cells with maximum reflectivity of 56.5 dBz at 0742 UTC and maximum height 17.82 km at 0742 UTC	Developed in between N to W sector (99.3 km) Moving NW- wards direction.	Small scattered Isolated cells developed and merged to form a large cell in NW (average distance from radar 99.3 km) at 0742 UTC and dissipated in at 0922 UTC in NW at a distance 150.3 km from radar.	Thunderstorm /Rain	N/A
		050821—051001	Small scattered Isolated cells with maximum reflectivity of 55.5 dBz at 0901 UTC and maximum height 15.58 km at 0901 UTC	Developed in NW (77.9 km) Moving SW-wards direction.	Small scattered Isolated cells developed and merged to form a large cell in NW (average distance from radar 77.9 km) at 0821 UTC and dissipated in W at 1001 UTC at a distance 87.9 km from radar.	Thunderstorm /Rain	N/A
		051012—051251	Isolated cells with maximum reflectivity of 56.5 dBz at 1022 UTC and maximum height 16.40 km at 1051 UTC	Developed in N (218.6 km) Moving W-wards direction.	Isolated cells developed and coming from N (218.6 km) at 1012 UTC and dissipated in N at 1251 UTC at a distance 208.9 km from radar.	Thunderstorm /Rain	N/A
		051301 – 060301	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)						
	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Srinagar	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1352	1810
Qazigund	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1530 1600 1740	1600 1620 1900
Pahalgam	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1345 1700	1510 1750
Kupwara	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1500	1530
Kukernag	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1835	1905
Jammu	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1655	2130
Banihal	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1235 1510 1820	1250 1610 1850
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1500	1900
Katra	Northwest India	Jammu & Kashmir	Thunderstorm	05-06-18	1650	2040
Dehradun	Northwest India	Uttarakhand	Thunderstorm	06-06-18	0115	0830
Mukteshwar	Northwest India	Uttarakhand	Thunderstorm	05-06-18	1210 1815	1250 1940
Tehri	Northwest India	Uttarakhand	Thunderstorm	05/06-06-18	050856 051610 052350	051014 051705 060130
Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm	05-06-18	0830 1823 2025	0950 1838 2300
Ambala	Northwest India	Haryana	Thunderstorm	05-06-18	2245	2335
Patiala	Northwest India	Punjab	Thunderstorm	05-06-18	2225	2250
Amritsar	Northwest India	Punjab	Thunderstorm	05/06-06-18	051916	060200
			Squall From NNW With Max Speed 80kmph	05-06-18	1920	2000
Ludhiana	Northwest India	Punjab	Thunderstorm	05/06-06-18	DURING NIGHT	
Chandigarh	Northwest India	Chandigarh	Thunderstorm	05-06-18	2215	2350
Karnal	Northwest India	Punjab	Thunderstorm	05/06-06-18	MIDNIGHT	
Jagdalpur	Central India	Chhattisgarh	Thunderstorm	05-06-18	1930	2100

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

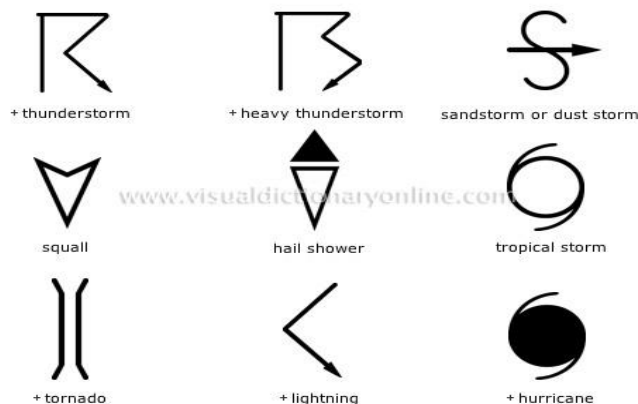
For Radar images of the past 24 hours including mosaic of images:

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