



India Meteorological Department

FDP STORM Bulletin No. 97 (11-06-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC Inference (0300UTC of the day):

- ◆ The southwest monsoon has further advanced into some more parts of Marathwada, Vidarbha, Chhattisgarh, most parts of northwest Bay of Bengal, some parts of Gangetic West Bengal and some more parts of Assam & Meghalaya. The Northern Limit of Monsoon (NLM) passes through Lat 19°N/ Long 60°E, Lat 19°N/ Long 70°E, Thane (including Mumbai), Ahmednagar, Buldhana, Amraoti, Gondia, Bhawanipatna, Puri, Kolkata, Lat. 24°N/ Long. 90°E, Sohra, North Lakhimpur and Lat. 29°N/ Long 95°E. Conditions are becoming favourable for further advance of Southwest Monsoon into some more parts of Odisha, remaining parts of northwest Bay of Bengal and Northeastern States and some parts of West Bengal & Sikkim during next 48 hours. There after no further advance is likely during next one week due to probable weakling of monsoon flow.
- ◆ The well marked low pressure area over Bangladesh & adjoining Tripura now lies over Tripura & neighbourhood. The associated cyclonic circulation extends upto 7.6 km above mean sea level.
- ◆ The cyclonic circulation over Bihar & neighbourhood between 1.5 and 3.1 km above mean sea level persists.
- ◆ The off shore trough at mean sea level from north Maharashtra coast to Kerala coast now runs from Goa coast to Kerala coast.
- ◆ A Western disturbance; as an upper air cyclonic circulation at 3.1 km above mean sea level lies over north Pakistan and adjoining Jammu & Kashmir.

Satellite Observations during past 24 hrs and current observation:

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

Vortex Over North-East Bay of Bengal:

Vortex lies over Tripura adjoining Northeast Bangladesh & neighbourhood, over land. Associated Broken low/medium clouds with embedded moderate to intense convection seen over Northeast states adjoining Myanmar & Bangladesh (**Minimum CTT Minus 60 Deg C**).

Clouds descriptions within India:

NORTH: Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Jammu & Kashmir and extreme East Uttar Pradesh. Scattered low/medium clouds seen over Himachal Pradesh, Uttarakhand, Southwest Uttar Pradesh & REST East Uttar Pradesh.

EAST: Broken low/medium clouds with embedded moderate to intense convection seen over North Chhattisgarh, Northeast Odisha Southwest Bihar, Northeast Jharkhand, Gangetic West Bengal, Northeast states & Bangladesh. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over rest parts of the region.

WEST: Scattered low/medium clouds with embedded moderate to intense convection seen over North Madhya Maharashtra & Goa. Scattered low/medium clouds with embedded isolated weak to moderate convection seen over Madhya Pradesh and rest Maharashtra. Scattered low/medium clouds seen over East Rajasthan and Gujarat.

SOUTH: Scattered low/medium clouds with embedded moderate to intense convection seen over South Interior Karnataka, North Kerala, Northeast Tamilnadu and weak to moderate convection seen over Telangana, Coastal Andhra Pradesh, North Interior Karnataka, South Kerala, rest Tamilnadu, Lakshadweep & Bay Islands.

Arabian Sea:

Scattered low/medium clouds with embedded moderate to intense convection seen over East-central Arabian Sea off Goa-Karnataka-Kerala Coast and isolated weak to moderate convection seen over Southeast Arabian Sea.

Bay of Bengal & Andaman Sea:

Broken low/medium clouds with embedded intense to very intense convection seen over North Bay, Central Bay and Arakan Coast. Scattered low/medium clouds with embedded moderate to intense convection seen over Southeast Bay, Andaman Sea and Gulf of Martaban.

Past Weather:

Convection (during last 24 hrs):

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

OLR:-

Up to **150** wm^{-2} was observed over Coastal Gangetic West Bengal Mizoram.

Up to **230** wm^{-2} was observed over J&K North Himachal Pradesh North Uttarakhand East Rajasthan Madhya Pradesh East Uttar Pradesh south Bihar Jharkhand Chhattisgarh Odisha Gangetic rest West Bengal rest North-East States Andhra Pradesh Telangana Maharashtra Goa Karnataka Kerala North Tamilnadu Lakshadweep Andaman & Nicobar Islands..

Synoptic Features:

Westerly Trough & Jet-Stream - Trough in Westerlies roughly along longitude 70.0E & north of latitude 30.0N.

Dynamic Features:

Wind Shear, Vorticity & Convergence-

Wind shear up to 30-40 Knots is observed over Jammu & Kashmir Himachal Pradesh, Arunachal Pradesh, Assam, 5-20 Knots observed over central India and 30-60 Knots over Peninsula India.

Negative Shear Tendency is observed over Central India and Positive Shear tendency is observed over rest India.

Vorticity (850 hPa) up to 250 is observed over Himachal Pradesh Uttarakhand North Coastal Andhra Pradesh adjoining Chhattisgarh North-East States.

Positive low level convergence (5-10 Knots) observed over most parts of India.

Precipitation:

IMR:

Rainfall >150 mm was observed over Gangetic West Bengal.

Rainfall Upto 150 mm was observed over North-East Madhya Pradesh North Chhattisgarh Meghalaya adjoining West Assam Mizoram.

Rainfall Upto 130 mm was observed over Marathwada Tripura Central Assam.

Rainfall Upto 110 mm was observed over South-East Uttar Pradesh West Vidarbha North Odisha Jharkhand.

Rainfall Upto 90 mm was observed over East Rajasthan West Madhya Pradesh Telangana Sub Himalayan west Bengal.

Rainfall Up to 70 mm was observed over South Konkan

Rainfall Up to 50 mm was observed over Goa North Karnataka Nagaland Manipur

Rainfall Up to 20 mm was observed over South Himachal Pradesh west Uttarakhand Central Rajasthan West Uttar Pradesh Bihar South Chhattisgarh South Odisha rest Madhya Pradesh rest Maharashtra Rayalaseema South Karnataka Kerala Andaman & Nicobar Islands.

Rainfall Up to 10 mm was observed over North-West J&K East Uttarakhand South Haryana North Tamilnadu Lakshadweep.

DWR and RAPID Observations:

Strong echoes observed over DWR Kolkata (dBZ>55, Height>15km), Moderate echoes over DWR Bhopal, Kochi, Machilipatnam and Nagpur and Light to moderate echoes over Agartala, Gopalpur, Hyderabad, Vishakhapatnam, Patna and Patiala at around 1610 IST.

RAPID RGB Satellite imagery at 1430 IST indicates significant convection over Jammu & Kashmir, North Himachal Pradesh, North Uttarakhand, extreme East Uttar Pradesh, South Assam, West Meghalaya, Nagaland, Manipur, Mizoram, Bihar, Jharkhand, Gangetic West Bengal, Coastal Odisha, Central Madhya Pradesh, North Chhattisgarh, Telangana, Goa, Coastal Karnataka, South Interior Karnataka and Kerala.

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 increase 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	11.06.2018	12.06.2018
PM10 (micro-g/m ³)	164	181
PM2.5 (micro-g/m ³)	59	65

2. NWP MODEL GUIDANCE:

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

1. Weather Systems:

Low level Cycir, Troughs: 00&12UTC of Day 1-4: CYCIR over Bangladesh 1-2. A trough over Bangladesh and NE states in Day 3-4

Confluence & wind Discontinuity regions: 00 & 12 UTC of Day2-4: Gangetic plains of UP and Bihar

Synoptic systems: 00 & 12 UTC of Day0-3: Lower level trough extending from head Bay of Bengal to east coast of India

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

3. Convergence at 850 hPa:

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

Day0: Arunachal Pradesh, NE NMMT,

Day1: Assam Meghalaya, TN Puducherry,

Day2: NE NMMT, TN Puducherry,

Day3: Arunachal Pradesh, NE NMMT, Uttarakhand, Coastal AP, TN Puducherry,

Day4: TN Puducherry,

4. Low level Vorticity:-Positive Vorticity:

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

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Jharkhand, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, Jammu Kashmir, TN Puducherry, Kerala,

Day1: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Uttarakhand, Himachal Pradesh, Jammu Kashmir, TN Puducherry, Kerala,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Gangetic WB, Jharkhand, East UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, TN Puducherry, Kerala,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, TN Puducherry, Kerala,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Bihar, East UP, Uttarakhand, 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, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Gujarat Region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, NI Karnataka, SI Karnataka,

Day1: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Gujarat Region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, Coastal Karnataka, NI Karnataka, SI Karnataka,

Day2: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Gujarat Region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, West MP, East MP, Gujarat Region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, NI Karnataka, SI Karnataka,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, Uttarakhand, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI 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, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Gujarat Region, Saurashtra Kutch,

Day1: Arunachal Pradesh, Sub Himalayan WB, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, West MP, East MP, Gujarat Region, Saurashtra Kutch,

Day2: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Gujarat Region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana, NI Karnataka,

Day3: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, Odisha, West MP, East MP, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, NI Karnataka,

Day4: Arunachal Pradesh, Sub Himalayan WB, Gangetic WB, Jharkhand, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, Odisha, East MP, Vidarbha, Chhattisgarh, Coastal AP, Telangana

7. Spatial distribution of K Index :> 35[Very Unstable thunderstorm likely]:

Day/Index: Subdivisions with K Index > 40

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Gujarat Region, Saurashtra Kutch, Konkan Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, 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, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Gujarat Region, Saurashtra Kutch, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka, SI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, NI Karnataka, SI Karnataka,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, Odisha, East MP, Gujarat Region, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Jharkhand, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RJ, West MP, East MP, Gujarat Region, Marathwada, Vidarbha, Chhattisgarh, Telangana, TN Puducherry,

8. Rainfall and thunder storm activity:

Day/Index: Subdivisions with Precipitation > 2 cm

Day0: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, West RJ, East RJ, Odisha, West MP, East MP, Gujarat

Region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, 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, Haryana, Chandigarh, Delhi, Punjab, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN Puducherry, NI Karnataka,

Day2: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Haryana, Chandigarh, Delhi, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, East MP, Chhattisgarh, Coastal AP, Rayalaseema, TN Puducherry,

Day3: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Gujarat Region, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Rayalaseema, TN Puducherry,

Day4: Arunachal Pradesh, Assam Meghalaya, NE NMMT, Sub Himalayan WB, Gangetic WB, Jharkhand, Bihar, East UP, West UP, Uttarakhand, Himachal Pradesh, Jammu Kashmir, East RJ, Odisha, West MP, East MP, Gujarat Region, Marathwada, Vidarbha, Chhattisgarh, Coastal AP, Telangana, Rayalaseema, TN

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

1. Synoptic Systems:

The analysis based on 00 UTC indicates a cyclonic circulation over Tripura and adjoining areas in lower troposphere (850hPa). The forecast shows it will persist till day2. The analysis shows another cyclonic circulation over Bihar and adjoining areas. The forecast shows it will persist till day 2. The analysis shows an off shore Trough extends from Goa coast to Kerala coast. The forecast shows it will persist till day2. The analysis shows a cyclonic circulation over North Pakistan and adjoining Jammu and Kashmir. The forecast show it will persist till day3 with North-eastward shift.

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

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

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

Low level Positive Vorticity is seen mostly around the cyclonic circulations, Northwest Rajasthan, over South Peninsular India including Kerala, Tamil Nadu and Andhra Pradesh, J&K, Himachal Pradesh, Uttarakhand. Foothills of Himalaya, Punjab, Haryana, Northwest Rajasthan and NE states adjoining areas during next 3 days.

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, Vidarbha, Chhattisgarh, East and west Madhya Pradesh, along Northern parts of east and west coast of India, coastal Andhra Pradesh, coastal Tamil Nadu, Sikkim and NE states on during next 3 days; over parts of Uttarakhand on day 3.

Lifted Index (< -2): Similar to T-storm Index lies over parts of J&K, Himachal Pradesh, Punjab, Haryana, Delhi, Gujarat, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, SHWB, Orissa, coastal Maharashtra, Konkan & Goa, coastal and North Interior Karnataka, coastal Tamil Nadu, Telangana, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, East and west Madhya Pradesh, coastal Andhra Pradesh, along east and west coast of India, Sikkim, NE states and extreme south coastal parts of the country during next 3 days; on day 3 it remains over same region but also appears over parts of Uttarakhand.

Total Total Index (> 50): Higher than Threshold value of the Index is seen over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Rajasthan, Gujarat, Foothills of Himalaya and Arunachal Pradesh during next 3 days; over parts of Madhya Pradesh, Vidarbha, Chhattisgarh, Vidarbha, Jharkhand and Uttar Pradesh on day 1 and 2; over parts of Bihar, Madhya Maharashtra, Marathwada, Telangana, Orissa and GWB on day 3.

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, Gujarat, Rajasthan, Haryana, East Uttar Pradesh adjoining Bihar and some parts of Madhya Pradesh.

CAPE (> 1000): Mostly seen over parts of Gujarat, Rajasthan, along west coast and east coast, GWB, SHWB, Orissa, Bihar, Jharkhand, coastal Andhra Pradesh, North coastal Maharashtra including Mumbai, North Madhya Maharashtra, Vidarbha, Chhattisgarh, East and West Madhya Pradesh and Sikkim on day 1; it remain over same region on day 2 and 3 but appear over parts of East Uttar Pradesh, along the west coast and NE states; significant zone with highest value of the index lies over parts of GWB, SHWB, Bihar, East Uttar Pradesh, Madhya Pradesh, coastal Maharashtra, coastal Gujarat and some parts of central Madhya Pradesh.

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 except J&K and extreme North Eastern states during next 3 days; significant zone with highest value of the index lies over parts of Gujarat, Rajasthan and Northwest Madhya Pradesh.

5. Rainfall Activity:

Above 200 mm Rainfall: over parts of Manipur and adjoining Nagaland on day 1.

130- 200 mm Rainfall: over parts of Manipur and Nagaland on day 1.

70-130 mm Rainfall: over parts of coastal Karnataka, coastal Maharashtra, Kerala, Konkan and Goa during next 3 days; over parts of Sikkim, Manipur, Mizoram and Nagaland on day 1; over parts of Andhra Pradesh, Orissa, GWB and Mizoram on day 2; over parts of Assam, Arunachal Pradesh and Nagaland on day 3.

40-70 mm Rainfall: over coastal areas along the west coast including coastal Maharashtra, coastal and Interior Karnataka, Kerala, Konkan and Goa, Sikkim and NE states during next 3 days; over parts Telangana, Chhattisgarh, Orissa and Andhra Pradesh on day 1 and 2; over parts of West Madhya Pradesh and Vidarbha on day 1; over parts of Jharkhand and GWB on day 2; over parts of GWB on day 3.

10-40 mm Rainfall: over Foothills of Himalaya, parts of Bihar, Jharkhand, Chhattisgarh, Sikkim, NE states, GWB, SHWB, Orissa, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana, Rayalaseema, coastal Maharashtra including Mumbai, Konkan and Goa during next 3 days; over parts of J&K, Madhya Pradesh, Madhya Maharashtra, Marathwada and Vidarbha on day 1 and 2; over parts of East Uttar Pradesh on day 3.

Up to 10 mm rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, East 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, Vidarbha, Gujarat, Tamil Nadu, Telangana, Rayalaseema and Andhra Pradesh during next 3 days; over parts of Southeast Rajasthan on day 1.

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

1. Model Reflectivity (Max. dBz): >25 dBZ Model Reflectivity: On day 1, over parts of J&K, Kerala, Tamil Nadu, Karnataka, NE states, Orissa, Bihar, Jharkhand, GWB, SHWB, Sikkim, Telangana, Rayalaseema, Andhra Pradesh, Madhya Maharashtra, Marathwada, Vidarbha, coastal Maharashtra including Mumbai, Konkan and Goa, Madhya Pradesh, Chhattisgarh, East Rajasthan and South Gujarat; On day 2 and 3 over parts of J&K, Kerala, Tamil Nadu, Karnataka, Orissa, Andhra Pradesh, Chhattisgarh, Telangana, Vidarbha, East Madhya Pradesh, Assam, Arunachal Pradesh Tripura, Mizoram, Meghalaya and adjoining area, Rayalaseema, South Madhya Maharashtra, Marathwada, coastal Maharashtra, Konkan and Goa, GWB, North Bihar and adjoining areas; On day 2 over some parts of Punjab, Northwest, Rajasthan, Uttar Pradesh 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, 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, Vidarbha and NE states during next 3 days; below threshold value is also seen over parts of Uttarakhand and adjoining area on day 1.

K-Index (> 35): Less than threshold value is observed over most of the part of the country during the next 3 days. Prominent values are found over parts of Gujarat, Madhya Pradesh, Vidarbha, 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 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, coastal Tamil Nadu, coastal Kerala, Karnataka, Bihar, Jharkhand, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, East and West Madhya Pradesh, Chhattisgarh, Vidarbha and NE states during next 3 days; over parts of Punjab and Haryana on day 2; over parts of Uttarakhand on day 3; Maximum value of the index is seen over the parts of GWB, Orissa, Bihar, Jharkhand and coastal Andhra Pradesh.

CIN (50-150): The value of the index lies in above range over most of the parts of the country except J&K on day 1; over most of the parts of the country except extreme South Peninsular India and J&K on day 2 and 3; it has significant larger values over North-western parts of country including Gujarat, Rajasthan, Punjab, Haryana, Delhi, Uttar Pradesh, Vidarbha, Chhattisgarh, Madhya Pradesh and NE states

3. Rainfall and thunderstorm activity:

Above 200 mm Rainfall: over parts of Arunachal Pradesh and Mizoram on day 3.

130- 200 mm Rainfall: over parts of Manipur and Mizoram on day 1; over some parts of Assam, Arunachal Pradesh, Mizoram and adjoining areas on day 2; over parts of North Kerala, South coastal Karnataka, Mizoram, Manipur and Arunachal Pradesh on day 3.

70- 130 mm Rainfall: over parts of coastal and Interior Karnataka, Kerala, Konkan and Goa, Coastal Maharashtra and NE states during next 3 days; over parts of Orissa on day 1 and 2; over parts of Chhattisgarh and North Bihar on day 1 and 2; over parts of Sikkim and North Bihar on day 3.

40- 70 mm Rainfall: over parts of Kerala, coastal and Interior Karnataka, coastal Maharashtra, NE states, Konkan and Goa during next 3 days; over parts of Telangana, Vidarbha, Orissa and Chhattisgarh on day 1 and 2; over parts of Jharkhand on day 1; over parts of Vidarbha, Sikkim and North Bihar on day 2; over parts of Sikkim, Bihar and GWB n day 3.

10- 40 mm Rainfall: Over parts of 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, Marathwada, Telangana, Rayalaseema, Chhattisgarh and NE states during next 3 days; over parts East Rajasthan, J&K, Himachal Pradesh, Madhya Pradesh, Vidarbha and Gujarat on day 1; over parts of East Madhya Pradesh on day 2.

Up to 10 mm Rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, 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, Vidarbha, Marathwada, Madhya Pradesh, Andhra Pradesh, Gujarat and NE states during next 3 days; over parts of Rajasthan on day 1.

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 especially high values over Gujarat and adjoining Rajasthan on day 1. On day 2, the probability of convection increases over North and central India, and especially increases over Rajasthan and adjoining Gujarat. SWEAT index, which accounts for the wind shear between 850 and 500 hPa levels in addition to thermodynamic parameters, has a pattern similar to other thermodynamic indices, with values increasing over Rajasthan on day 2. The 850-200 hPa wind shear is weak over the Indian region excluding the extreme northern parts of Jammu and Kashmir region and south peninsular India region on day1, increasing over peninsular India on day 2.

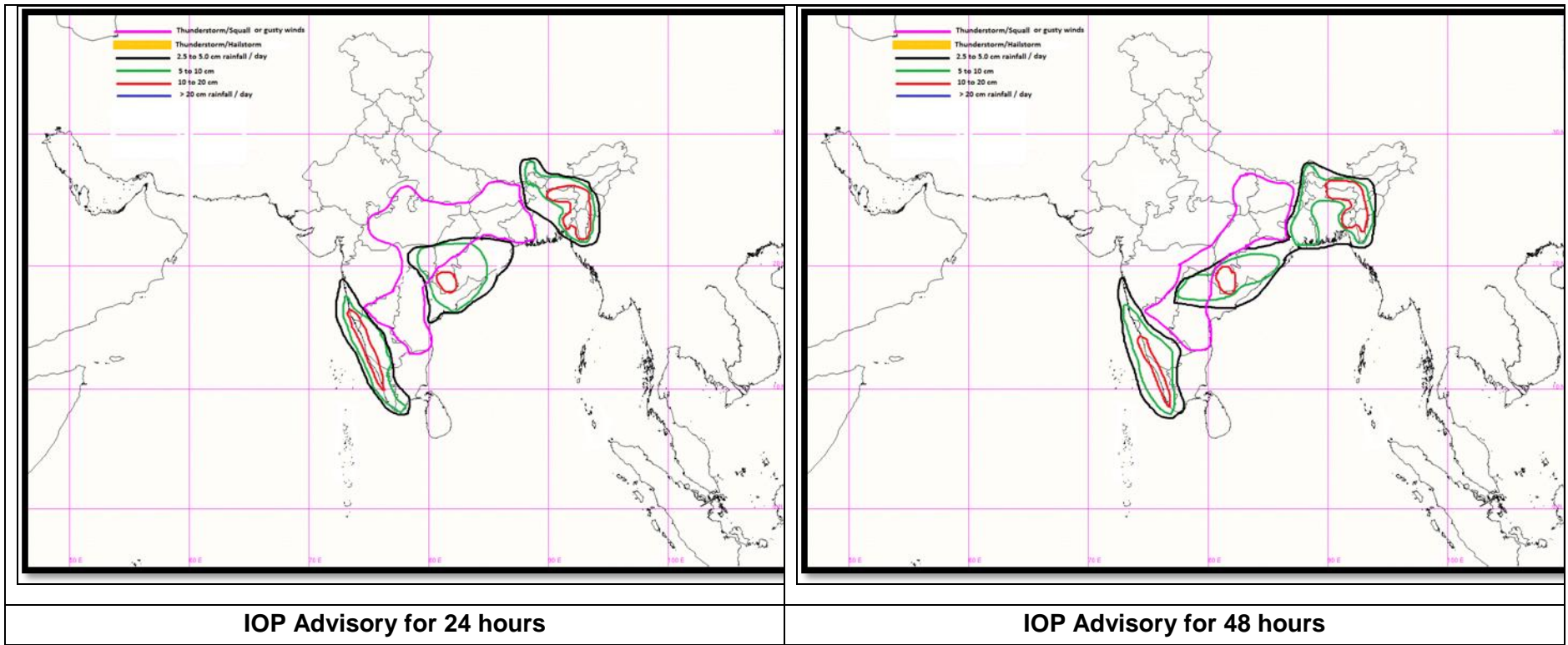
o Synoptic analysis indicates that yesterday's well marked low pressure area now lies over Tripura & neighbourhood. There is also a cyclonic circulation over Bihar & neighbourhood. IMDGFS as well as ECMWF deterministic models indicate that there is also a northeast-southwest oriented trough over northeast peninsular coast of India. The models also indicate that the circulation over Tripura is likely to decrease in intensity but persist at the same location on day 2. The trough is likely to move slightly eastward. Associated with the circulation and the trough, east and northeast India as well as east peninsular India is likely to receive heavy to very heavy spells of rainfall on day 1 and 2.

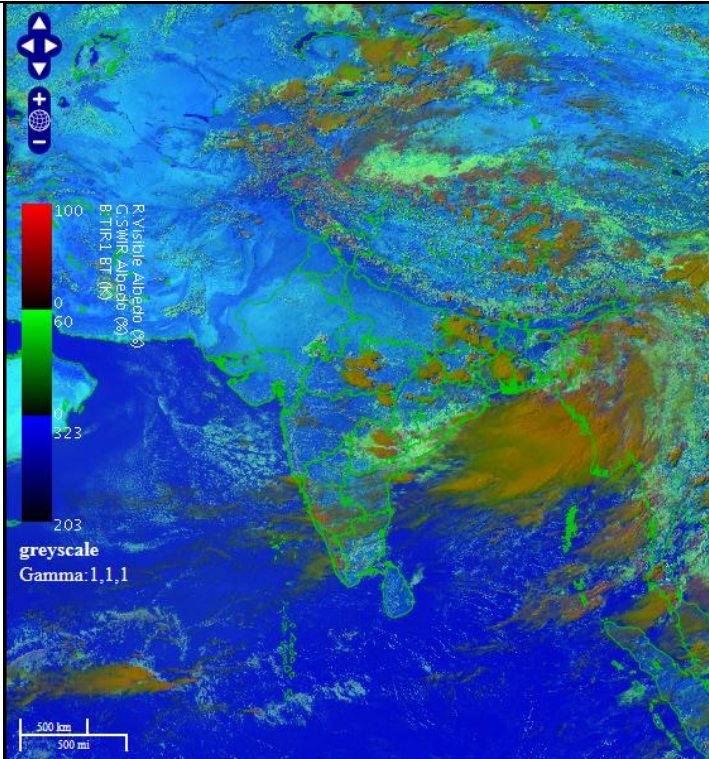
o Synoptic analysis also indicates that the off shore trough at mean sea level is now seen along southwest peninsular India from Goa coast to Kerala coast. Associated with this trough, heavy to very heavy rainfall is expected to occur over the west peninsular coast of India on day 1 and day 2.

IOP Area for Day-1 & Day-2:

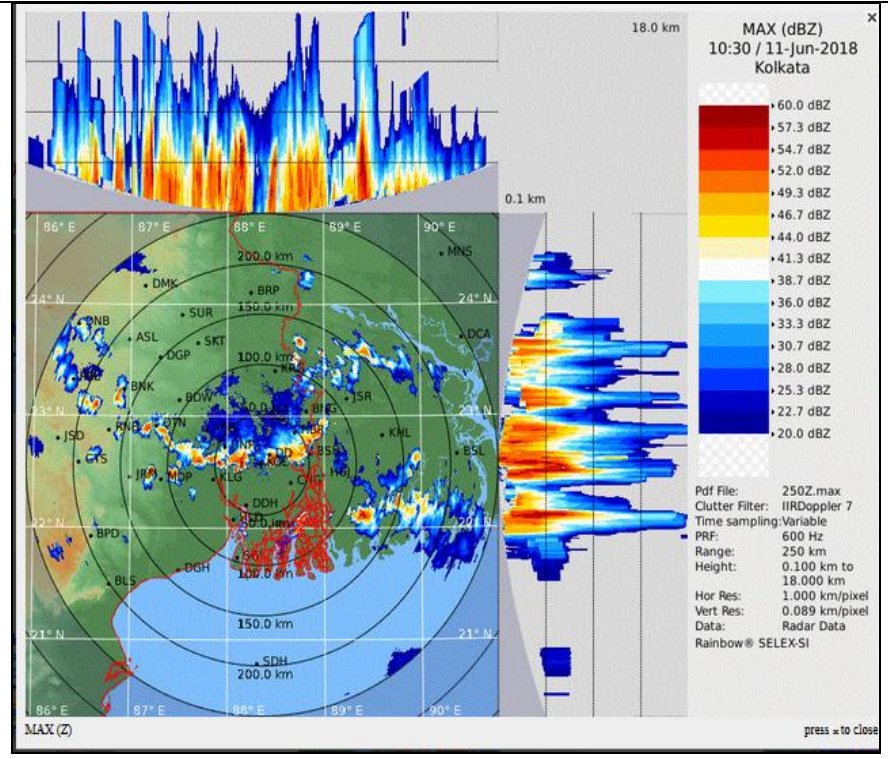
24 hour Advisory for IOP:	48 hour Advisory for IOP:
<p>Significant Rainfall: Konkan & Goa, Coastal Karnataka, South Interior Karnataka, Kerala, Tamilnadu Chhattisgarh, Vidarbha Sub Himalayan West Bengal and Sikkim, Odisha Manipur, Mizoram, Tripura, Assam and Meghalaya</p> <p>Thunderstorm with squall or gusty winds: Madhya Pradesh, Chhattisgarh, Vidarbha Gangetic West Bengal, Bihar, Jharkhand, North Interior Karnataka, Rayalaseema, Telangana</p> <p>Thunderstorm with squall and hail Nil</p> <p>Duststorm:</p>	<p>Significant Rainfall: Konkan & Goa, Coastal Karnataka, South Interior Karnataka, Kerala, Tamilnadu Chhattisgarh, Telangana West Bengal and Sikkim, Odisha Manipur, Mizoram, Tripura, Assam and Meghalaya</p> <p>Thunderstorm with squall or gusty winds: Chhattisgarh, Vidarbha Bihar, Jharkhand, North Interior Karnataka, Rayalaseema, Telangana</p> <p>Thunderstorm with squall and hail Nil</p> <p>Duststorm: Nil</p>

Graphical Presentation of Potential Areas for Severe Weather:

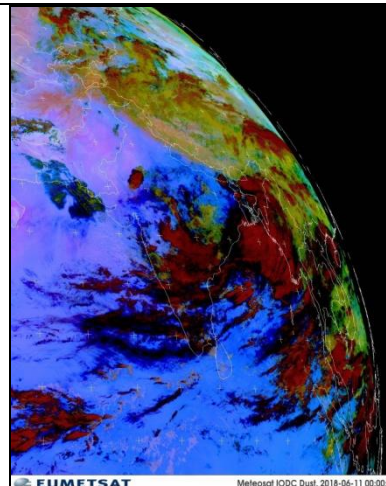
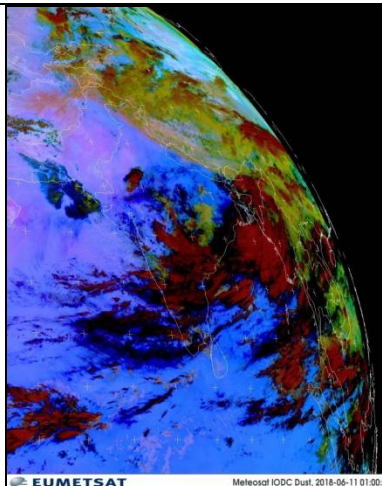
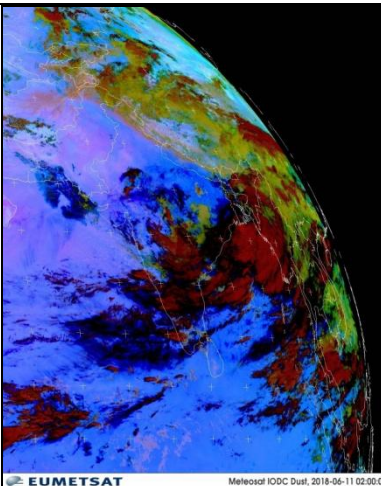
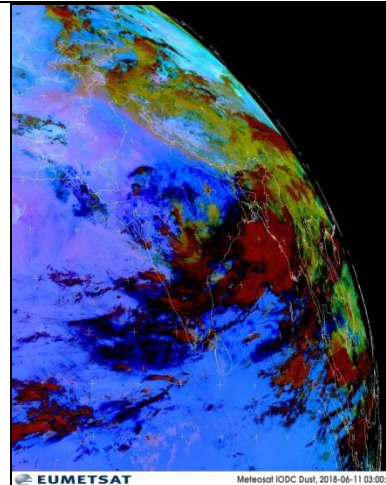
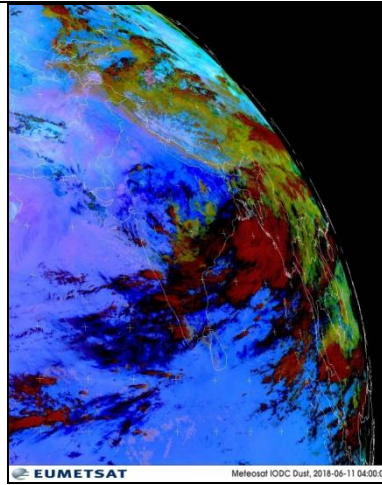
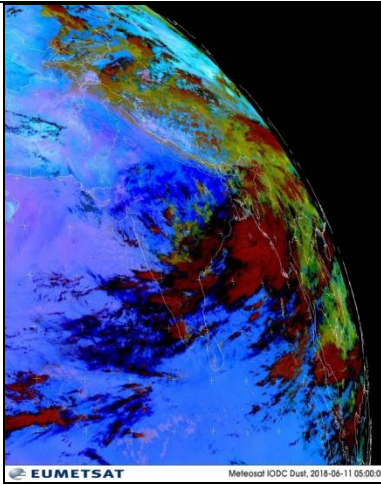




RAPID RGB Imagery at 1430 IST of the Day

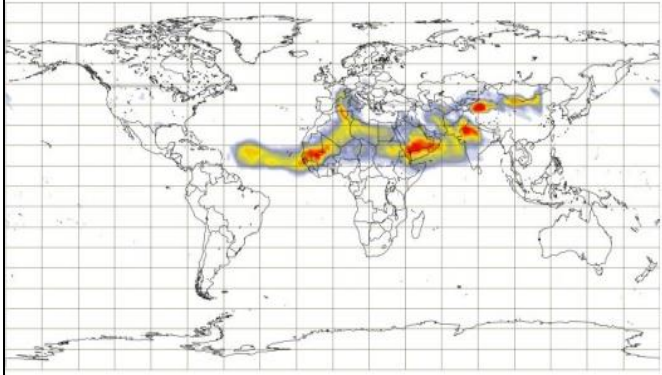


DWR Kolkata reflectivity at 1600 IST

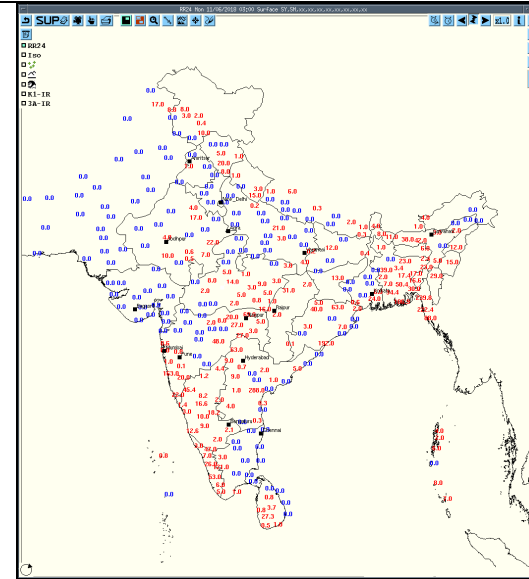


Observed Satellite Dust Images of today

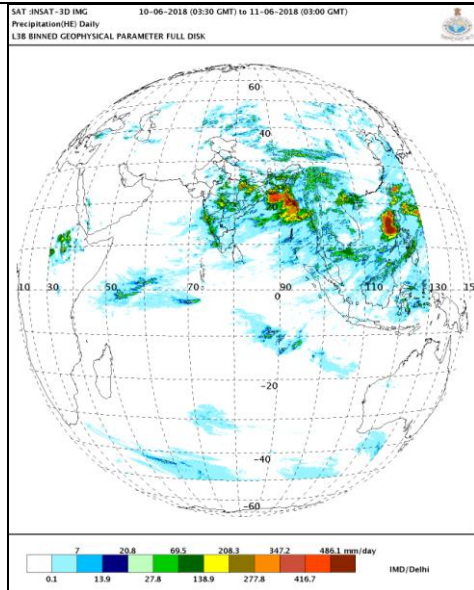
Dust aerosol optical depth at 550 nm (provided by CAMS, the Copernicus Atmosphere Monitoring Service)
 Sunday 10 Jun, 00 UTC T+24 Valid: Monday 11 Jun, 00 UTC



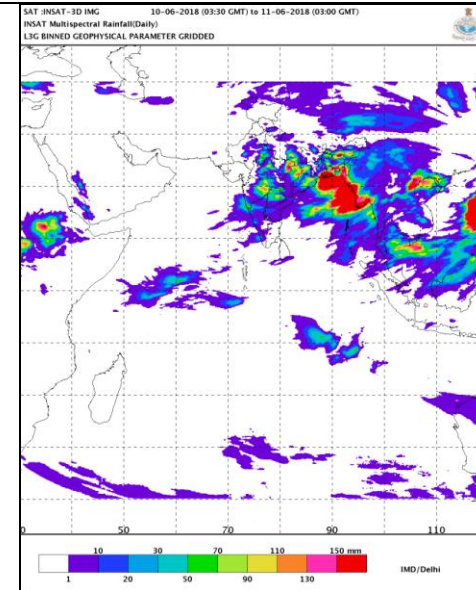
Dust Forecast



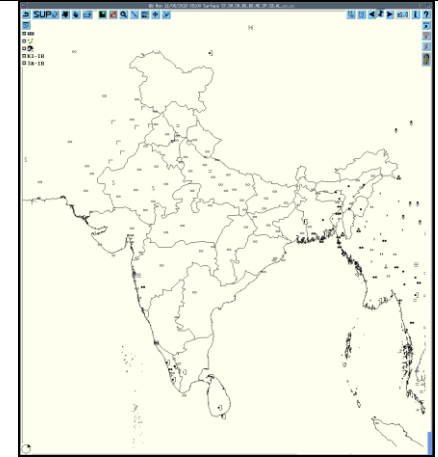
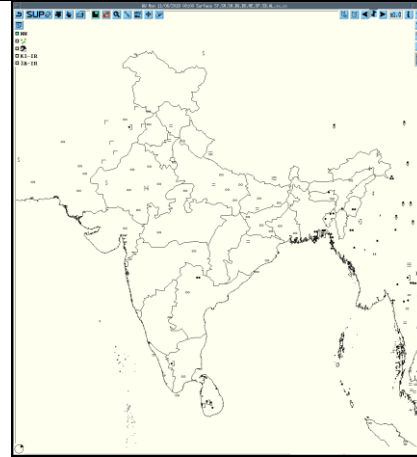
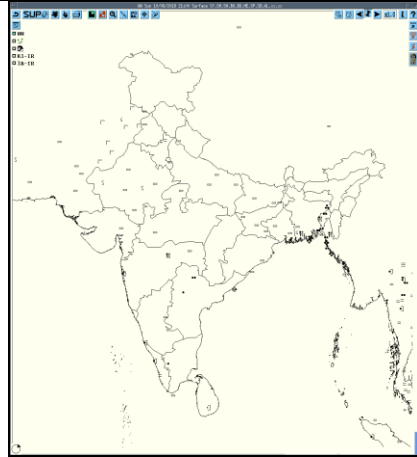
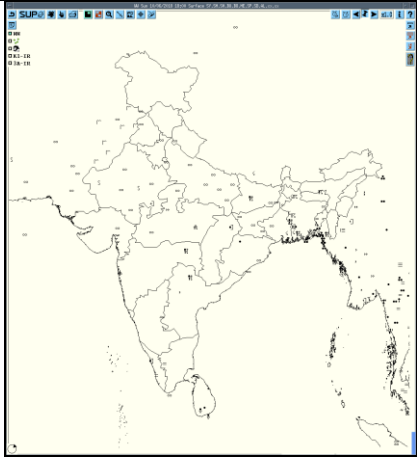
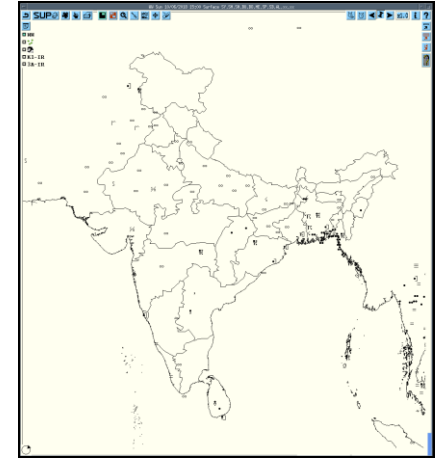
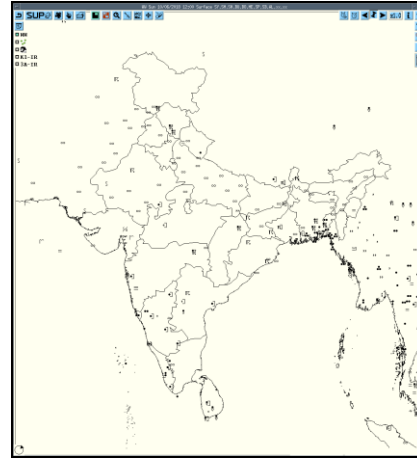
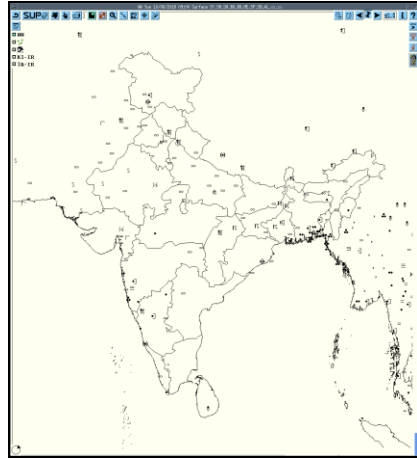
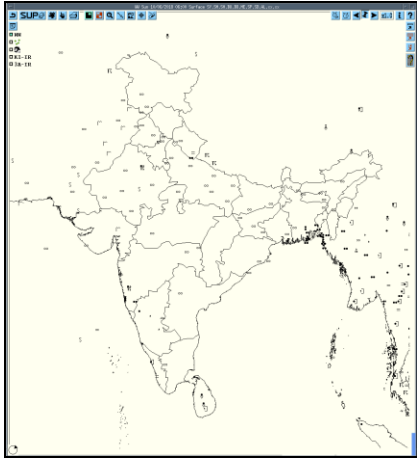
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



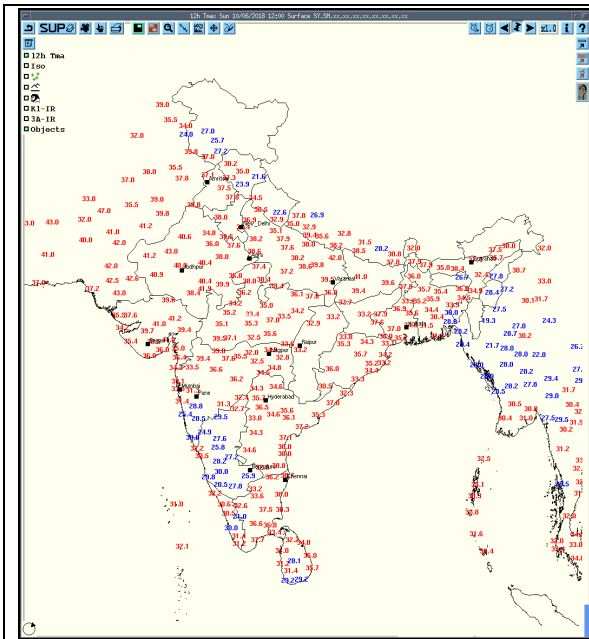
HEM



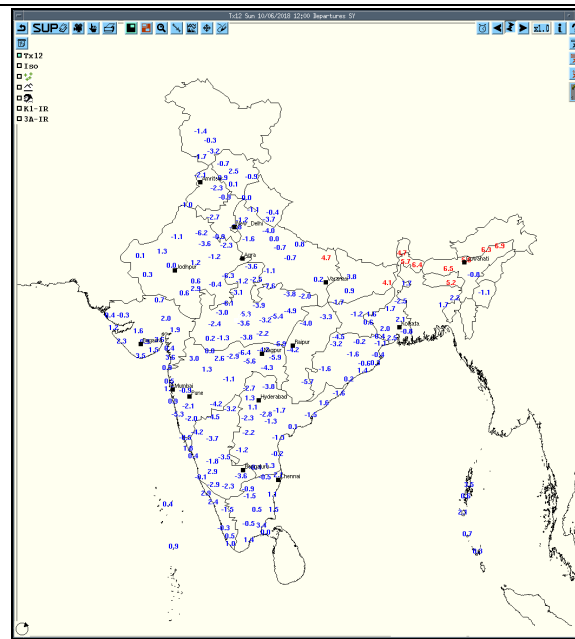
IMR



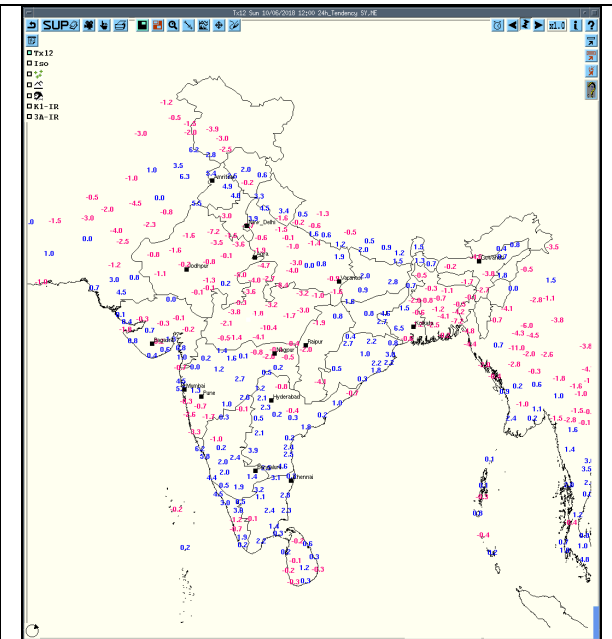
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



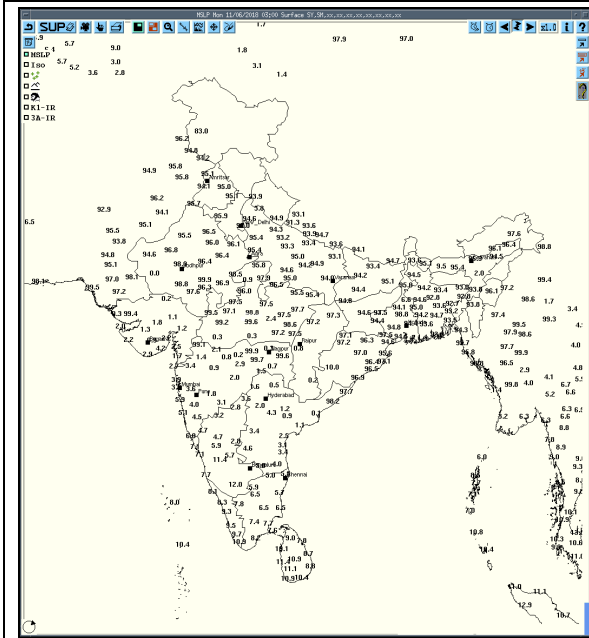
Tmax



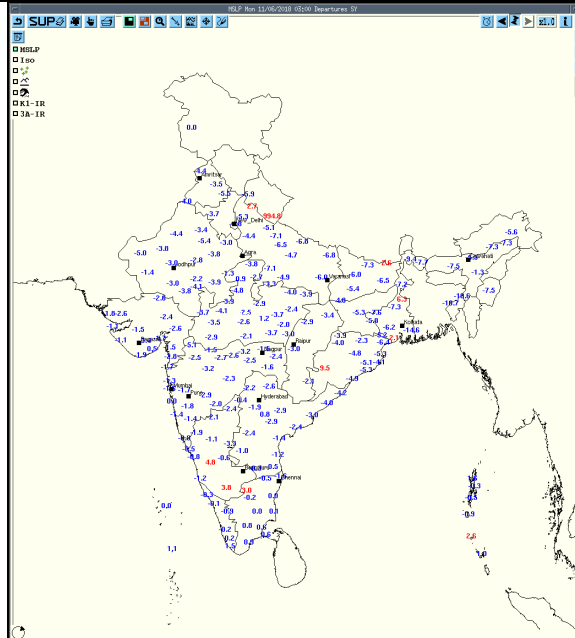
Departure Tmax



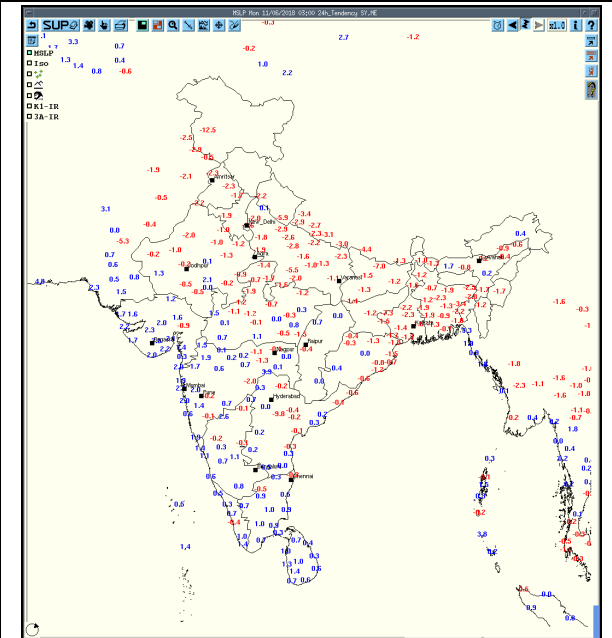
Tendency Tmax



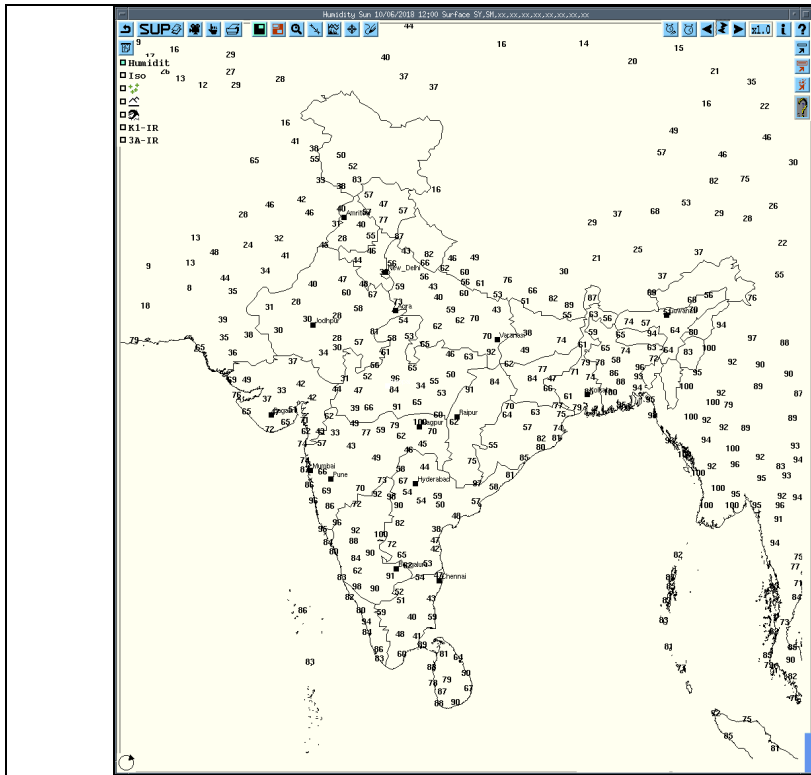
MSLP



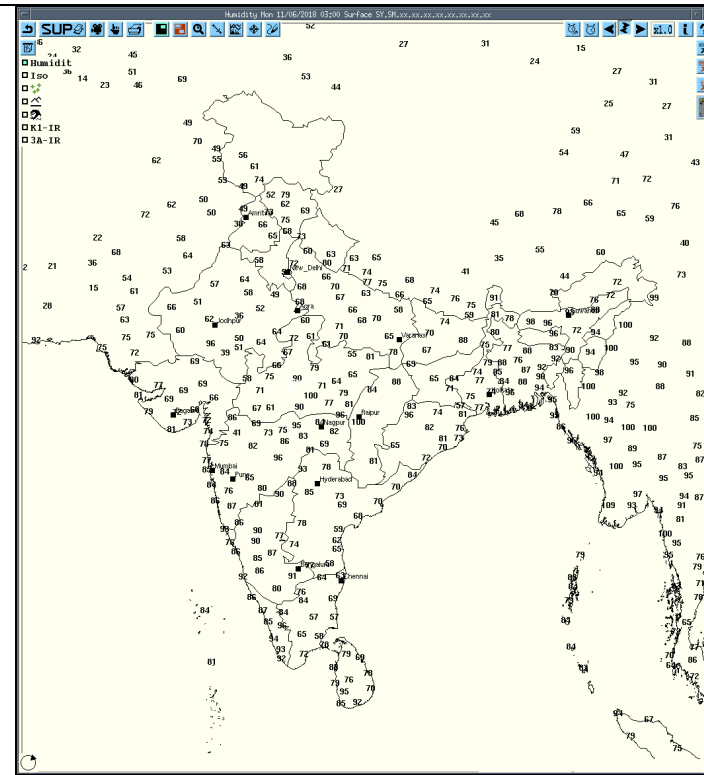
Departure MSLP



Tendency MSLP



RH at 1200UTC yesterday



RH at 0300UTC today

Past 24 hours DWR Report:

Radar Station Name	Date	Time Interval of Observation (UTC)	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	10-06-18	100301-100610	NIL	NIL	NOSIG ECHO	NIL	NIL
		100611--101131	1.Isolated single cell with maximum reflectivity of 53.5 dBz at 0621 UTC and maximum height of 8.69 Km at 0641 UTC 2.Isolated single cell with maximum reflectivity of 56.0 dBz at 0641 UTC and maximum height of 14.96 Km at 0841 UTC	ENE (032.1 km) moving in-SSE wards direction. N (44.7 km) moving in SE – wards direction.	Isolated single cell formed at 0611 UTC in ENE at a distance of 32.1 km from radar Matured. Isolated single cell formed at 0641 UTC in N at a distance of 44.7 km from radar, Merged with cell No-1 at 0711 UTC at distance of 008.5 Km in East w r t Radar. Matured and dissipated in SSE at 1131 UTC at Distance of 89.7 Km from Radar.	Thunderstorm / Rain Thunderstorm / Rain	N/A
		101141-101350	NIL	NIL	NOSIG ECHO	NIL	NIL
		101401-101811	1. two cell with maximum reflectivity of 57 dBz at 1641 UTC and maximum height of 8.96 Km at 1641 UTC 2. Few isolated cells with maximum reflectivity of 56.50 dBz at 1641 UTC and maximum height 11.65 km at 1631 UTC	West (4.5Km to 15.9 km) moving in-SE wards direction. Coming from North (212.4 km), moving North-wards	Two cell formed at 1401 UTC in West at a distance of 4.5 km to 15.9 Km from radar. Matured and dissipated in SE at 18.11 UTC at Distance of 49.2 Km from Radar Few isolated cells coming from North at a distance of 224 km from radar at 1601 UTC. Matured and dissipated in North at 18.11 UTC at Distance of 141.3 Km from Radar	Thunderstorm / Rain Thunderstorm / Rain	N/A
		101751 - 102011	Few isolated cells with maximum reflectivity of 56.50 dBz at 1921 UTC and maximum height 17.82 km at 1921 UTC	NE (42.0 km) moving in-SSE wards direction.	Few isolated cells formed at 1751 UTC in NE at a distance of 42.0 km from radar, Matured with Merged and passing Indo-Bangladesh border at 2011 UTC at Distance of 52.6 Km East from Radars		
		102020-110300	NIL	NIL	NOSIG ECHO	NIL	NIL

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	11-06-18	100300 - 100830	NIL	NIL	NIL	NIL	NIL
		100830 - 100910	Multiple Cell Maximum Reflectivity: 35.5 dBZ Echo Top: 12 KM	Range: 282.9 KM from DWR Patna in EAST direction Movement: WEST	Warning issued	THUNDERSTORM, RAIN	PURNEA, KATIHAR
		100910 - 101022	Isolated Multiple Cells Maximum Reflectivity: 44 dBZ Echo Top: 10 KM	Range: 125.8 KM from DWR Patna in ESE direction Movement: STATIONARY	Warning issued	N/A	LAKHISARAI
		101022 - 101702	Isolated Multiple Cells Maximum Reflectivity: 47 dBZ Echo Top: 11.3 KM	Range: 97.8 KM from DWR Patna in SW direction Movement: STATIONARY	Warning issued	THUNDERSTORM, RAIN	AURANGABAD, ROHTAS, ARWAL, BUXAR, BHOJPUR, PATNA
		101532 - 101802	Isolated Multiple Cells Maximum Reflectivity: 50.5 dBZ Echo Top: 11 KM	Range: 54.7 KM from DWR Patna in NORTH direction Movement: STATIONARY		N/A	MUZAFFARPUR, VAISHALI
		101802 - 102042	Isolated Multiple Cells Maximum Reflectivity: 43.5 dBZ Echo Top: 10 KM	Range: 135.7 KM from DWR Patna in ESE direction Movement: STATIONARY	Warning issued	N/A	BEGUSARAI, LAKHISARAI, MUNGER, BANKA
		101832 - 102142	Isolated Multiple Cells Maximum Reflectivity: 43 dBZ Echo Top: 11 KM	Range: 150.4 KM from DWR Patna in NE direction Movement: EAST		N/A	MADHUBANI, SUPAUL
		102142 - 110300	NIL	NIL	NIL	NIL	NIL

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	10-06-18	100900	Isolated single cells with max. reflectivity of 46dBZ and height of 14kms	NE(200KMS) & W(198 KMS) moving Ely	CB cells are formed and developing to 46dBz at 0741UTC and dissipating from 0801UTC		Srikakulam, East Godavari and Khammam Dist. Of Andhara Pradesh.
		101200	Convective region with max. reflectivity of 39dBZ and height of 9 kms	W(142 KMS) moving Ely	During the period Convective region formed and dissipating from 1111UTC		Visakhapatnam, East Godavari and Khammam Dist. Of Andhara Pradesh.
		101800	Multiple cells with maximum reflectivity of 51dBz and height of 13KMS	N(85 KMS) & W(182 KMS) moving Ely	Multiple cells are formed at 1541UTC and developed to 51dBz at 1741 UTC		Visakhapatnam, East Godavari and Khammam Dist. (A.P)
		110000	Convective region with maximum reflectivity of 57dBz and height of 14KMS	W(100 KMS) moving Ely	Convective region formed and developed to 57dBz at 1951 UTC and dissipating from 2121UTC		Visakhapatnam, East Godavari Dist. (A.P)
Agartala	11-06-18	100300-110300* (*DWR operation from 0600 602000IST)	MLTPL CELL FORMATION@100752Z OVER GOMATI DIST OF TRP & ADJ B'DESH SUBSEQUENTLY FORMING SQUALL LINE;15KMS;48dBZ	50 Kms ESE ;30 kmph;W'ly	SQUALL HIT AGT @100900Z	TSRA	GOMATI,DHALAI.KHOWAI,SE PAHIJALA & W-TRP DIST
Mohanbari	11-06-18	0842- 1102 UTC	Cell type- Isolated Avg. ht.- 10.7 Km MAX_Z:- 45 dBZ	Distance- 195 Km Direction- W Movement- WSWly	Small cell, gradually dissipated	-	-
Jaipur	11-06-18	0300 UTC of 10/06/18 to 0132 UTC of 11/06/18	Multiple cell with average height of 6km & maximum reflectivity 60.0 dBZ	Multiple cell develop from 0300 UTC of 10/06/2018 towards W,SW,N,NW of Jaipur and moved to E,SE,S Wards at speed 20-25 km/hr	Multiple cell develop from 0300UTC on 10/06/2018 towards W,SW,N,NW of Jaipur and reaches maximum reflectivity from 0712 UTC to 1442 UTC of 10/06/2018 and Died at 0132 UTC.	Dust storm/T hunders torm/ Light rain at Isolated places	AJMER,CHURU,PILANI,JAIPUR,ALWAR,TONK,SIKAR,NA GAUR,BHARATPUR,JHALAWAR,SAWAIMADHOPUR,KOTA ,BHILWARA AND JHUNJHUNU 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	10-06-18	100300 - 100600	MULTIPLE CELLS DBZ 54.5, HT. 08- 10 KM	NE, SW SECTORS, MOVEMENT EAST WARDS			CHURU, RAJGARH, BHIMSAVA, PILANI AND ADJ AREA.
		100600 - 100900	MULTIPLE CELLS DBZ 57.0, HT. 08-13 KM	NW, SE SECTORS, MOVEMENT EAST WARDS			DALHOUSIE, PALAMPUR, MANDI, SUNDERNAGAR, BILASPUR, NALAGRAH, SHIMLA, SOLAN, NAHAN, YAMNAGAR, PANCHKULA, DAHRADUN, KALSI, RISHIKESH AND ADJ AREA.
		100900- 101200	MULTIPLE CELLS DBZ 60.0 HT. 11-13 KM	NW, N, SE SECTORS, MOVEMENT TOWARDS SE DIRECTION			YAMNANAGAR, BEHAT, AMBALA, NAHAN, SHIMLA, SUNDERNAGAR, MUSSORIE, UTTARKASHI, DEHRADUN ITS ADJOINING AREAS.
		101200 - 101500	MULTIPLE CELLS DBZ 54.5 HT. 09-12 KM	NW, SW SECTORS, MOVEMENT TOWARDS SE DIRECTION			NALAGRAH , SOLAN, SHIMLA, BILASPUR, BATHINDA AND ITS ADJOINING AREAS.
		101500- 110252	No Significant Echo	--	--	--	--

DWR Station	Date	Time interval of observation	Organization of the cells (isolated single cell/multiple cells convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t. radar station & direction of movement	Remarks	Associated severe weather, if any	Districts affected
Lucknow	10-06-18	100300-080512	Multiple cells with average ht. of 10.5 km with maximum Reflectivity of 47 dBZ.	NNW(240KM) moving in ESE'ly Direction at speed of 30km/hr .	Already existed multiple cells at 0252 UTC moved in ESE'ly direction and dissipated at 0512 UTC at NNW(210 KM) .	TS/RA	Pilibhit, Bareilly
		100442-100602	Isolated multiple cells with average height of 10km with Maximum Reflectivity of 51.5 dBZ	NW(180KM),NNW(180KM), N(140KM-180KM) ,NNE(130KM),NE(70KM-100KM),E(70KM-180KM),SE(180KM). No significant movement of these isolated cells	These isolated multiple cells having no significant movement persisted up to 0602 UTC.	TS/RA	Shahjahanpur, Lakhimpur Kheri, Bahraich, Gonda, Barabanki, Amethi, Faizabad, Pratapgarh, Raebareli
		100602-101102	Squall Line convective system with average ht. of 13 km and Max. Ref. of 56.5 dBZ.	NE(140KM) to SE(200KM) moving in SE'ly direction at speed of 42 km/hr.	Multiple isolated cells at 0602 UTC arranged into Squall line convective system at 0632 UTC, moved in SE'ly direction at speed of 42km/hr and dissipated at 1102 UTC.	TS/RA /HS/ DS	Bahraich, Gonda, Basti, Barabanki, Sitapur, Sant Kabir Nagar, Faizabad, Ambedkar Nagar, Amethi, Raebareli, Lucknow, Pratapgarh, Jaunpur, Allahabad, Kaushambi, Mirzapur, Sant Ravidas nagar, Fatehpur, Azamgarh,Varanasi
		100602-100822	Multiple cells with average ht. of 7.5 km and Max. Ref. of 47 dBZ.	W(110KM) to WSW(100KM) ,with no significant movement.	Multiple cells from W(110KM) to WSW (100KM) having no significant movement dissipated at 0822 UTC at WSW(100 KM).	TS/RA	Kanpur, Auraiya, Kannauj
		101032-101252	Single Strong cell with avg. ht. of 14 km and Max. Ref. of 56.5 dBZ.	N(70KM) moved in N'ly direction at speed of 15km/hr.	Two cells at 1032 UTC merged into one Strong cell and got its Maximum Reflectivity of 56.5 dBZ at 1122 UTC and the cell dissipated at 1252 UTC at N(100KM).	TS/RA /HS	Sitapur
		101602-101802	Single cell with average ht. of 9 km and Max. Ref. of 45 dBZ.	ESE(240KM) and no significant movement	Single cell started forming at 1602 UTC having no significant movement got its max. ref. at 1632 UTC at ESE(240KM). the cell dissipated at 1802 UTC at ESE(240KM).	TS/RA	Azamgarh
		101912-102051	NA	NA	NA	RADAR SHUT DOWN DUE TO POWER ISSUE.	NA

Realised past 24hrs TS/SQ/HS Data:

Realised TS/HS/SQ during past 24hours ending at 0300UTC of today (received from RMCs/MCs)						
Station	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Kupwara	Northwest India	Jammu & Kashmir	Thunderstorm	10-06-18	2050	2230
Kukernag	Northwest India	Jammu & Kashmir	Thunderstorm	10-06-18	1315 2300	1325 2330
Banihal	Northwest India	Jammu & Kashmir	Thunderstorm	10-06-18	1340	1355
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	10-06-18	2210	2315
Bhaderwah	Northwest India	Jammu & Kashmir	Thunderstorm	10-06-18	1530	1900
Dehradun	Northwest India	Uttarakhand	Thunderstorm	10-06-18	1210	1500
Pantnagar	Northwest India	Uttarakhand	Thunderstorm	10-06-18	0830	1115
Tehri	Northwest India	Uttarakhand	Thunderstorm	10-06-18	1235	1440
Sundernagar	Northwest India	Himachal Pradesh	Thunderstorm	10-06-18	1445 1625	1540 1738
Shimla	Northwest India	Himachal Pradesh	Thunderstorm	10-06-18	1300 1715	1435 1730
Churk	Northwest India	East Uttar Pradesh	Thunderstorm	10-06-18	1500	1530
Fursatganj	Northwest India	East Uttar Pradesh	Thunderstorm	10-06-18	1345	1600
Bhilwara	Northwest India	East Rajasthan	Thunderstorm	10-06-18	1500	1540
Sikar	Northwest India	East Rajasthan	Thunderstorm	10-06-18	1330	1350
Chittorgarh	Northwest India	East Rajasthan	Thunderstorm	10-06-18	2000	2050
Swai Madhopur	Northwest India	East Rajasthan	Duststorm	10-06-18	1330	1430
Churu	Northwest India	East Rajasthan	Thunderstorm	10-06-18	1030	1130
Phalodi	Northwest India	East Rajasthan	Thunderstorm	11-06-18	0330	0630
Dhubri	Northeast India	Assam	Thunderstorm	10-06-18	1900, 1950	10/1950, 10/2358
Guwahati	Northeast India	Assam	Thunderstorm	10-06-18	1719	11/0505
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	10-06-18	1350	10/1430
Lengpui	Northeast India	Mizoram	Thunderstorm	10-06-18	2130	2350
Agartala	Northeast India	Tripura	Thunderstorm	10/11-06-18	101530, 110150	101720, 110430
Nagpur	Central India	Vidarbha	Thunderstorm	10/11-06-18	101513	110040
Sagar	Central India	East Madhya Pradesh	Thunderstorm	10-06-18	2100	2215
Ambikapur	Central India	Chhattisgarh	Thunderstorm	10-06-18	1335 1555	1520 1825

Realised TS/HS/SQ during past 24hours ending at 0300UTC of today (received from RMCs/MCs)						
Station	Region	State/Sub Division	Weather Event (TS/Hail/Squall)	Date	Time of Commencement (IST)	Time of end (IST)
Gangtok	East India	Sikkim	Thunderstorm	10-06-18	1550	1730
Tadong	East India	Sikkim	Thunderstorm	10-06-18	1550	1555
Malda	East India	SHWB	Thunderstorm	10-06-18	1425	1450
Alipore	East India	GWB	Thunderstorm	10-06-18	1335 2150	1510 2300
DumDum	East India	GWB	Thunderstorm	10-06-18	1235 1635	1435 2010
Haldia	East India	GWB	Thunderstorm	10-06-18	1512	1615
Bankura	East India	GWB	Thunderstorm	10-06-18	1340	1640
Sriniketan	East India	GWB	Thunderstorm	10-06-18	1340	1408
Patna	East India	Bihar	Thunderstorm	10-06-18	2110	2330
Purnia	East India	Bihar	Thunderstorm	10-06-18	1426	1435
Ranchi	East India	Jharkhand	Thunderstorm	10-06-18	1350	1640
Jamshedpur	East India	Jharkhand	Thunderstorm	10-06-18	1720	1810
Daltonganj	East India	Jharkhand	Thunderstorm	10-06-18	1630	1732
Bhubaneswar	East India	Odisha	Thunderstorm	10-06-18	1240 1655	1420 1825
Balasore	East India	Odisha	Thunderstorm	10-06-18	1805	1940
Jharsuguda	East India	Odisha	Thunderstorm	10-06-18	1610	2100
Keonjhar	East India	Odisha	Thunderstorm	10-06-18	1750	1800
Port Blair	East India	Andaman & Nicobar Islands	Thunderstorm	10-06-18	2020	2035
Nizamabad	South India	Telangana	Thunderstorm	10-06-18	2000	2200
Ramagundam	South India	Telangana	Thunderstorm	10/11-06-18	102200	110030
Hyderabad	South India	Telangana	Thunderstorm	10-06-18	1630	1900
Tuni	South India	Andhra Pradesh (CAP)	Thunderstorm	10-06-18	2350	0115
Kurnool	South India	Andhra Pradesh (RYLS)	Thunderstorm	10-06-18	1530	1610
Anantapur	South India	Andhra Pradesh (RYLS)	Thunderstorm	10-06-18	1810	1825
CIAL Kochi	South India	Kerala	Thunderstorm	10/11-06-18	2324	0050

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

ForRadarimagesofthepast24hoursincludingmosaicofimages:

http://ddgmui.imd.gov.in/dwr_img/

Satellite sounder based T- Phigram

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

WEATHER SYMBOLS:



+ thunderstorm



+ heavy thunderstorm



sandstorm or dust storm



squall



hail shower



tropical storm



+ tornado



+ lightning



+ hurricane

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

Weather Symbols