



India Meteorological Department

FDP STORM Bulletin No. 104 (18-06-2018)

1. CURRENT SYNOPTIC SITUATION:

NWFC Inference (0300UTC of the day):

- ♦ The Northern Limit of Monsoon continues to pass through Lat 19°N/ Long 60°E, Lat 19°N/ Long 70°E, Thane (including Mumbai), Ahmednagar, Buldhana, Amravati, Gondia, Titlagarh, Cuttack, Midnapore, Lat. 24°N/ Long. 89°E, Goalpara, Bagdogra and Lat 27°N/ Long 87°E. Further advance of southwest monsoon is not likely during next 56 days due to prevalence of weak monsoon pattern.
- ♦ The off shore trough at mean sea level now runs from south Maharashtra coast to Kerala coast.
- ♦ A fresh Western disturbance as a trough in mid tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long 65°E to the north of Lat 30°N persists.
- ♦ A trough in mid tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along Long 90°E to the north of Lat 24°N.
- ♦ The cyclonic circulation over north Punjab & neighbourhood extending upto 0.9 km above mean sea level persist. A trough runs from this system to northwest Madhya Pradesh across south Haryana and northeast Rajasthan and extends upto 0.9 km above mean sea level.
- ♦ The cyclonic circulation over northwest Uttar Pradesh & neighbourhood extending upto 0.9 km above mean sea level persists.
- ♦ The cyclonic circulation over central Assam & neighbourhood now lies over east Assam & neighbourhood and extends upto 0.9 km above mean sea level.
- ♦ The cyclonic circulation at 7.6 km above mean sea level over west central Bay of Bengal & adjoining south Odisha & north Coastal Andhra Pradesh persists.
- ♦ The cyclonic circulation over south Gujarat and neighbourhood now lies over Madhya Maharashtra & neighbourhood between 3.1 and 3.6 km above mean sea level.

Satellite Observations during past 24 hrs and current observation:

Current Observation (based on 0900UTC imagery of INSAT 3D):

Clouds descriptions within India:

North: Scattered low/medium clouds with embedded isolated weak convection seen over extreme Southwest over Jammu & Kashmir, Himachal Pradesh, Punjab and Haryana. Scattered low/medium clouds over North Uttarakhand and extreme Northwester Uttar Pradesh.

East: Isolated low/medium clouds with embedded moderate to intense convection seen over West Assam, adjoining Meghalaya. and Broken weak convection seen over Sub-Himalayan West Bengal, Sikkim and rest Northeastern States. Isolated to Scattered low/medium clouds over rest parts of the region except Odisha, Gangetic West Bengal, Northwester Jharkhand and West Chhattisgarh.

West: Scattered low/medium clouds with embedded isolated weak to moderate convection seen over North and adjoining Central Rajasthan. Scattered low/medium clouds with embedded isolated moderate to intense convection seen over Konkan. Scattered low/medium clouds over rest parts of the region.

South: Broken low/medium clouds with embedded moderate to intense convection seen over Bay Islands. Scattered low/medium clouds over rest parts of the region except South Rayalaseema & Andhra Pradesh.

Arabian Sea:

Scattered low/medium clouds with embedded moderate to intense convection seen over East-Central Arabian Sea. Scattered low/medium clouds with embedded weak convection seen over Southeast Arabian Sea, Comorin and Maldives.

Bay of Bengal & Andaman Sea:

Broken low/medium clouds with embedded intense convection seen over East-central & Southeast Bay, Andaman Sea & Gulf of Martaban Tenasserim Coast.

Past Observation:

Not Received

DWR and RAPID Observations:

Moderate multiple echoes observed on DWR Chennai, Goa, Gopalpur, Kolkata, Lucknow, Nagpur, Vishakhapatnam and Light to moderate over DWR Agartala, Hyderabad, Paradeep and Srinagar at around 1700 IST.

RAPID RGB Satellite imagery at 1600 IST indicates significant convection over Jammu & Kashmir, West & Central Uttar Pradesh, Madhya Pradesh adjoining Chhattisgarh, south Odisha, North Coastal Andhra Pradesh, South Konkan & Goa adjoining Coastal Karnataka, North Kerala, Central Tamilnadu, Lakshadweep and Nicobar Islands.

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

Higher Dust concentration was observed over northern Africa, Arab countries and western part of India. Dust concentration is expected to decrease for next few days over IGP and north India.

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

Delhi – SAFAR analysis & Forecast	15.06.2018	16.06.2018
PM10 (micro-g/m ³)	203	193
PM2.5 (micro-g/m ³)	67	64

2. NWP MODEL GUIDANCE:

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

1. Synoptic Systems: The analysis based on 00 UTC indicates a cyclonic circulation over Northwest Uttar Pradesh and adjoining areas in lower Troposphere (925hPa). The forecast shows it will persist till day2. Another cyclonic circulation is seen over east Assam and neighbourhood. The forecast shows it will persist till day2. The analysis shows a cyclonic circulation over North Punjab and adjoining areas in lower troposphere (850hPa). The forecast shows it will persist till day3. A trough extends from this system through Haryana to northwest Madhya Pradesh. The analysis shows an off shore Trough at mean sea level extends from South Maharashtra to Kerala coast and forecast shows it will persist till day3.

2. Location of Jet and Jet Core (>60kt) at 500hPa: There is no jet core over the Indian region for the next 3 days.

3. Low Level Vorticity {850hPa Positive Vorticity ($>12 \times 10^{-1}/s$):} Low level Positive Vorticity is seen mostly around the cyclonic circulations, from Himachal Pradesh, Uttarakhand, Foothills of Himalaya, Sikkim to NE states, GWB, SHWB, and over Tamil Nadu, Konkan and Goa coast during next 3 days; over some parts of Rajasthan on day3.

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 Gujarat, Rajasthan, Bihar, Jharkhand, Gangetic West Bengal, SHWB, Orissa, west Madhya Pradesh, along east coast of India, coastal Andhra Pradesh, coastal Tamil Nadu, Sikkim, Assam, Tripura and adjoining areas on all 3 days .

Lifted Index (< -2): over parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Gujarat, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, SHWB, Orissa, coastal Maharashtra, Madhya Maharashtra, Marathwada, Vidarbha, coastal Tamil Nadu, Telangana, Chhattisgarh, East and west Madhya Pradesh, coastal Andhra Pradesh, along east and west coast of India, Sikkim, NE states on day 1 and 2; on day 3 it is seen over Rajasthan, Punjab, Haryana, Delhi, Gujarat, Bihar, Jharkhand, GWB, NE states, along the east coast, Madhya Pradesh, Chhattisgarh, Vidarbha, Orissa Telangana and Andhra Pradesh.

Total Total Index (> 50): Higher than Threshold value of the Index is seen over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Rajasthan, Uttar Pradesh, Madhya Pradesh, Orissa, Chhattisgarh, Vidarbha, Telangana, Andhra Pradesh on day 1; on day 2 and day 3 it is seen mainly over North and Northwest India with highest value of the index lies over parts of Rajasthan.

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 Gujarat and Rajasthan.

CAPE (> 1000): Mostly seen over parts of coastal Gujarat, Rajasthan, along east coast, GWB, SHWB, Bihar, coastal Andhra Pradesh, coastal Tamil Nadu on day 1, Coastal Gujarat , Rajasthan, Northwest Madhya Pradesh, parts of Maharashtra including Mumbai on day2 and day3.

CIN (50-150): Mostly seen over Central India, GWB, SHWB, Bihar, Uttar Pradesh, east coast of India and parts of Peninsular India on all three days.

5. Rainfall Activity:

70-130 mm Rainfall: over South coastal Maharashtra, Konkan and Goa; over some parts of Konkan and Goa on all 3 days.

40-70 mm Rainfall: along west coast on all three days. Over parts of Vidarbha on day 2.

10-40 mm Rainfall: over parts of coastal and Interior Karnataka, Kerala, coastal Maharashtra, Konkan and Goa, Sikkim, East Bihar and NE states during next 3 days; J&K, Uttarakhand, South Gujarat, Tamil Nadu, Punjab, Haryana and Northwest Rajasthan on day 1; over parts of J&K, Uttarakhand, Madhya Maharashtra, Marathwada, Telangana and North Interior Karnataka on day 2; over some parts of Andhra Pradesh, Orissa and Central Parts of Madhya Pradesh on day 3.

Up to 10 mm rainfall: Over parts of J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Northwest Rajasthan, Uttar Pradesh, Foothills of Himalaya, GWB, SHWB, Sikkim, NE states, Bihar, Jharkhand, Orissa, Chhattisgarh, Madhya Pradesh, Vidarbha, Kerala, Interior Karnataka, Konkan & Goa, coastal Maharashtra including Mumbai, Gujarat, Madhya Maharashtra, Marathwada, Tamil Nadu, Telangana and Andhra Pradesh during next 3 days; over parts of Haryana, Delhi and adjoining area on day 1 and 2.

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

1. Model Reflectivity (Max. dBz):>25 dBZ Model Reflectivity: Mostly seen over North East India, Parts of central India Vidarbha, Marathwada, Madhya Maharashtra, Telangana, Andhra Pradesh, Konkan and Goa and over most parts of South Peninsular India.

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

Total Index (> 50): Mostly observed over Gujarat, Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Chhattisgarh, Madhya Pradesh, Orissa, Andhra Pradesh, Tamil Nadu, Telangana, Rayalaseema, Madhya Maharashtra, Marathwada, and Vidarbha on day 1; on day 2 and 3 it remains over mainly over parts of North and North-western parts of India .

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 J&K, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Rajasthan, Madhya Pradesh, Vidarbha, coastal Maharashtra including Mumbai, Madhya Maharashtra, Marathwada, Karnataka, Telangana, Chhattisgarh, Andhra Pradesh, Kerala, Tamil Nadu, Gujarat, Orissa, Bihar, Jharkhand, Uttar Pradesh, GWB, SHWB, Foothills of Himalaya, Sikkim and NE states.

CAPE (> 1500): Greater than threshold value over coastal Gujarat, East Uttar Pradesh, Rajasthan coastal areas of west coast, coastal Maharashtra including Mumbai, Konkan & Goa, coastal Karnataka, Konkan and Goa, coastal Kerala, coastal areas along the east coast, SHWB, GWB, Orissa, coastal Andhra Pradesh, coastal Tamil Nadu, Bihar, Jharkhand and NE states on day 1. Over parts of Gujarat, Rajasthan, Madhya Pradesh, Vidarbha, Jharkhand, Telangana , most parts of NE states, most significant being over GWB, SHWB, coastal Orissa on day 2. It is seen over coastal Gujarat, parts of Gujarat, most parts of east central India, GWB, SHWB and parts of NE on day 3.

CIN (50-150): The value of the index lies in the 50-150 range over parts of central India, Bihar Jharkhand, GWB, SHWB on all three days and on day 2 along Orissa and Andhra coast.

3. Rainfall and thunderstorm activity:

Above 200 mm Rainfall: over parts of coastal Karnataka and Kerala.

130-200 mm Rainfall: over pockets of South Konkan on day 1, over Coastal Karnataka on day2 and extending to Kerala on Day3.

70-130 mm Rainfall: over parts of coastal Karnataka, Konkan and Goa, Kerala and parts of NE on all three days.

40-70 mm Rainfall: over west coast from South Konkan to Kerala, parts of NE on day1 and day 2 , parts of Marathwada and Vidarbha.

10-40 mm Rainfall: Over parts of central India and parts of NE on day 1 and day 2 and including most parts of peninsular India on day 3.

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

3. IOP ADVISORY FOR 24 and 48Hrs:

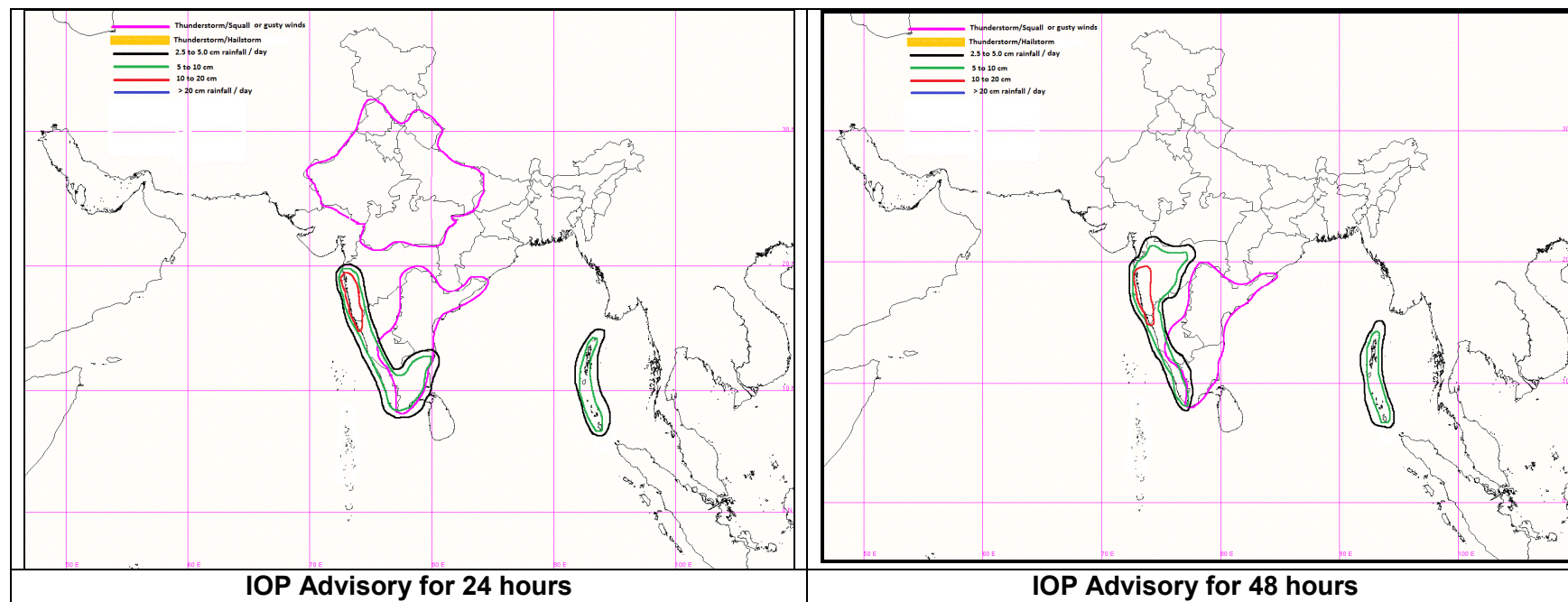
Summary and Conclusions:

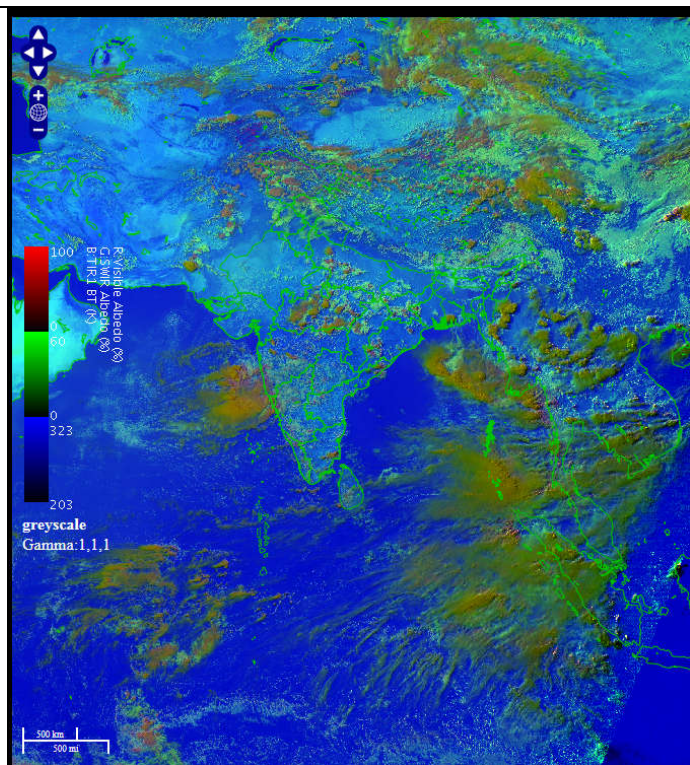
- The synoptic analysis indicates the Western disturbance as a trough in mid-tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 65°E to the north of Lat. 30°N. In addition, cyclonic circulation over north Punjab & neighbourhood extending upto 0.9 km above mean sea level also persists and a trough runs from this system to north west Madhya Pradesh across South Haryana and northeast Rajasthan and extends upto 0.9 km above mean sea level. Another cyclonic circulation lies over northwest Uttar Pradesh & neighbourhood extending upto 0.9 km above mean sea level. This situation is likely to trigger thunderstorms accompanied with squall at isolated places over Haryana, Chandigarh, Delhi and West Uttar Pradesh and thunderstorms accompanied with gusty winds at isolated places over Uttarakhand, Punjab, East Uttar Pradesh and Rajasthan on Day 1.
- The off shore trough at mean sea level now runs from south Maharashtra coast to Kerala coast and the cyclonic circulation over south Gujarat and neighbourhood has shifted to Madhya Maharashtra & neighbourhood & lies between 3.1 and 3.6 km above mean sea level. The above synoptic systems are likely to give isolated heavy to very heavy rainfall over Konkan & Goa on Day 1 & Day 2, isolated heavy rainfall over Kerala & Coastal Karnataka on Day 1 & Day 2. Isolated heavy rainfall is also expected over Tamilnadu on Day 1 and over Madhya Maharashtra on Day 2. Thunderstorms accompanied with gusty winds are also likely over Tamilnadu and South Interior Karnataka under the influence of above systems on Day 1 & Day 2.
- The cyclonic circulation at 7.6 km above mean sea level over West central Bay of Bengal & adjoining south Odisha & north Coastal Andhra Pradesh persists which may result in isolated thunderstorm activity accompanied with gusty winds over Telangana, Coastal Andhra Pradesh and Rayalaseema.

IOP Area for Day-1 & Day-2:

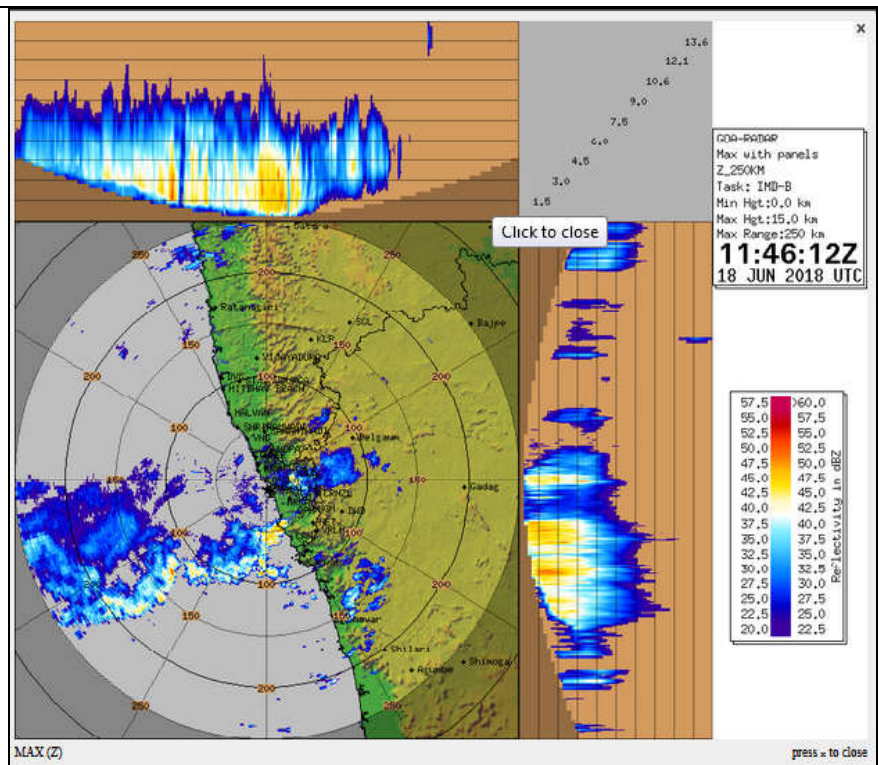
24 hour Advisory for IOP:	48 hour Advisory for IOP:
Significant Rainfall: Konkan & Goa Coastal Karnataka, Tamilnadu, Kerala Andaman & Nicobar Islands	Significant Rainfall: Konkan & Goa, Madhya Maharashtra Coastal Karnataka, Kerala Andaman & Nicobar Islands
Thunderstorm with squall or gusty winds: Coastal Andhra Pradesh, Rayalaseema, Telangana, Tamilnadu, South Interior Karnataka Madhya Pradesh Uttarakhand, Punjab, Haryana, Chandigarh, Delhi, Uttar Pradesh, Rajasthan	Thunderstorm with squall or gusty winds: Coastal Andhra Pradesh, Rayalaseema, Telangana, Tamilnadu, South Interior Karnataka
Thunderstorm with squall and hail Nil	Thunderstorm with squall and hail Nil
Thunderstorm/Duststorm: Nil	Thunderstorm/Duststorm: Nil

Graphical Presentation of Potential Areas for Severe Weather:

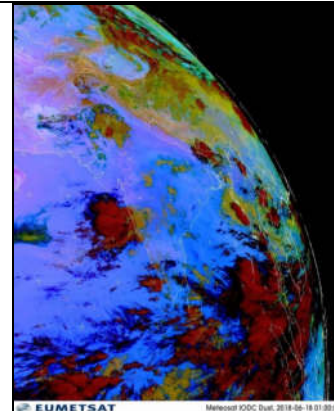
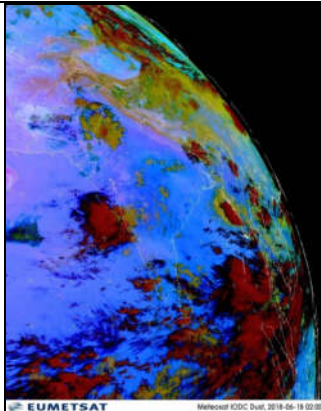
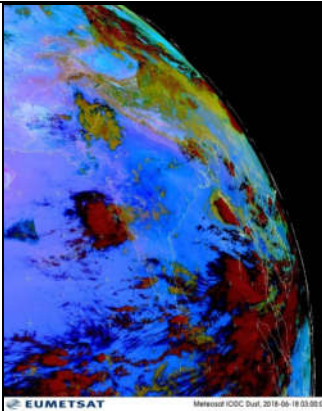
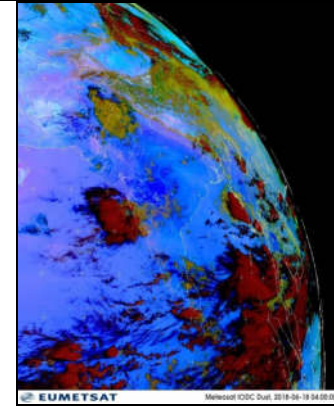
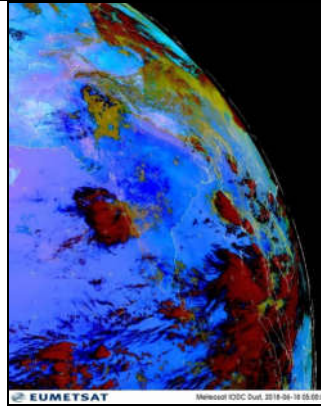
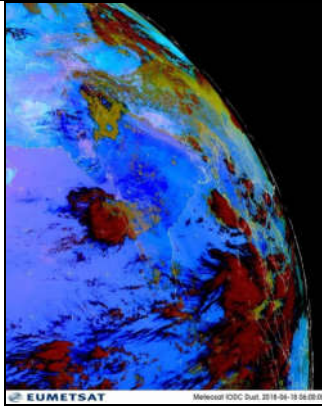




RAPID RGB Satellite Imagery at 1600 IST

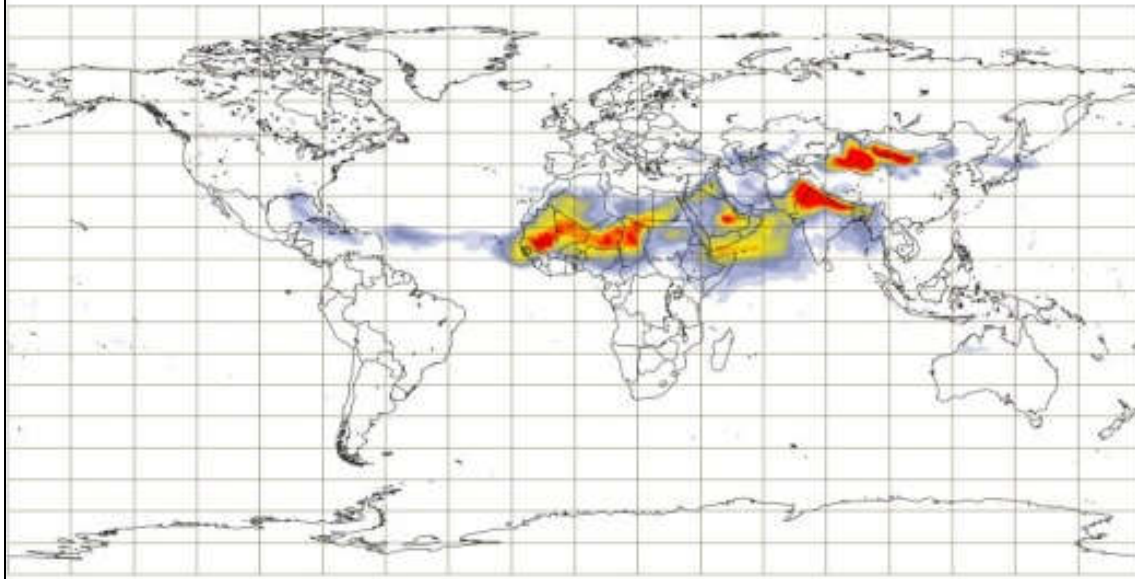


DWR Goa reflectivity at 1716 IST

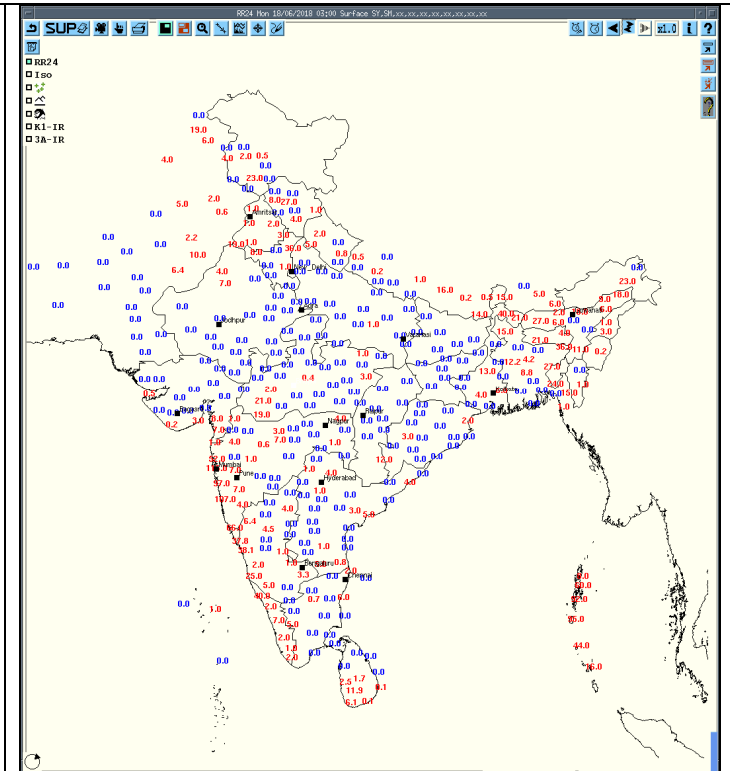


Observed Satellite Dust Images of today

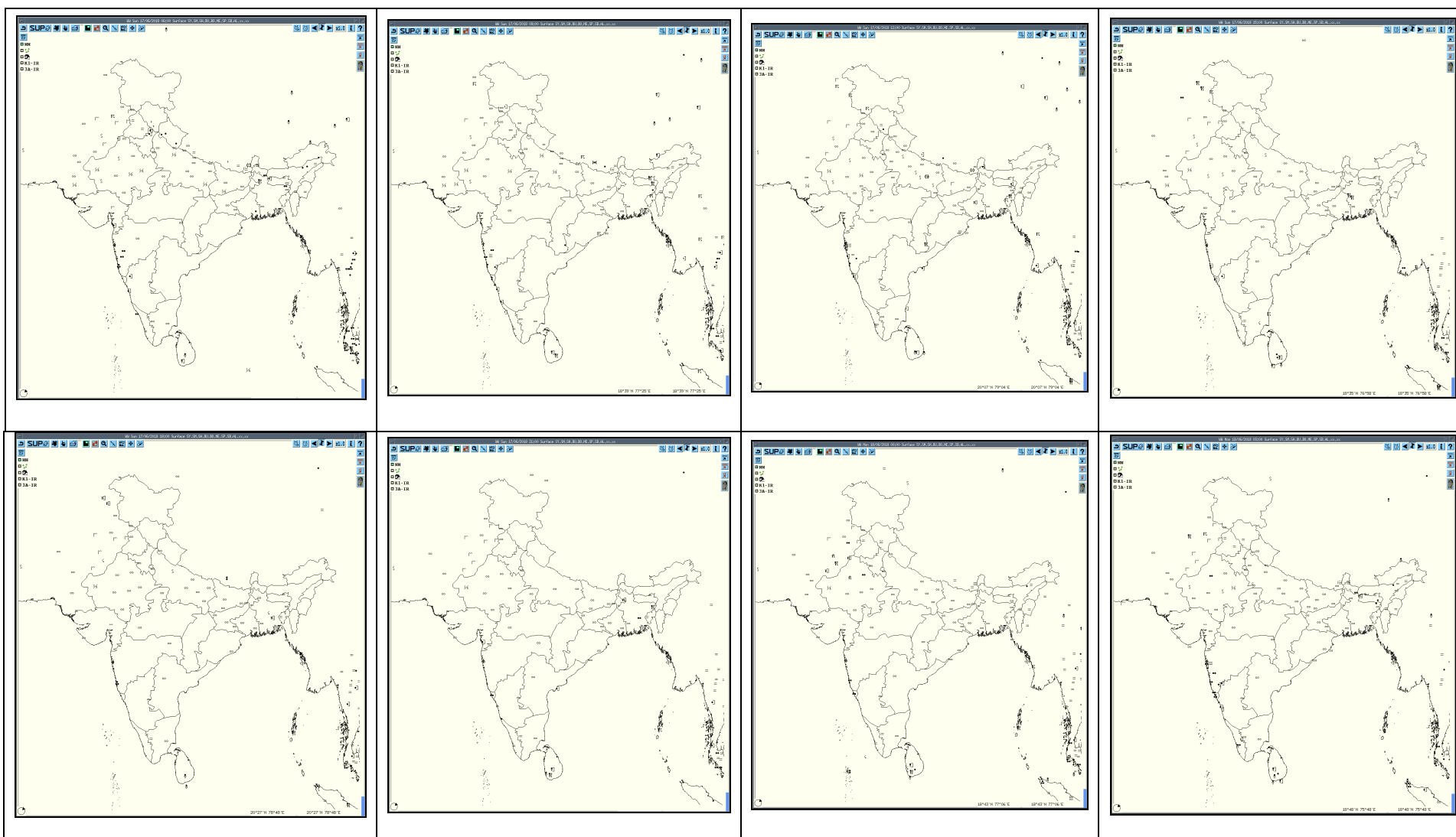
Dust aerosol optical depth at 550 nm (provided by CAMS, the Copernicus Atmosphere Monitoring Service)
 Sunday 17 Jun, 00 UTC T+24 Valid: Monday 18 Jun, 00 UTC



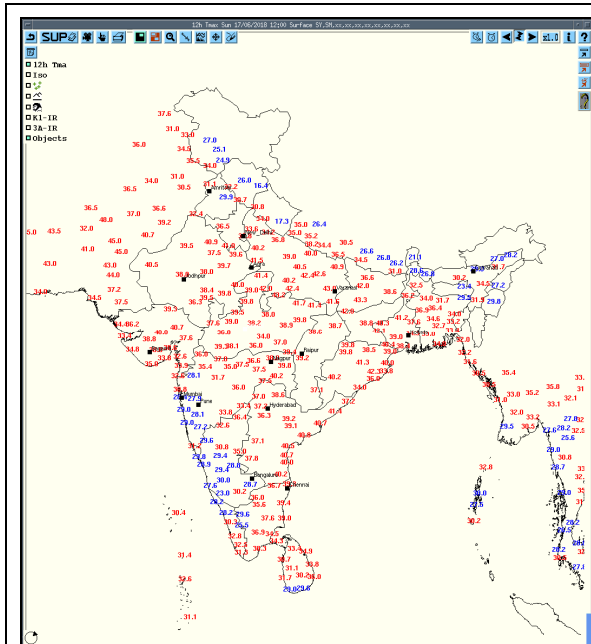
Dust Forecast



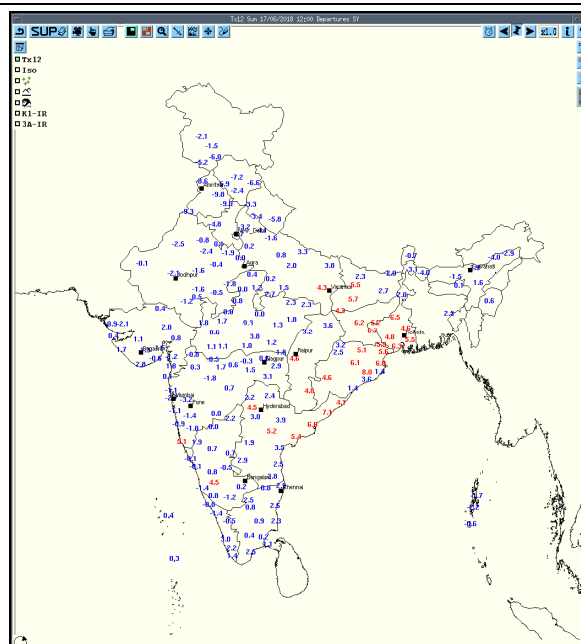
Accumulated 24 Hour rainfall (in red) recorded at 0300UTC of today



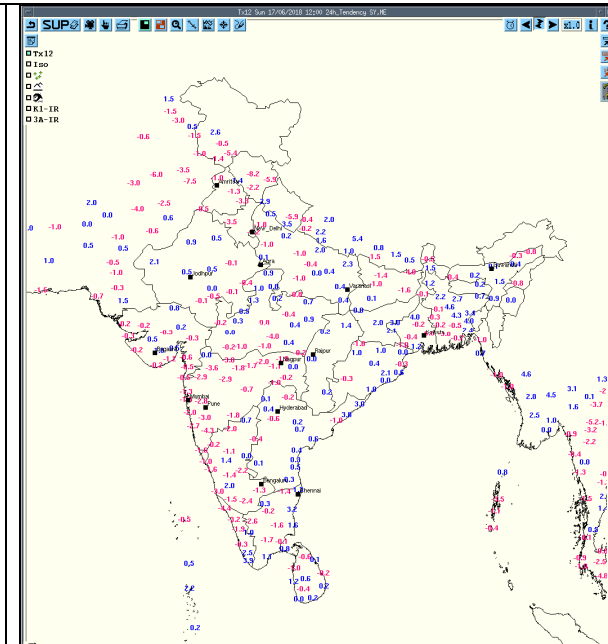
3hourly Past weather at 06, 09, 12, 15, 18, 21 UTC of yesterday and 00 & 03 hrs UTC of today



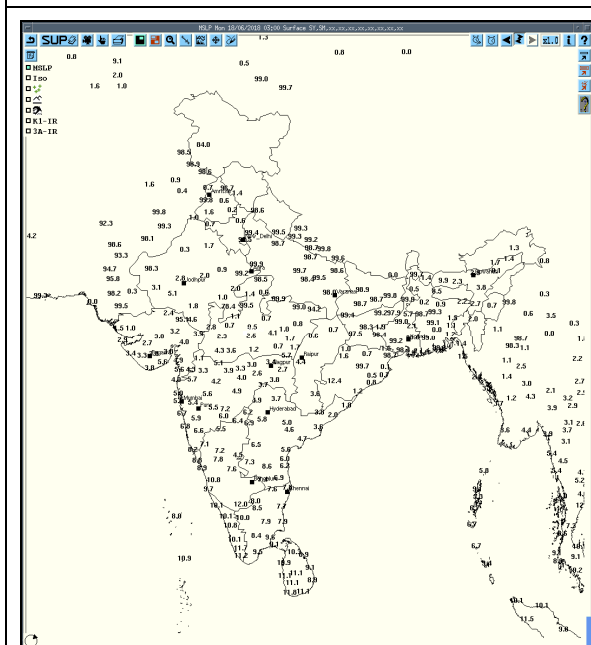
Tmax



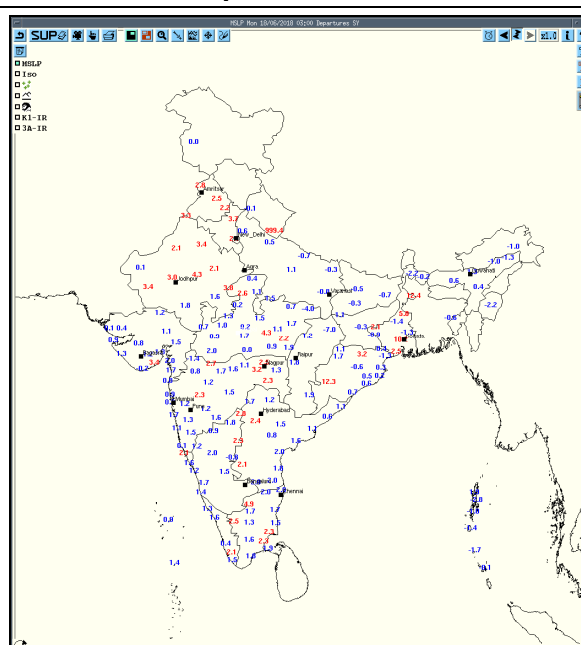
Departure Tmax



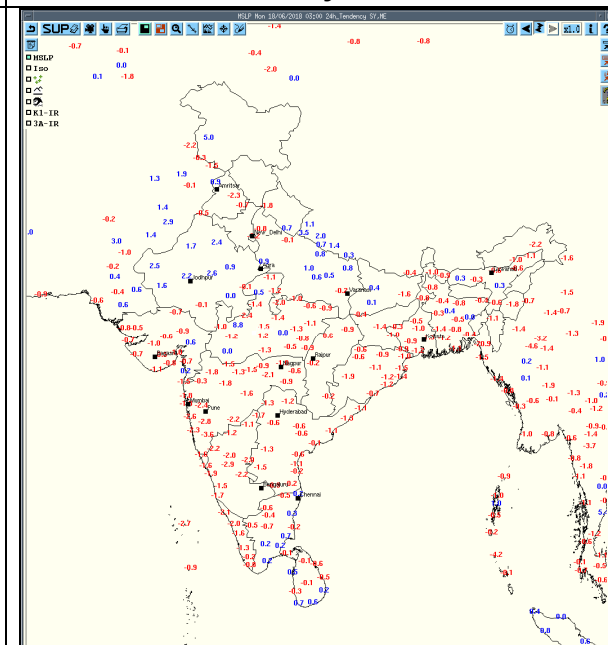
Tendency Tmax



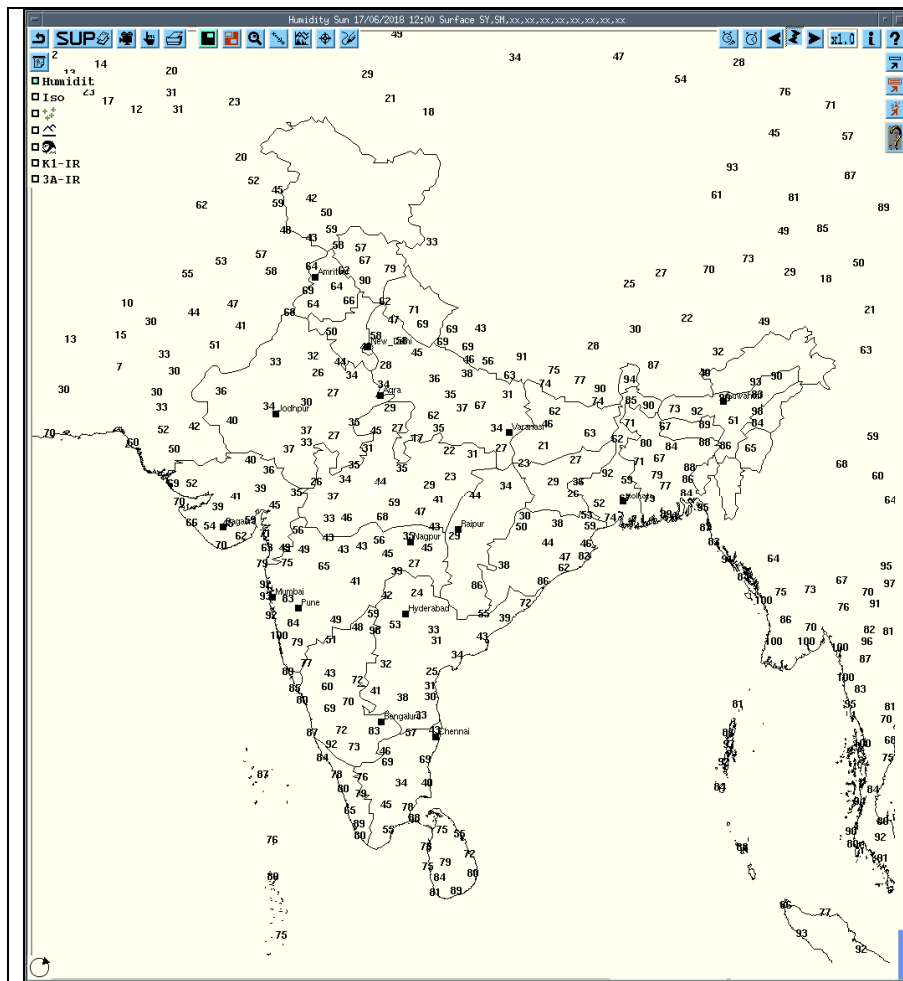
MSLP



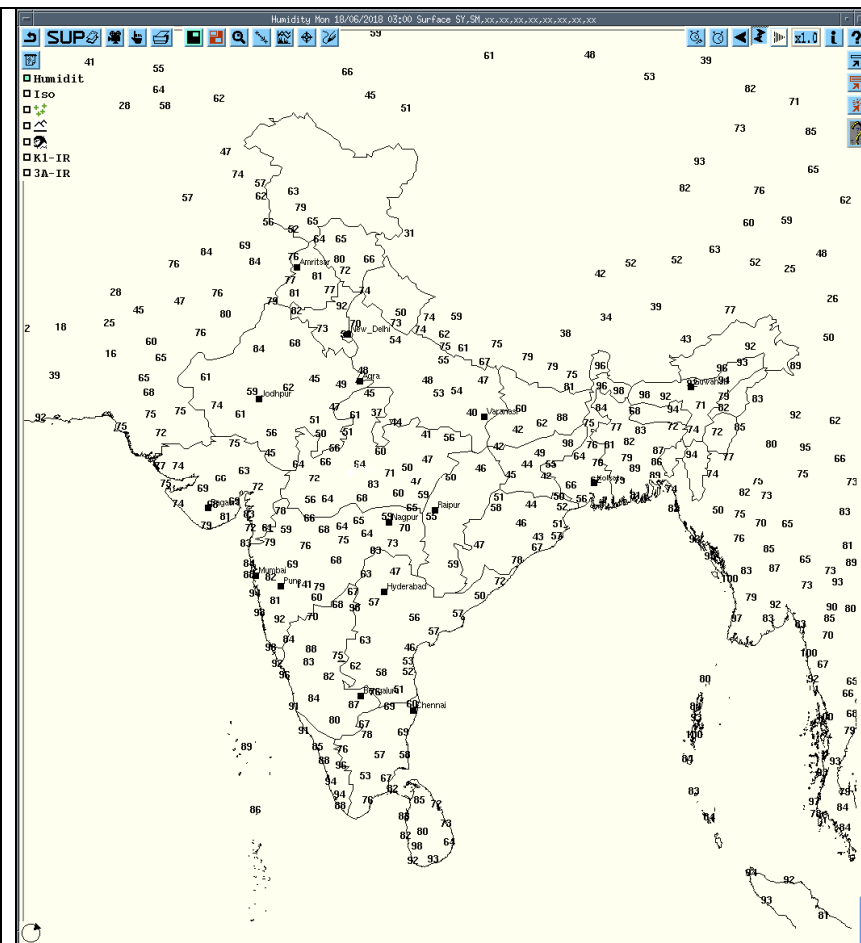
Departure MSLP



Tendency MSLP



RH at 1200UTC yesterday



RH at 0300UTC today

Past 24 hours DWR Report:

Radar Station name	Date	Time interval of observation (UTC)	Organization of the cells (Isolated single cells/multiple cells/ convective regions/ squall lines) with height of 20 dBZ echo top and maximum reflectivity	Formation w.r.t radar station and Direction of movement	Remarks	Associated severe weather if any	Districts affected
Visakhapatnam	18-06-18	170600	Convective region with max. reflectivity of 45dBz and height of 4 kms	S(150 kms) moving Ely	Convective region in Bay of Bengal dissipated at	-	Bay of Bengal
		170900	Isolated cb cells formed from NW to NE with max. reflectivity of 54dBz and height of 8 kms	73 to 160 km and moving Ely	CB cells formed at 0821 UTC and developing	TS with rain	Visakhapatnam, Srikakulam (AP) and Ganjam, Malkangiri (Odisha)
		171200	Multiple cb cells formed towards NW, N and around Visakhapatnam with max. reflectivity of 58dBz and height of 10 kms	1 to 193 km and moving Ely	CB cells formed since last observation and well developed	TS with rain	Visakhapatnam, Srikakulam (AP) and Bastar, Malkangiri (Odisha)
		171500	Multiple cb cells with max reflectivity 62dbz and height 8kms.	83kms(NE) 12:41UTC and moving SE ly.	Cb cells forming continuously .	Light rain.	Visakhapatnam, Srikakulam (AP)
		171800	Cb cell over the sea with reflectivity 56dbz and height 6kms.	112kms(SE) 15:11 UTC and moving SE ly.	-	-	Over the sea.
		180000	Cb cell in the conviction region over the sea with reflectivity 52dbz and height 6kms.	194kms(SW) 22:41UTC and moving NE ly.	Cb cell with reflectivity 49dbz in the NNE, 224kms with height 4kms.	-	Over the sea.
		180300	Cb cell in the conviction region over the sea with reflectivity 49dbz and height 4kms.	116kms(SSW) and moving Ely.	-	-	Over the sea.

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	18-06-18	170300 - 170600	MULTIPLE CELLS DBZ 53.0 HT. 08-10 KM	NW,NE, SW-SECTORS MOVEMENT E WARDS		RA/TS	Halwara,Melerkotala,Amloh,Dhuri,Nabha,Patiala,Khanna,Mansa,Sangrur,Patran,Guhla,Pehowa,Kaithal,Karnal,Tohana,Narwana,Kurkshtra,Yamunanager,Chandigarh,Nahan,Panipat,Shamli,Rooke,Debond,Kalsi,Fatehabad And Their Adjoining Areas
		170600 - 170900	MULTIPLE CELLS DBZ 51.5 HT. 08-10 KM	SE, SE ,NE SECTORS MOVEMENT SE- WARDS		RA/TS	Abohr, Mandidabawali, Ganganager, Talwandisabo, Sirsa, Mansa, Patran, Guhla, Seharenpur, Roorkee, Debond, Behat, Haridwar, Rishikesh
		170900- 171200	MULTIPLE CELLS DBZ 54.0 HT. 08-11 KM	SW SECTORS MOVEMENT E -WARDS		RA/TS	Ratia, Tohana, Narwana, Fatehabad, Barwala, Patran, Jind, Safidon And Their Adjoining Areas.
		171200 - 171500	MULTIPLE CELLS DBZ 52.0 HT. 08-10 KM	N,NE SECTORS MOVEMENT SE WARDS		RA/TS	Nalagarh, Bilaspur, Solan, Shimla And Their Adjoining Areas.
		171500 - 171800	NO SIG. ECHO	-----		--	-----
		171800 - 172100	MULTIPLE CELLS DBZ 59.0 HT. 09-10 KM	SW SECTORS DIRECTION E -WARDS		RA/TS	Mandidabwali, Narwana And Their Adjoining Areas.
		172100- 180000	MULTIPLE CELLS DBZ 48.5.0 HT. 06-09 KM	SW Sectors Direction E wards		RA/TS	Sirsa, Hissar, Narwana, Mansa And Their Adjoining Areas.(Rajasthan)
		180000- 180252	MULTIPLE CELLS DBZ 48.0 HT. 06-08 KM	SE, SW Sectors Direction E wards		RA/TS	Mansa, Narwana, Sirsa, Bathinda And Their Adjoining Areas.

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
Jaipur	18-06-18	171032-171312	Multiple cell with average height of 5.0km&maximum reflectivity59.0 dBZ	Multiple cell develop from 1032 UTC of 17/06/18 towards SW of Jaipur and moved to NW Wards at speed5-10 km/hr	Multiple cell develop from 1032 UTC of 17/06/18 towards SW of Jaipur and reaches maximum reflectivity from 1202 UTC to 1212 UTC of 17/06/2018 and Died at 1312 UTC.	Dust storm/Thunderstorm/ Light rain at Isolated places	Bhilwara, Ajmer, Tonk, Bundi DISTRICTS.
		171712-171942	Multiple cells with average hight of 4 km &maximum reflectivity of 47.5 DBZ	Multiple cell develop from 1712 UTC OF 17/06/2018 towards SE &E of Jaipur and moved towards Eastwards of Jaipur at speed of 20-25 km/hr	Multiple cell develop from 1712 UTC of 17/06/2018 towards SE &E of Jaipur and reaches maximum reflectivity from 1832 to 1842 UTC of 17/06/2018 and died at 1942 UTC	Dust storm/Thunderstorm/ Light rain at Isolated places	Dausa, Karauli Districts.
		172042-180300	Multiple cells with average hight of 4 km & maximum reflectivity of 59.5 dbZ	Multiple cell develop from 2042 UTC of 17/06/2018 towards NW of Jaipur and moved towards SW,SE,NE OF Jaipur at speed of 20-25 km/hr	Multiple cell develop from 2042 UTC of 17/06/2018 towards NW of Jaipur and reaches maximum reflectivity from 2342 to 2352 UTC of 17/06/2018 and is continue at 0300 UTC of 18/06/2018	Dust storm/Thunderstorm/ Light rain at Isolated places	Bikaner, Churu, Jhunjhunu, Nagaur, Ajmer, Jaipur , Dausa, Sikar Districts

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	18-06-18	170300 - 170822	NIL	NIL	NIL	NIL	NIL
		170822 - 171222	Isolated Multiple Cell Maximum Reflectivity: 46 dBZ Echo Top: 10.6 KM	Range: 50 KM from DWR Patna in East-South-East direction Movement: South-Easterly	Warning Issued	N/A	Patna, Nalanda, Begusarai, Sheikhpura, Lakhisrai, Munger, Jamui, Banka, Bhagalpur
		171242 - 171832	Single Cell Maximum Reflectivity: 43.5 dBZ Echo Top: 10.6 KM	Range: 122 KM from DWR Patna in North-North-West direction Movement: Easterly	Warning Issued	Rain	Gopalganj, Siwan, East Champaran, Muzaffarpur, Sheohar, Sitamarhi, Madhubani, Darbhanga, Supaul, Araria, Madhepura, Saharsa, Purnea
		171832 - 180300	NIL	NIL	NIL	NIL	NIL
Lucknow	18-06-18	170732-171502	Multiple cells formed 95 Km to 105 Km SES direction at 0732 UTC. Later stronger and wide spread 50Km to North To 80 Km South at 0832 UTC then after more wide spread upto140Km SW at 1002 UTC. Max reflectivity observed was 56.0dBZ & height reached 12.1 Km of 20 dBZ echo top.	Multiple cell system moved with avg. velocity 23 Km/h in SE direction w.r.t. the station. After 0832 UTC multiple sub system moved with avrg. Velocity 43.2 Km/h in ESE Direction	Dissipated at around 1502 UTC over 110Km to 250 Km SE direction w.r.t. the station.	TSRA/DS	Allahabad, Raebareli, Pratapgarh, Amethi, Sultanpur, Ambedkar Nagar, Azamgarh, Fatehpur, Kaushambi, Kanpur Nagar
Agartala	18-06-18	170300-180300* (DWR operational from 0600 to 2000IST)	SINGLE CELL FOUND AT 17/0712Z SUBSEQUENTLY FORMED THE MUTIPLE CELLS; 12KMS ; 48DBZ	100KMS NW ; 30KMPH ; SE'LY	CELL DISSIPIATED OVER HILLS OF MIZORAM AT 17/1402Z	TSRA	DHOLAI & KHOWAI DISTS.

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)
Batote	Northwest India	Jammu & Kashmir	Thunderstorm	17-06-18	1655	1750
Katra	Northwest India	Jammu & Kashmir	Thunderstorm	17-06-18	1450	1615
Hissar	Northwest India	Haryana		17-06-18	0605	0620
Muzaffarnagar	Northwest India	West Uttar Pradesh	Thunderstorm	17-06-18		
Pilani	Northwest India	East Rajasthan	Thunderstorm	18-06-18	0530	0535
Sri Ganganagar	Northwest India	West Rajasthan	Thunderstorm	17-06-18	1220	1235
Bikaner	Northwest India	West Rajasthan	Thunderstorm	18-06-18	0300 0400 0615	0315 0430 0630
Jagdalpur	Central India	Chhattisgarh	Thunderstorm	17-06-18	1540	1810
Dhubri	Northeast India	Assam	Thunderstorm	17-06-18	18/0300	18/0740
Guwahati	Northeast India	Assam	Thunderstorm	17-06-18	17/1355 18/0555	17/1520 18/0645
Barapani	Northeast India	Meghalaya	Thunderstorm	17-06-18	17/1259	17/1630
Cherrapunjee	Northeast India	Meghalaya	Thunderstorm	17-06-18	17/0830 17/1110 17/1840	17/1315 17/1450 17/2010
Shillong	Northeast India	Meghalaya	Thunderstorm	17-06-18	17/1315	17/1600
Agartala	Northeast India	Tripura	Thunderstorm	17/18-06-18	17/1625 18/0005	17/1750 18/0120
DumDum	East India	Gangetic West Bengal	Thunderstorm	17-06-18	...0830	1015
Haldia	East India	Gangetic West Bengal	Thunderstorm	17-06-18	2246	2325
Sriniketan	East India	Gangetic West Bengal	Thunderstorm	17-06-18	1540	1636
Bhubaneswar	East India	Odisha	Thunderstorm	17-06-18	1425	1535
Port Blair	Andaman & Nicobar	Andaman & Nicobar	Thunderstorm	17-06-18	1540 1740 2055 0430	1620 1800 0300 0610
Kalingapatnam	South India	Coastal Andhra Pradesh	Thunderstorm	17-06-18	1845	2100
Visakhapatnam	South India	Coastal Andhra Pradesh	Thunderstorm	17-06-18	1515	1800
Vijayawada AP	South India	Coastal Andhra Pradesh	Thunderstorm	18-06-18	0030	0115
Salem	South India	North Interior Tamil Nadu	Thunderstorm	17-06-18	1615	1650

IMPORTANT LINKS:

For NCMRWF NWP products:(<http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php>)

For IMD NWP products:(http://nwp.imd.gov.in/diagpro_new.php)

For Synoptic plotted data and charts

<http://amssdelhi.gov.in/>

<http://www.amsskolkata.gov.in/>

For RANDHRA PRADESHID tool:

http://rAndhra_Pradeshid.imd.gov.in/

Low Level Winds

http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR_2017/?C=M;O=D

Upper level winds

http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/HLW/MAR_2017/?C=M;O=D

Past24hourHEMandIMRRainfall(upto03UTCof today)

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

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

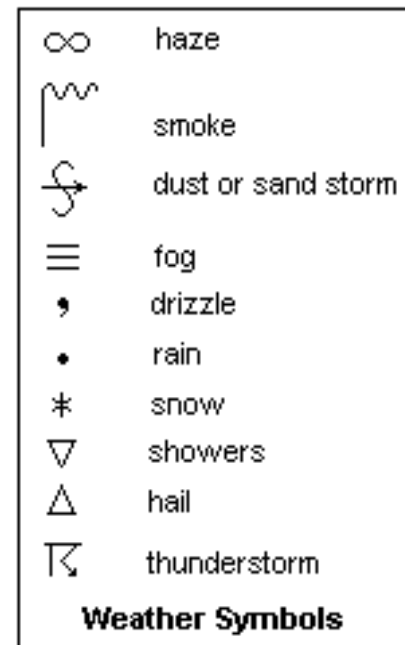
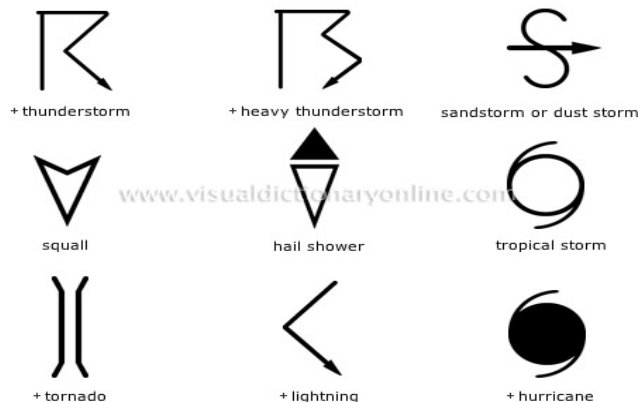
For Radar images of the past 24 hours including mosaic of images:

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

Satellite sounder based T- Phigram

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

WEATHER SYMBOLS:



Weather Symbols