

SYSTEM OF AIR QUALITY AND WEATHER FORECASTING AND RESEARCH (SAFAR)
 (Gufraan Beig, IITM, Pune (Project Director), Sunil Peshin, IMD, New Delhi and Neha Parkhi, IITM, Pune)
 ESSO, Ministry of Earth Sciences

SAFAR Air Quality Forecast (Delhi) for Diwali-2015 (valid on 8/11/15)

Winter is now set and temperature during Diwali-2015 is going to be colder as compared to last year's Diwali-2014 period that was in October. There is enough moisture in the air and atmospheric holding capacity is quite high for particles emitting from firecrackers. In all likelihood, air quality during Diwali-2015 is going to be inferior to that of Diwali-2014 owing to cooler temperature and downward shift of inversion layer. As per SAFAR-chemical forecast, Delhi is going to breathe "Severe" air at least for a day on 12th Nov. This may, in turn, increase the cooling rate further and make Humidity above 96%. Under this condition, Particles emitting from firework will sit on water droplets and multiply it resulting in more particles in suspended air itself –This process is called Secondary particle formation which is likely to happen on 12th and 13th Nov and making condition congenial for dense haze formation. The below mentioned 3-day forecast is made out considering that the amount of firecrackers burnt are same as last year. However, if there is thunderstorm and shower on 11th Nov whose probability is less, AQ may slightly improve. If self-mitigation measures are effective then it will positively have a favorable impact.

POINT AND CHECKS FOR DELHI POLLUTION

(Valid for: 10-14 Nov 2015)

<i>Sr. No.</i>	<i>ALERTS</i>	<i>RESULT</i>
1.	HOUR of PEAK POLLUTION	Night of 11 TH -12 TH Nov = 1AM
2.	TIME DURATION for PEAK POLLUTION	Date: 12 th November 2015 10 PM to 2 AM & 7-9 AM Early morning
3.	DATE of PEAK POLLUTION	12 th Nov 2015
4.	AREAs HIGHLY POLLUTED	Noida, Delhi University (North) and
5.	AREAs LEAST POLLUTED	Lodhi Road and Mathura Road
6.	% INCREASE FROM BACKGROUND	<u>12TH Nov 2015 (Day Average)</u> PM2.5 = 148 %; PM10 = 170 %
7.	EXPECTED LEVELS (1 Day Average) (SEVERE for Human Health) *Advisory and Health statement- See below	<u>11th November 2015</u> PM2.5 = 281µg/m ³ ; PM10 = 620µg/m ³ <u>12th November 2015</u> PM2.5 = 430µg/m ³ ; PM10 = 956µg/m ³
8.	EXPECTED LEVELS (HOURLY PEAK) (Note: Please be careful. This 1h data is Irrelevant for Health Assessment)	<u>12th November 2015, 1PM</u> PM2.5 = 1450µg/m ³ ; PM10=2700µg/m ³
9.	PEAK POLLUTION Height (Vertical):	0 -20 meters from surface 30-40 meters: Exposure reduces by 25%
10.	SAFE LIMIT of Particulate Matter	PM2.5 =60µg/m ³ & PM10 =100 µg/m ³ .

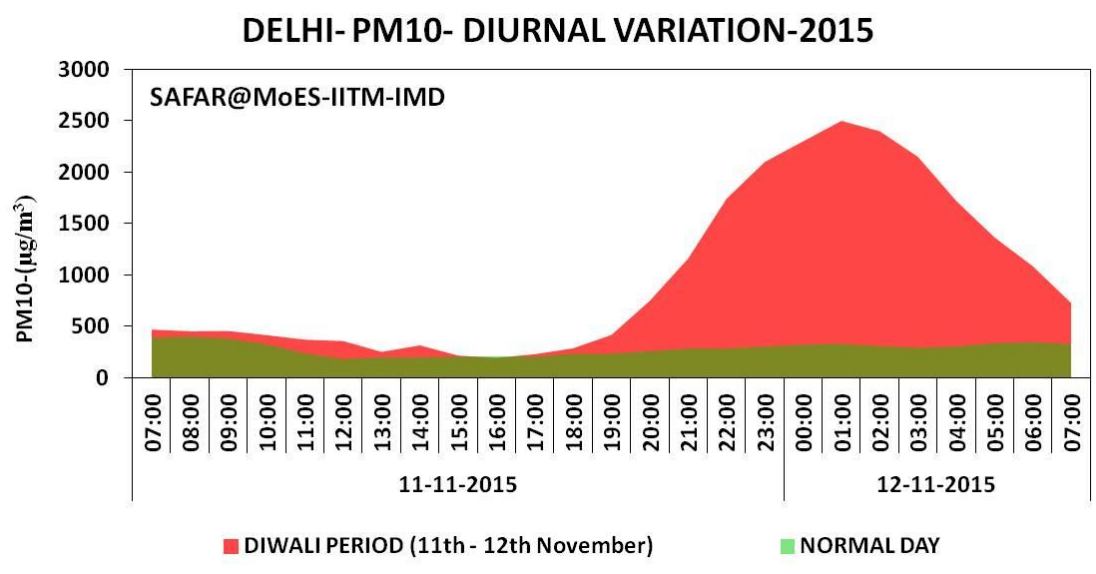
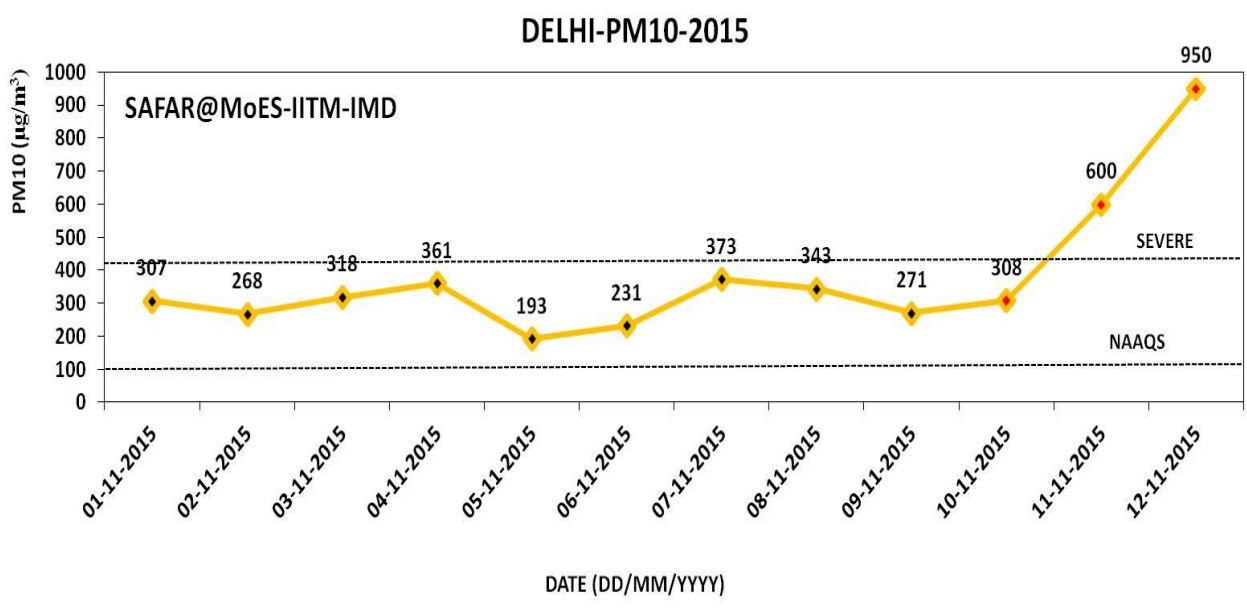
***SEVERE (11th night to 12th afternoon):**

Health Advisory: Everyone should avoid all physical activity outdoors; people with heart or lung disease, older adults, and children should remain indoors and keep activity levels low.

Health Effect Statement: Health warning for all. Serious risk of respiratory effects in general public in prolonged exposure.

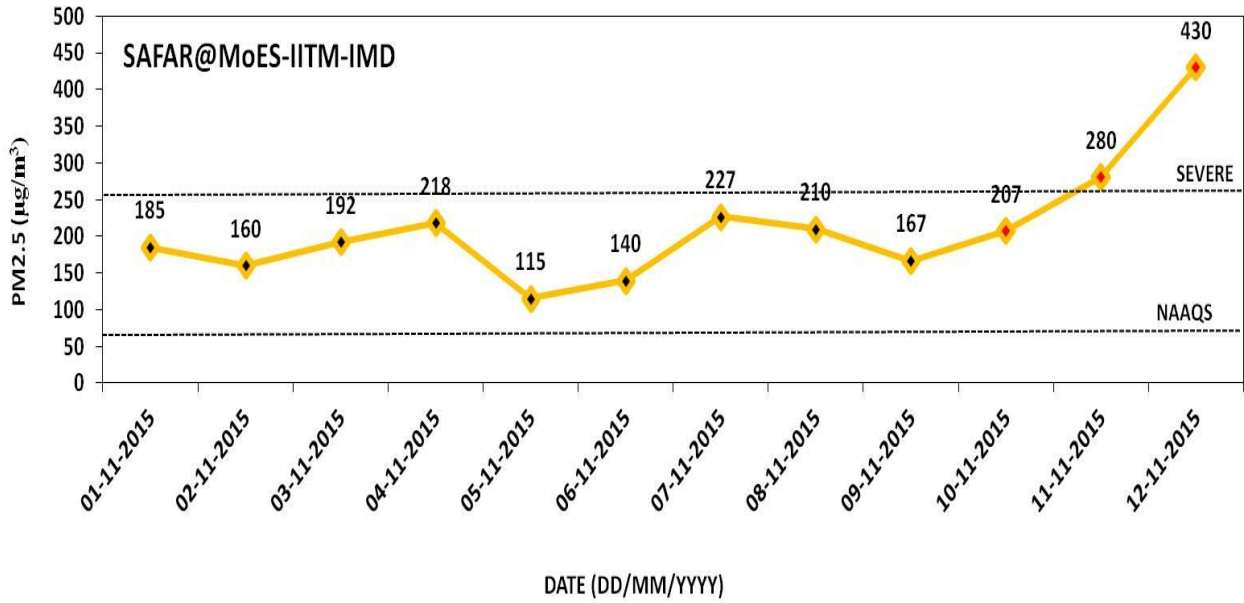
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Forecast for Diurnal variation and 24 hr avg. of PM10 during Diwali-2015 (valid on 8/11/15)



Forecast for Diurnal variation and 24 hr avg. of PM2.5 during Diwali-2015 (valid on 8/11/15)

DELHI-PM2.5-2015



DELHI- PM2.5- DIURNAL VARIATION-2015

