

## **Air Quality during Diwali-2016**

System of Air Quality and weather Forecasting and Research (SAFAR) provides air quality forecast for 3 metropolitan cities namely, Delhi, Mumbai and Pune using high-resolution atmospheric chemistry transport prediction model on supercomputer.

### **National Capital Territory of Delhi (NCT)**

SAFAR current and forecasted levels of air quality for National Capital Territory DELHI is based on 8 air quality Monitoring station spread around Delhi in different micro-environments, which is the true representation of NCT-Delhi air as per the WMO guidelines. The other 2 SAFAR stations are located at NOIDA and GURGAON. The data presented here are all 24hr Average for which National Standards are provided.

### **CURRENT STATUS OF DELHI AIR QUALITY**

- **Peak Pollution level of 24hr rolling average crossed at 8AM to 10AM Today. Smog+ Fog to improve by 4PM today (31st Nov) but not AQI.**
- **Air Quality at all 10 SAFAR stations (except Ayanagar -an outskirt) are at SEVERE levels since 11PM of 30th Nov. as per SAFAR forecast.**
- **Air Quality to remain SEVERE until 1st Nov. Morning but Likely to improve slowly from 2nd November.**
- **Major Reasons for Significantly High Air Pollution this year in spite of same or little less firecrackers emissions:**
  - **Winds less than 1km/hr:** Bad for Air Quality; But will increase from 2nd November.
  - **Temperature:** 15°C (constant and not dropped) -Good for AQ;
  - **Wind Direction:** Easterly to North-Easterly -Good (As Biomass effect is marginalized)
  - **Boundary Layer:** Fallen to 40-60meters between 30<sup>th</sup> midnight till 31<sup>st</sup> morning 7am-Bad for Air Quality

Wind speed of 6km/hr on 28<sup>th</sup> October has continuously fallen and became less than 1km/hr on 30<sup>th</sup> Oct night till 31<sup>st</sup> Oct morning. Temperature remain low (15°C) during Diwali night. The boundary layer height (Inversion layer) over Delhi fallen to 40-60meters between 30<sup>th</sup> midnight till 31<sup>st</sup> morning 7AM. This scenario has contributed to significant increase in AQI.

## SUMMARY:

- OVER ALL DELHI-NCT AIR QUALITY:
  - 30-31 October: SEVERE
  - 1-2 November: SEVERE to VERY POOR
  - WORST AQ HOURS: 11PM to 10 AM (Night of 30 to 31 Oct)
- MOST POLLUTED TO CLEANEST AREA in Delhi:

**Delhi University -HIGHEST Polluted**

**Dheerpur**

**NOIDA**

**Mathura road**

**Palam**

**Pusa**

**Loadhi road**

**Aya Nagar -LEAST Polluted**

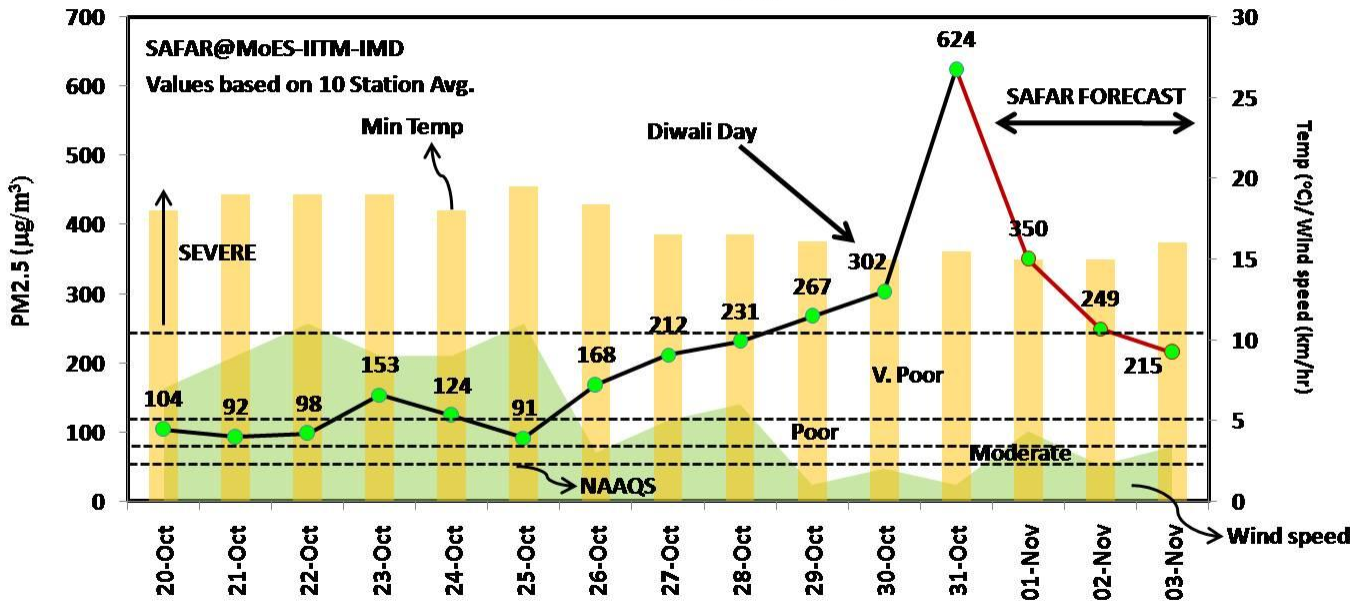
AIR QUALITY INDEX (AQI) –Overall DELHI-NCT Prominent Pollutant- PM2.5 (Based on 256 model data average)	
30/10/2016 (Diwali Day)	452 (Severe)
31/10/2016 (Post Diwali Day)	500+ (Severe)
01/11/2016	500 (Severe)
02/11/2016	399 (Very Poor)
SAFAR@MoES-IITM-IMD	

\*Note: AQI is a unit less number

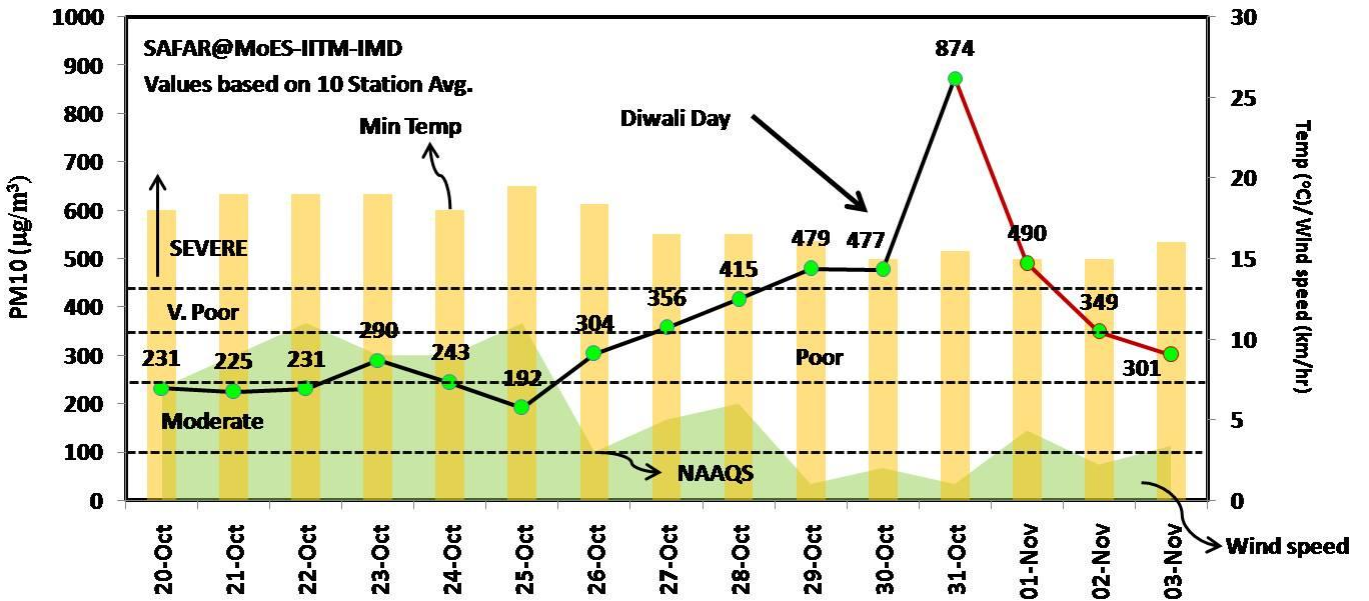
## Advisory

Air Quality Index (AQI)	Health Advisory (Cautions)	Health Effect Statement
<b>Very Poor (301-400)</b>	People with heart or lung disease, older adults, and children should avoid prolonged or heavy exertion; everyone else should reduce prolonged or heavy exertion.	Triggers Health alert. Everyone may experience more or serious health effects. Significant increase in respiratory effects in general population.
<b>Severe (401-Above)</b>	Everyone should avoid all physical activity outdoors; people with heart or lung disease, older adults, and children should remain indoors & keep activity levels low.	Health Warning of Emergency Conditions. Serious risk of respiratory effects in general public.

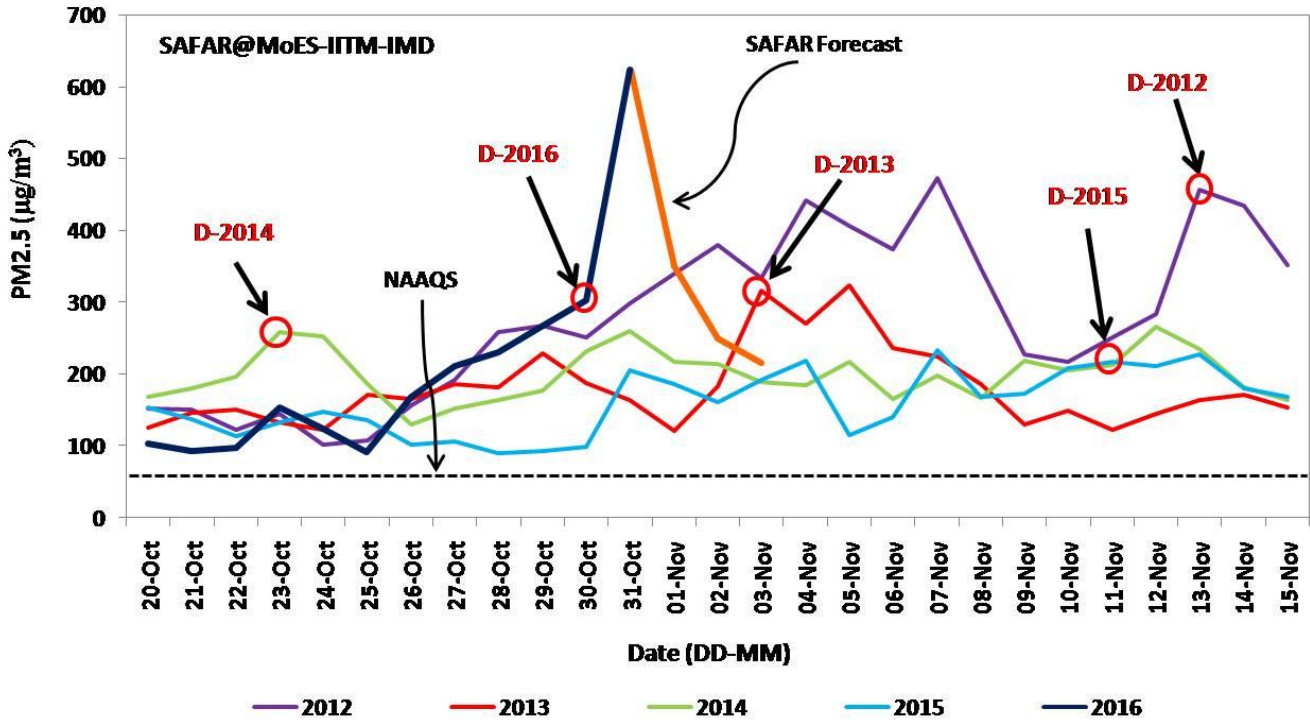
### Delhi- PM2.5 ( $\mu\text{g}/\text{m}^3$ )



### Delhi-PM10 ( $\mu\text{g}/\text{m}^3$ )



## Delhi-NCT- PM2.5( $\mu\text{g}/\text{m}^3$ ): Yearly comparison 2012 to 2016



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