India Meteorological Department

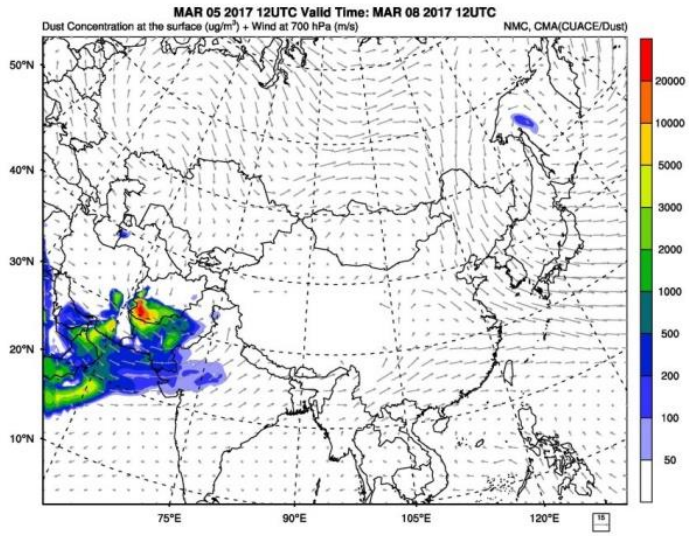
FDP STORM Bulletin No. 01 (06-03-2017)

S. No.	STORM area of interest (All India)	
1.	**REALIZED WEATHER (Past 24 hours ending at 03 UTC of 06-03-2017)**	• **SYNOPTIC: Realised Thunderstorms:** **05/0300UTC: NE India (Shillong, Cherrapunjee, Dibrugarh, Agartala), South India(Minicoy).** **05/0600UTC: NE India (Dibrugarh).** **05/0900UTC: NE India (North Lakhimpur, Dibrugarh, Silchar, Agartala).** **05/1200UTC: NE India (Passighat, Silchar).** **05/1500UTC: NE India (Dibrugarh, North Lakhimpur*, Agartala), South India(Coimbatore, Bengaluru#)** **05/1800UTC: NE India (Agartala).** **05/2100UTC: NE India (Agartala)** **06/0000UTC: NE India (Agartala), South India (Thiruvananthapuram).** **06/0300UTC: Nil.** *** Thunderstorm with Hail** **# Lightening** • **SATELLITE OBSERVATIONS** *Based on Daily IMR product (0330UTC of yesterday up to 0300UTC of today):* **Rainfall**: Around 30 mm rainfall was recorded over Kerala and Tamilnadu and around 20 mm was recorded over NE J & K.
2.	**CURRENT SYNOPTIC SITUATION at 03 UTC of 06-03-2017**	**NWFC INFERENCE** The Western Disturbance as an upper air cyclonic circulation over eastern parts of Iran & adjoining Afghanistan now lies over northeast Afghanistan & adjoining Pakistan and extends upto 5.8 km above mean sea level. The trough of low at mean sea level over Equatorial Indian Ocean & adjoining southeast Bay of Bengal Persists. The trough at mean sea level from Comorin area to south Chhattisgarh now extends from Lakshadweep area to North Interior Karnataka across interior Tamilnadu & Telangana and extends upto 0.9 km above mean sea level. The upper air cyclonic circulation over Comorin area and adjoining Maldives area, now lies over Lakshadweep area & neighbourhood and extends upto 1.5 Km above mean sea level. It is embedded with the trough from Lakshadweep area to North Interior Karnataka. A trough extends from Sub-Himalayan West Bengal to South interior Odisha across Gangetic West Bengal and extends upto 0.9 km above mean sea level. An induced upper air cyclonic circulation is likely to form over northwest Rajasthan & adjoining Pakistan during next 24 hours.

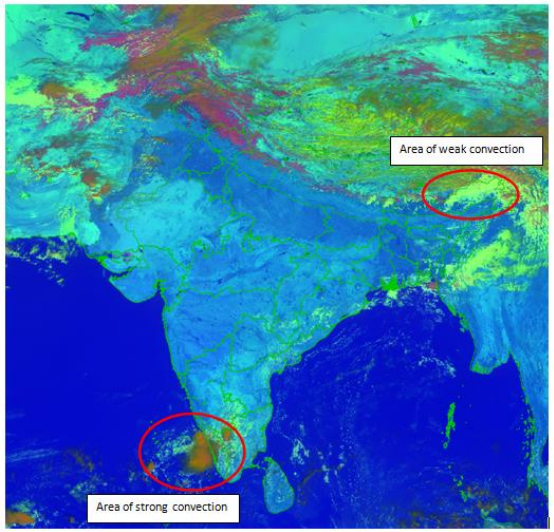
		SATELLITE INFERENCE (*Based on 0300 UTC Imagery of INSAT -3D):* **Cycers/Troughs**: VORTEX (ENAWO) OVER SW INDIAN OCEAN CENTRED NEAR 13.8S/54.0E. **Core of Jet stream**: Around 28 N Latitude and 85 E Longitude. **Relative Vorticity at 850 hPa (Distribution):** 50-100 vorticity at the foothills of Himalaya and Marathawada region. **TPWV Distribution** : Maximum (>40 mm) over Kerala, Tamilnadu, Coastal Andhra Pradesh, Coastal Orissa, Nagaland, Manipur, Mizoram, Tripura, Arunachal Pradesh, **RADAR INFERENCE** Convection appears to be in progress in the vicinity of Kolkata, Mohanbari and Vishakhapatnam. **EMRC INFERENCE** Higher dust concentration is observed over Arabian Peninsula. Dust concentration is likely to increase from March 8 onwards over Rajasthan, Gujarat and adjoining areas. (WMO SDS-WAS Asian Centre)
3.	**NWP MODEL GUIDANCE**	**NCMRWF (**at 12UTC 6-10th Mar 2017 NCUM Forecasts based on 12 UTC of 5th Mar 2017) **1**. S**ynoptic systems:** No CYCIR at MSLP. At 925 and 850hPa:- Weak CYCER over NW India in Day-2 and Day-4. Feeble localized trough over J & K in Day-1 to Day-3. Wind discontinuity at 925 and 850 hPa extends from parts of Maharashtra, MP, Chhattisgarh and parts of Bihar On all days. Weak anti-cyclone over Arabian Sea and Bay of Bengal seen at 850 hPa. No other well organized synoptic system **2. Location of jet and jet core at 500 hPa (**500hPa Jet core (>60kt)): Over Assam in Day-1, Day-4 and Day-5. Over Gujarat and Rajasthan in Day-2 and Day-3. **3. Location of region of convergence at 850 hPa**: Weak low level convergence over different parts of India. **4. Spatial distribution of Low level Vorticity:** 850hPa Positive Vorticity (>15 x 10-1/s): over NW India in Day-2 and Day-4 & 5 (High values over different parts of India at 00 and 06UTC times on all days) 5. **Spatial distribution of Showalter Index and K Index** Showalter Index: -2 to -3 [High potential for thunderstorm]: Tripura, Manipur and Mizoram on all Days. Over AP, Telangana and adjoining regions of Odisha and Chhattisgarh in Day-2. Over TN and Kerala and AP in day-4-5 K-Index: >35: Tripura, Manipur and Mizoram on all Days. Over AP, Telangana and adjoining regions of Odisha and Chhattisgarh in Day-2. Over TN and Kerala and AP in day-4-5 [Very Unstable thunderstorm likely] **6. Spatial distribution of TTI** TTI>50 over NW India and Pakistan on all Days. Over Tripura, Manipur and Mizoram in Day1-3. Over AP, Telangana and adjoining regions of Odisha and Chhattisgarh in Day-2. **7**. **Rainfall and thunderstorm activity** Day-1&5: 2-8cm/day rainfall over Tripura and Arunachal Pradesh Day-1-3: 2-8cm/day rainfall Kerala and TN, Day-3: 2-8cm/day over East MP, Chhattisgarh and Odisha, Day-3-5: 2-8cm/day J&K, HP and Uttarakhand.

		IMD GFS(T1534) (Forecasts based on 00 UTC of 6 March 2017) **1.Synoptic systems:** At 10m: No CYCIR over India in analysis field and feeble CYCIR over Karnataka and adjoining regions in Day-1 and Day-2 forecast. At 850hPa:- Feeble CYCER over Karnataka and adjoining regions in analysis and Day-1 forecast. CYCIR over Panjab and adjoining areas from Day-2 to Day-5 A trough line at 850 hPa extends from Rajasthan to Karnataka via MP and Maharashtra on Day-2 and it extends from Panjab to northern parts of West Bengal through UP and Bihar from Day-3 to Day-5. Another trough line extends from central parts of India to Telengana along longitude 78 deg E on Day-4 and Day-5. An anticyclone persists over Bay of Bengal at 850 hPa from Day-1 to Day-5. **2**. **Location of jet and jet core at 500 hPa** 500hPa Jet core (>60kt): Over Assam in analysis field and over southern parts of Rajasthan on Day-5. **3**. **Spatial distribution of Low level Vorticity:** 850hPa Positive Vorticity (>12 x 10-1/s): Along foothills of Himalaya and over Karnataka during next 24 hours. Over NW India and along the trough from Rajasthan to Karnataka through MP and Maharashtra on Day-2 and along the trough from Panjab to northern parts of West Bengal through UP and Bihar on Day-3, over NW India and along the trough line from central parts of India to Telengana along longitude 78 deg E on Day-4 and Day-5 and over UP on Day-5. **4**. **Spatial distribution of Sweat Index and K Index:** Showalter Index: 300-400 [High potential for thunderstorm]: Along east coast in the analysis field and in the forecast fields from day-1 to Day-5. Over most parts of NW and eastern parts of India on Day-4 and day-5. K-Index: >35: High value of K-Index (>20) along east coast of India extended up to Kerala during next 5 days. **5**. **Spatial distribution of TTI** : TTI 20-40 over northern plain during next 24 hours, over Karnataka, northern parts of MP, UP, Bihar, Jharkhand and northern parts of West Bengal on Day-2, over Karnataka on Day-4 and over Gujarat on day-5. **6. Rainfall activity** Day-1&5: 10-40 mm over extreme south peninsula from Day-1 to Day-5 and over J&K and HP from Day-2 to Day-5. 20-130 mm over UP, Bihar and NE states on Day-5.
4.	**IOP ADVISORY FOR 24 Hrs**	The IOP advisory guidance for the regions are given below: 24-Hours:- Kerala, Arunachal Pradesh, Assam, Meghalaya, Mizoram, Tripura, Coastal Odisha The above is displayed graphically at the bottom of the text

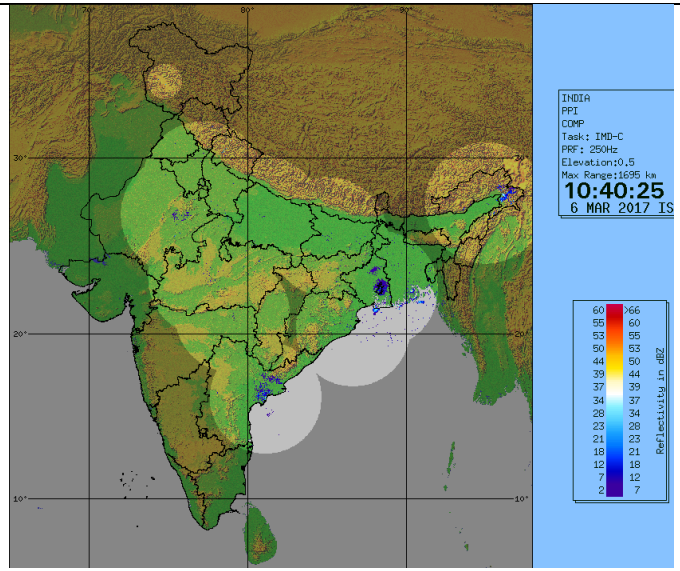
For NCMRWF NWP products: (http://www.ncmrwf.gov.in/HomePage/NEPS-prod-1.php)
For IMD NWP products: (http://nwp.imd.gov.in/diagpro_new.php)
For Synoptic plotted data and charts
http://amssdelhi.gov.in/
http://www.amsskolkata.gov.in/
For RAPID tool:
http://rapid.imd.gov.in/
Low Level Winds
http://satellite.imd.gov.in/archive/INSAT-3D-IMAGER/3D-PRODUCTS/AMV/LLW/MAR_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
Past 24 hour HEM and IMR rainfall (upto 03 UTC of 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/



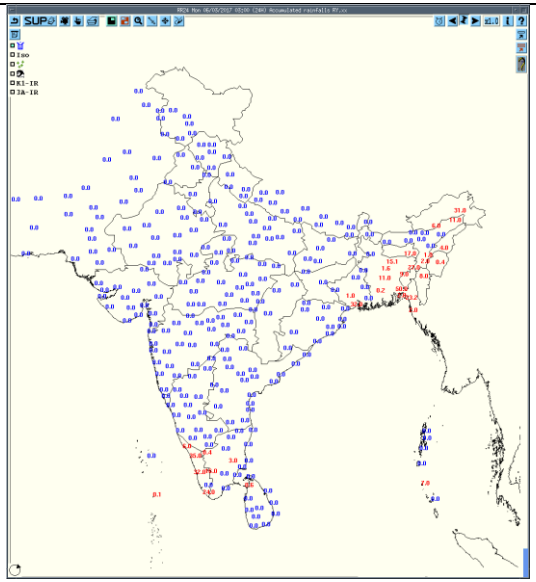
Forecast dust concentration at 12 UTC of 8th March



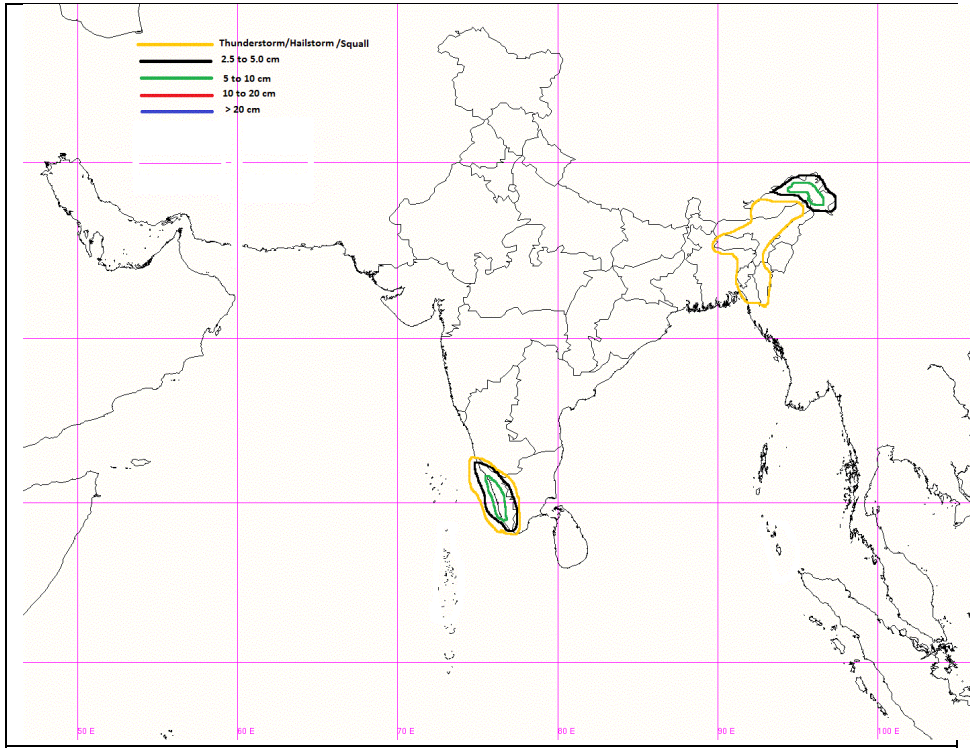
RGB Image of INSAT 3D at 0600UTC



DWR Composite between 05-06 UTC highlighting regions of convection



Accumulated 24 Hour rainfall (in red) recorded at 0300 UTC of 06 March



IOP Advisory for 24 hours