



Increased Ozone Pollution

Why in News

Recently, the **Centre for Science and Environment (CSE)** has observed an **increase in ozone (a harmful pollutant) levels** in the several cities of the country.

- The analysis is based on [Central Pollution Control Board \(CPCB\)](#) data from **22 cities in 15 States**.
- It has also observed that the **particulate matter and nitrous oxide levels fell** during the lockdown to control [Covid-19 outbreak](#).

Key Points

▪ Ozone Gas:

- The **'good' ozone** present in the earth's ozone layer **protects human beings** from **harmful Ultraviolet (UV) radiation** whereas the [ground level ozone](#) is **highly reactive** and can have adverse impacts on human health.
- Even **short-term exposure** of an hour is dangerous for those with **respiratory conditions and asthma**. Thus, an **8-hour average** is considered for [ozone](#) instead of the 24-hour average for other pollutants.
- Ozone is **not directly emitted** by any source but is formed by **photochemical reactions** between oxides of nitrogen (NO_x), other volatile organic compounds (VOCs) and gases in the air under the influence of sunlight and heat.
 - Ozone pollution is thus also a **clear indicator of vehicular pollution**, which results in higher concentration of NO_x.

▪ Concept of Summer Pollution:

- The ozone is primarily a **"sunny weather problem"** in India as the **presence of sunlight has a direct impact** on formation of ground level ozone.
 - **Heat acts as a catalyst**, facilitating photochemical reactions. Hence, higher concentrations of ozone are seen during the summer months.
- Additionally, the **intense heat waves** are one of the factors responsible for **increased ozone levels** in the country.
- Usually, the ozone levels tend to spike when winter conditions subside, and its presence is felt most during the day. At night, ozone levels tend to deplete, before spiking again during the afternoon, when sunlight is available.
- Thus, the characteristics of summer pollution include high winds, intermittent rains, thunderstorms, high temperature and heat waves.

▪ Particulate Pollution:

- It has been observed that the particulate pollution has been **dropped dramatically** during the lockdown.
- Also, an average [PM 2.5 levels](#) during the lockdown for all cities were found to be **lower than the average** for the same period in 2019.

- However, with lockdown relaxed, pollution started to increase. As soon as lockdown 4.0 came in with more relaxation and traffic returned on roads, the average NO₂ levels increased rapidly from the cleanest lockdown phase.

Way Forward

- The government needs to take active steps to mitigate primary pollutants, which lead to ground ozone formation.
- These steps involved curbing private vehicle usage, increasing electric mobility, scaling up public transport and pedestrian infrastructure, deploying citywide parking management, and aggressively controlling industrial emissions.

Source:TH

PDF Refernece URL: <https://www.drishtias.com/printpdf/increased-ozone-pollution>

