

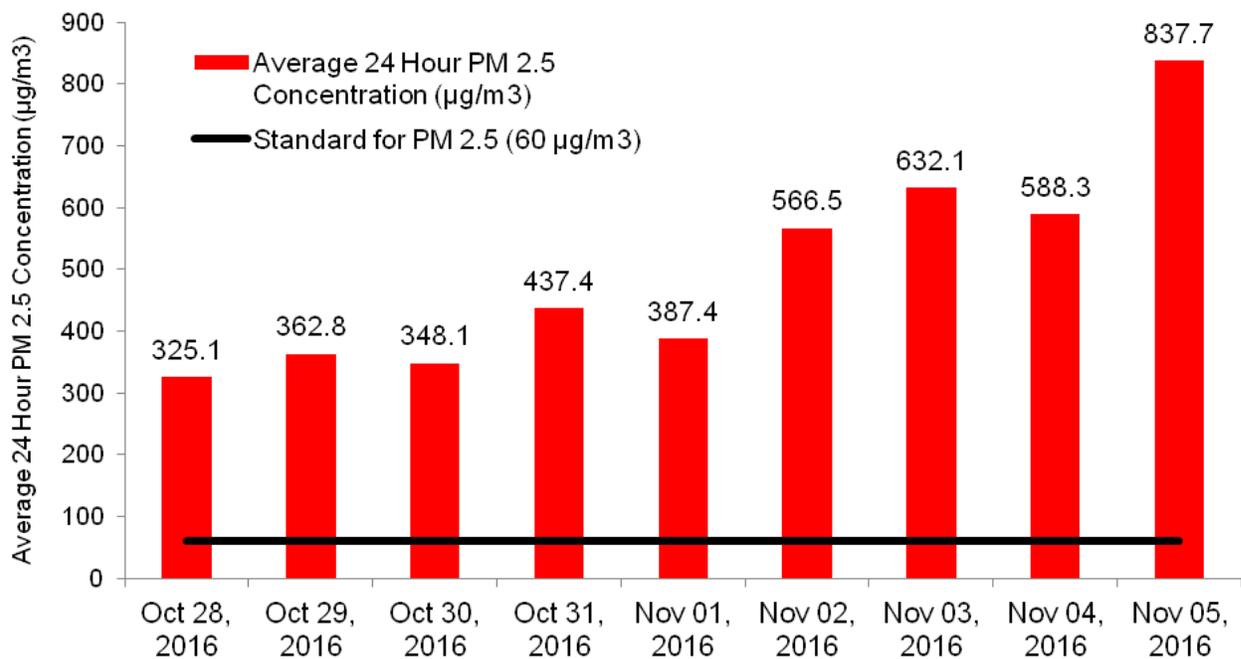
Delhi's worst smog incident in 17 years: Need for short-term emergency action and strict enforcement of Hon'ble Supreme Court directions for effective control of toxic and dangerous air pollution

Environment Pollution (Prevention and Control) Authority for National Capital Region (EPCA)

November 7, 2016

A. Current emergency level of pollution

Graph: 24 hour average at 3 air quality monitoring stations in Delhi (Punjabi Bagh, Anand Vihar and R K Puram)



Source: Real time air quality monitoring of Delhi Pollution Control Committee

- The levels of PM_{2.5} has increased by 1.4 times on November 5, 2016 as compared to Diwali. **It is 14 times the standard on November 5, 2016 – a situation, which is both alarming and dangerous for human health.** This is a level of pollution, which is higher than what was recorded during the London smog incident and certainly higher than what has been seen in Delhi ever.

- **The key cause of this extremely high pollution that is seen in Delhi and its vicinity is a combination of factors – already high pollution in Delhi because of numbers of vehicles; unchecked construction and road dust and garbage burning; compounded by Diwali crackers and the burning of paddy residue by farmers in Punjab and Haryana and near still weather conditions without wind and the onset of winter.**
- **This severe smog episode is a result of these factors and must be treated as a public health emergency.**
- It is also clear that these conditions demand emergency measures – short term and immediate, which will drastically reduce pollution during the peak smog episodes.
- EPCA is submitting this urgent report to inform the Hon'ble Supreme Court of the status of actions being taken in pursuant of the directions of the Hon'ble Supreme Court as well the urgent actions that need to be taken to address this public health emergency.

B. Enforcement of directions for effective action to control pollution

The Hon'ble Supreme Court has passed important directions to control air pollution in Delhi. It is critical that there is strict enforcement of these orders. EPCA is constrained to point out as in many cases, actions are lax and do not recognize the urgency of toxic air pollution, particularly in winter months.

Priority actions for control of pollution in winter are as follows:

1. **Strict enforcement of ECC on Delhi-bound trucks** so that there is control on numbers, including enforcement to check and divert all non-Delhi bound truck traffic and age limit (as stipulated by Hon'ble Supreme Court). Ensuring the early introduction of RFID will improve compliance and enforcement of this measure.

2. **Strict enforcement by GNCTD and municipal bodies of Hon'ble Supreme Court directives on control of dust pollution** from construction activities and road through vacuum cleaning; water spraying and horticulture.
3. **Strict enforcement by GNCTD/municipal agencies on ban on garbage burning.** Long-term action on control of emissions from garbage burning needs to be assessed and taken.
4. **Urgent action to control pollution from thermal power plant in Delhi and its vicinity** by shutting down plants during winter months and moving towards natural gas based power plants in the long run. Urgent action to reduce pollution from fly ash dumps in thermal power plants.
5. **Strict action by Punjab/Haryana to control biomass burning** through enforcement and by providing farmers alternatives to use paddy straw for energy and for tilling into ground for manure.
6. **Strict enforcement by all pollution control boards on control of air pollution from industries,** brick kilns and other sources of air pollution.
7. **Enforcement of all actions and directives to move vehicles towards cleaner technologies; fuels and emission standards.** This includes move towards BS IV (nationwide) by April 2017; BS VI (nationwide) by April 2020; increased introduction of CNG in NCR as already directed by Hon'ble Supreme Court and control on dieselization of vehicles.
8. **Comprehensive steps to augment public transport in Delhi and connectivity with NCR,** including bus, rail, metro and walk and cycle for last mile connectivity and increased parking charges. This is the most important action that needs to be taken urgently as it is the only way that Delhi/NCR will be able to address air pollution and restrain the growth of private vehicles. The Hon'ble Supreme Court has already directed GNCTD to augment bus fleet and metro to increase its passenger capacity. But much more needs to be done to build public transport network with last mile connectivity and governments in NCR along with Union Ministry of Urban Development must provide the comprehensive and multi-modal plan, which can then be monitored for implementation.

C. Emergency action required for current smog episode

The Delhi government has announced emergency actions, **but now it has to ensure enforcement of these steps**. If pollution is not reduced within the next 48 hours then Delhi government must take further steps to drastically reduce pollution, including odd-even (without exemptions) and further restrictions on commercial vehicle entry. It has to ensure that drastic and effective actions are taken to reduce pollution during the winter months.

The Punjab and Haryana government must take all steps necessary to incentivize and penalize farmers so that burning of crop residues is checked.

The Delhi government must issue daily health advisory, which clearly state the health risks of pollution based on the level of smog that is present in the city. Health advisory need to inform people to keep children and those suffering from heart and respiratory ailments and chronic obstructive pulmonary disease (COPD) indoors and avoid outdoor exercises. Schools should be shut based on the health risk. We must recognize that children are most vulnerable as they have a poor defense mechanism and their ability to metabolize and detoxify environmental agents is different from adults.

EPCA would request the Hon'ble Supreme Court to closely monitor this critical situation so as to ensure that enforcement is stringent and that based on the level of risk it can direct remedial action. We believe this is an extremely dangerous situation and one that needs drastic action – short term and long term – as current levels of pollution are extremely toxic and extremely hazardous for human health.

Annexure 1

Status of the directions given by the Hon'ble Supreme Court of India

EPCA, November 7, 2016

1. Diversion of Non-Destined Traffic by Haryana and Uttar Pradesh

The diversion of vehicles was strictly done over the winter months in 2015-16. It is noted that state government have severe staff limitations to keep up the active diversion of vehicles. However, the bill boards have been installed at key points and it is clear that if ECC at Delhi entry points is strictly enforced then the number of non-destined vehicles will go down. Between January 21 to April 25, 2016, Haryana had set up 13 check posts and this has resulted in diversion of a total of 6,00,880 vehicles. Uttar Pradesh has also taken steps to set up check posts and also install billboards about the diversion of traffic not bound for Delhi. While the number of vehicles diverted till April 11, 2016 were only 3278, representatives of the state government have informed EPCA that information about diversion and cost of entry to Delhi has resulted in fewer vehicles on the road for diversion. It is clear that this Haryana and Uttar Pradesh must increase enforcement to ensure diversion.

2. Upgradation of alternative bypass available

Following the Hon'ble Supreme Court's directions for the speedy commissioning of the two expressways – Eastern and Western Expressways to bypass Delhi, EPCA conducted a study which highlighted the critically sub-standard conditions of certain key roads, needed to bypass Delhi. The progress is not satisfactory as these bypass roads are critical for long-term solution.

3. Installation of weigh-in-motion bridges at all entry points

According to NHAI, 35 of the 60 weigh-in-motion (WIM) bridges are already under operation and the remaining 25 will be commissioned by November 15, 2016 which are installed at NH-2 Badarpur Elevated Highway and NH-10 Delhi-Rohtak

road. EPCA has informed NHAI that they must operationalize the WIM and provide data on the overloading of trucks that are destined for Delhi.

4. Status of enforcement and impact of imposition of Environmental Compensation Charge (ECC) on trucks that are destined for Delhi

EPCA has informed Delhi government that there needs to be strict enforcement of the entry of trucks and that as per the directions of the Hon'ble Supreme Court only commercial vehicles registered after 2005; that are destined for Delhi and that pay the ECC must be allowed entry. As the process for installation of RFID is on, the Delhi government must ensure steps are taken for enforcement on the ground.

5. Utilisation of ECC funds

As of October 28, 2016, over Rs 440 crore has been collected under ECC. As per the order of the Hon'ble Supreme Court dated August 22, 2016 the Transport Department of Delhi government has already transferred Rs. 93 Lakhs to SDMC for payment of pre-incident cost to RITES. The transport department is also in the process of sanctioning Rs. 120 crore over 5 years to SDMC for RFID installation at the 13 entry points into Delhi. The Delhi government has not submitted any further plans for utilisation of ECC.

6. Installation of RFID for effective and credible toll and ECC collection

EPCA report on "Installation of Radio Frequency Identification (RFID) for effective and credible ECC collection" dated August 10, 2016 was submitted in the court and on that basis the Hon'ble Supreme Court in its order dated August 22, 2016 has asked for the installation of RFID at the 13 entry points into Delhi from where 80% of the traffic comes and also appointed SDMC (South Delhi Municipal Corporation) as the executing agency. The Delhi government is now finalizing the document with SDMC and after this is done, the tender will be called.

7. Taxis in NCR to run on CNG

Between May 10 and October 4, 2016, the registration of diesel AITP(N) taxis in the NCT of Delhi stands at 74. This is in comparison to 11065 diesel AITP registrations in 2015. There is a clear shift towards CNG/petrol taxi. Between May

10 to October 4, 2016 over 90 per cent of all taxi registered were on CNG, as compared to less than 45 per cent prior to the order.

8. Ensuring availability of CNG in NCR

The MoPNG has submitted to EPCA that as of August 19, 2016 - 97 of the 104 new stations to be commissioned have commenced commercial operations as on June 30, 2016. This takes the total no. of operating CNG stations in NCR to 444, compared to 347 prior to December 16 2015.

9. Ensuring land for depot for augmentation of bus fleet in NCT to 10,000

EPCA has assessed that the Delhi government is in possession of 68 acres of land, which can park 1600 buses. In addition, DTC also has surplus land capable of accommodating 500 buses. In this way, there is depot land currently with the Delhi government, which can park up to 2000 additional buses.

10. Augmentation of metro

DMRC has submitted to EPCA on a meeting held in February that it is on track to commission 135 km of additional metro network in the form of Phase III, by December 2016. It was at 68.65% completion at the time of the meeting. In addition, it has submitted to EPCA a schedule of addition of 420 coaches for existing lines of Phase I and II, starting February 2016 through February 2018 and 486 coaches for Phase III, starting December 2016 through August 2018.

11. Phasing out of old government diesel vehicles

The Solicitor General was to respond to this matter, as per the order of the Hon'ble Court dated January 21, 2016.

12. Advancing BS-VI fuel and vehicle technology

The MoRTH has finalized and notified BS-VI standards on September 16, 2016.

13. On pollution through Construction Activities

EPCA has developed an accountability mechanism so that it can identify the agency and actions that have been taken to check pollution from construction activities. It has also developed a guidance note for inspection of such sites, which

will assist inspections and improve enforcement. But enforcement is lacking and Delhi government must ensure that no construction activity is allowed without the adequate steps to reduce dust.

14. Checking road Dust

The Hon'ble Supreme Court has directed GNCTD to take urgent steps to check road dust, including procurement of vacuum machines as suggested by GNCTD. However, these steps have not been taken with the urgency required.

15. Checking Waste Burning

The Hon'ble Supreme Court has directed GNCTD and municipal corporations to ensure that there is no burning of garbage in the city. However, it is clear that much more needs to be done to ensure that there is compliance with this direction and enforcement of the orders.

16. Closure/transition to alternative fuel by Badarpur Thermal Power Plant

The Solicitor General was to respond to this matter, as per the order of the Hon'ble Court dated January 21, 2016.

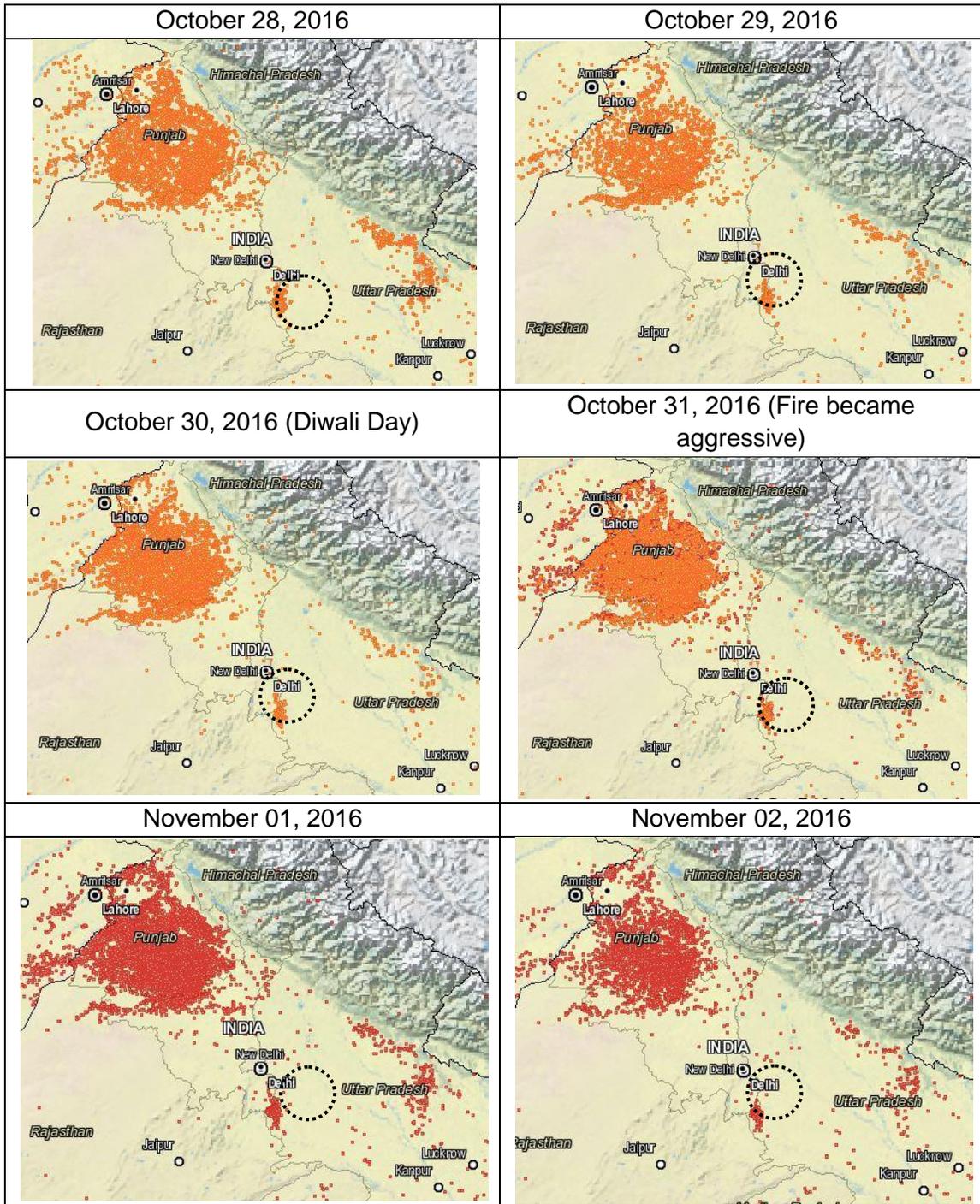
17. Prevention of Crop Residue Burning in states surrounding Delhi-NCR

The Hon'ble Supreme Court may consider EPCA's recommendation to allow for the usage of diesel cess (ECC collected from diesel vehicles above 2000 cc) for subsidy to farmers for upcoming Kharif harvesting season based on discussions with state governments on what needs to be done to incentivise changes.

18. Imposition of ECC on private diesel cars above 2000 cc

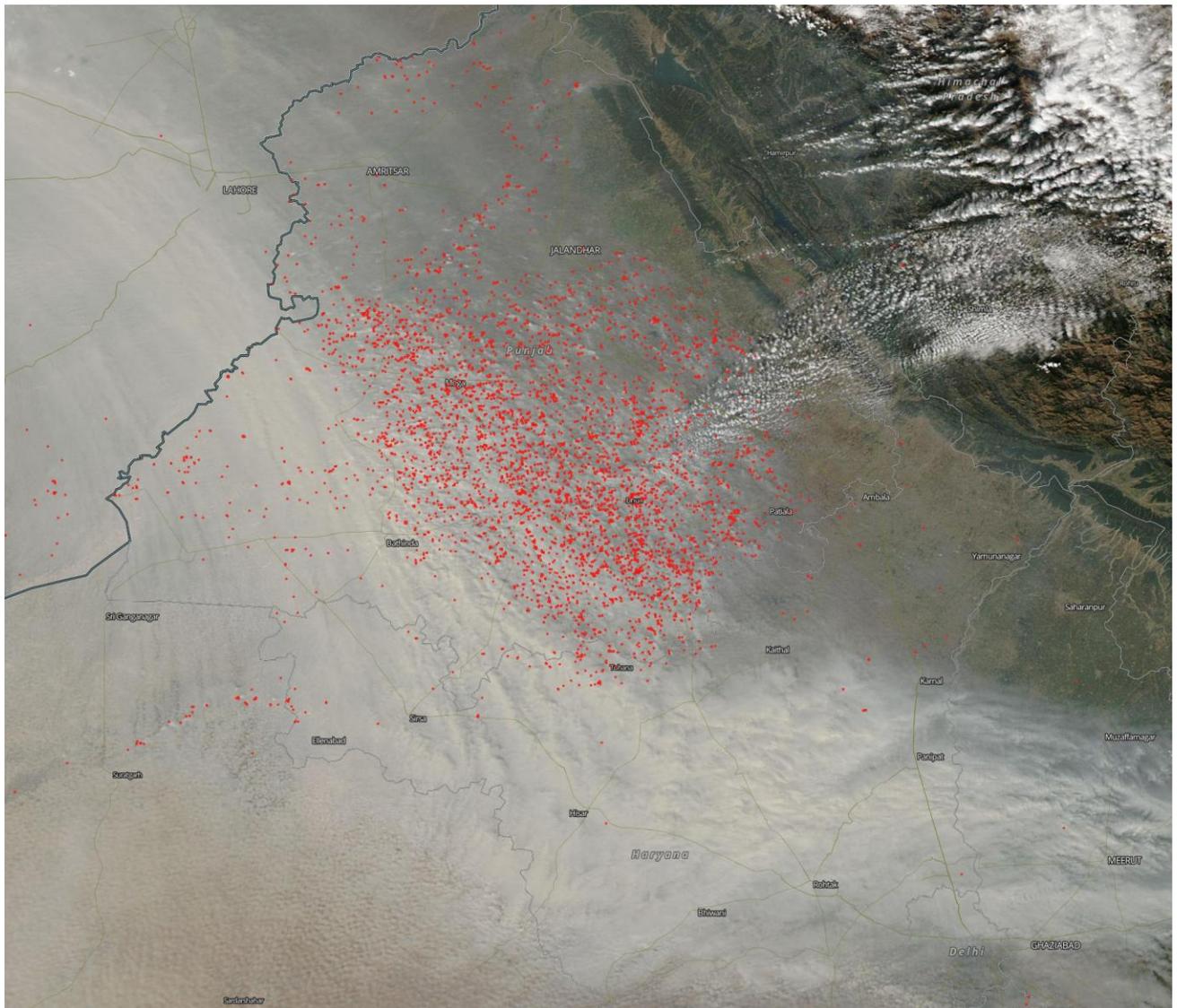
Member Secretary, CPCB has informed EPCA that ECC is being collected at the rate of 1% of the ex-showroom value of all new Diesel cars registered in NCR. As on November 01, 2016, the total collection of ECC stands at Rs. 8 crore.

Crop residue burning in Punjab, Haryana and Uttar Pradesh (October 28, 2016 to November 02, 2016)
retrieved from NASA's fire mapper



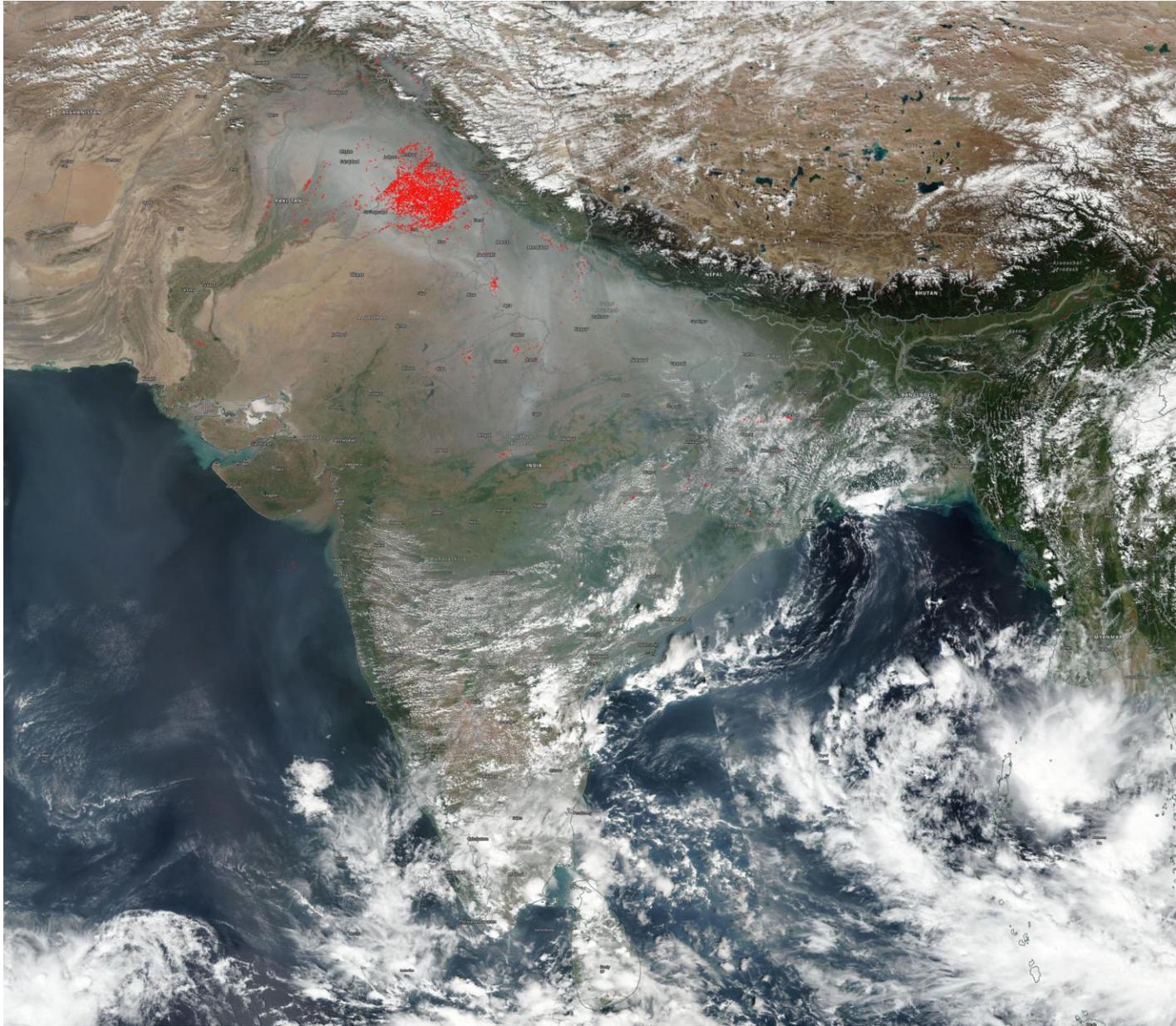
Source: NASA Fire Mapper, <https://firms.modaps.eosdis.nasa.gov/firemap/>

Satellite imagery of Punjab, Haryana and NCR region on November 4, 2016



Satellite imagery of South Asia on October 31, 2016

Source: NASA EOSDIS, <https://earthdata.nasa.gov/>



Source: NASA EOSDIS, <https://earthdata.nasa.gov/>