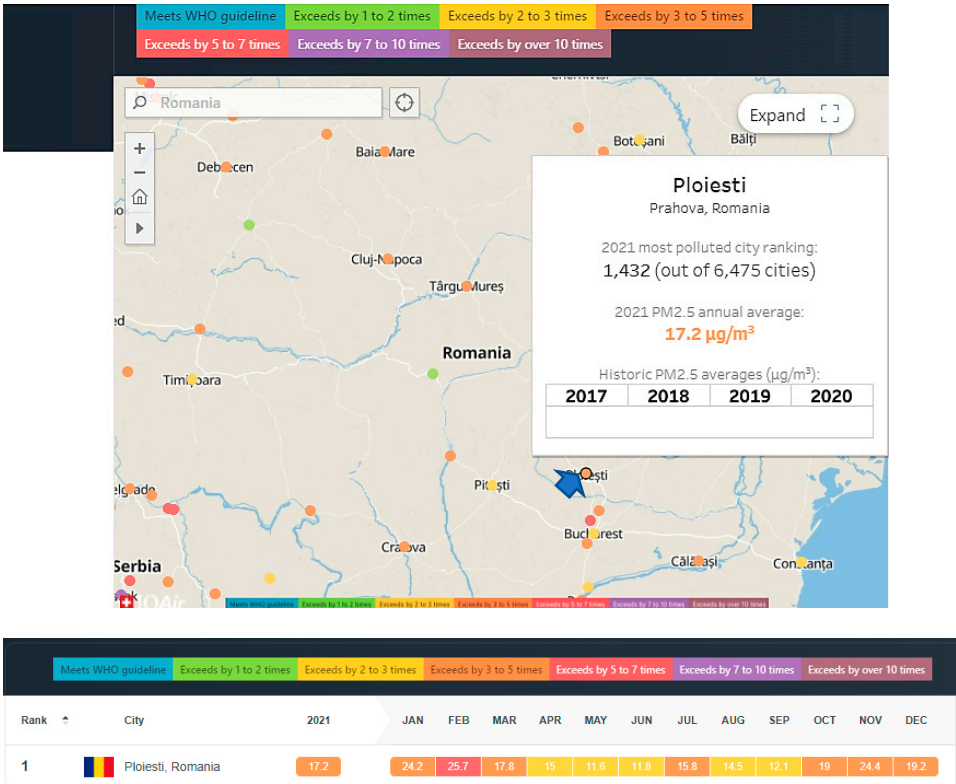
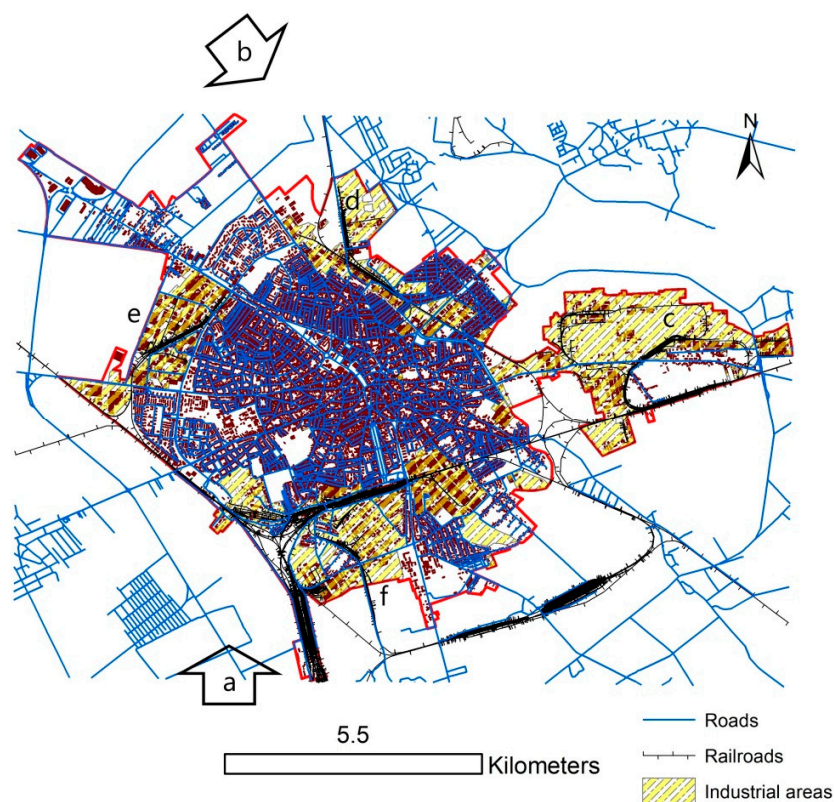


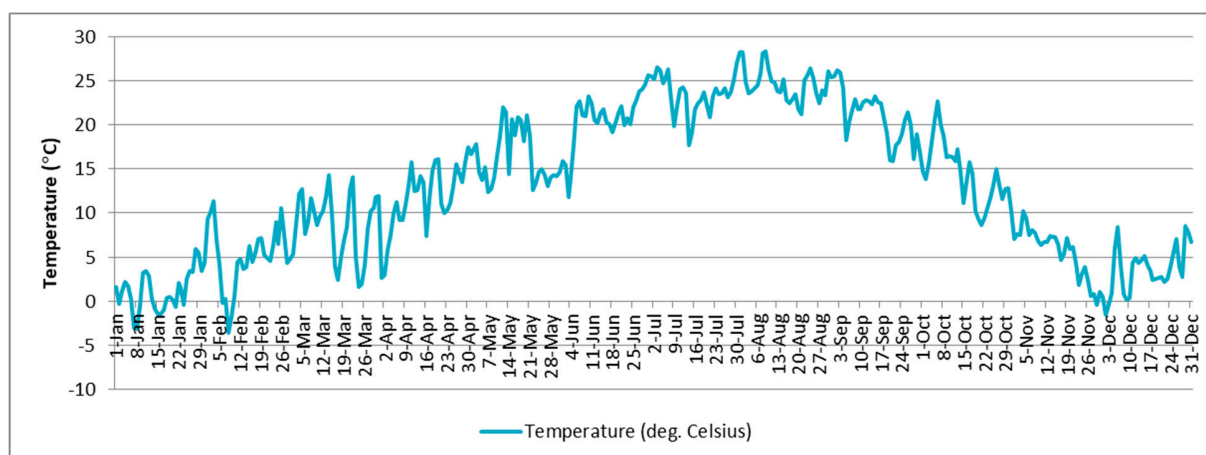
Supplementary



**Figure S1.** Estimation provided by IQAir regarding the position of Ploiesti city in the 2021 PM2.5 global ranking (<https://www.iqair.com/world-air-quality-report>).

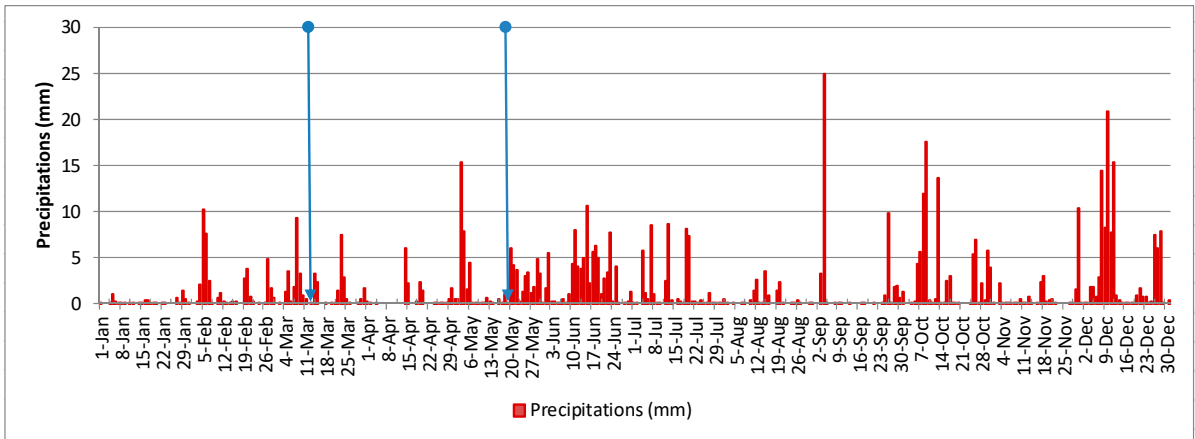


**Figure S2** Map of the sources of emissions (a – Petrobrazi Oil Refinery at 6 km from the city center; b – suburban area sources; c – Lukoil Refinery; d- Vega Refinery; e – North-West industrial area (including a chemical factory); f - Astra Oil refinery.



**Figure S3.** Daily temperatures (°C) extracted from the ERA-5 reanalysis dataset for the center of Ploiesti city in 2020 (weekly scale).

Supplementary

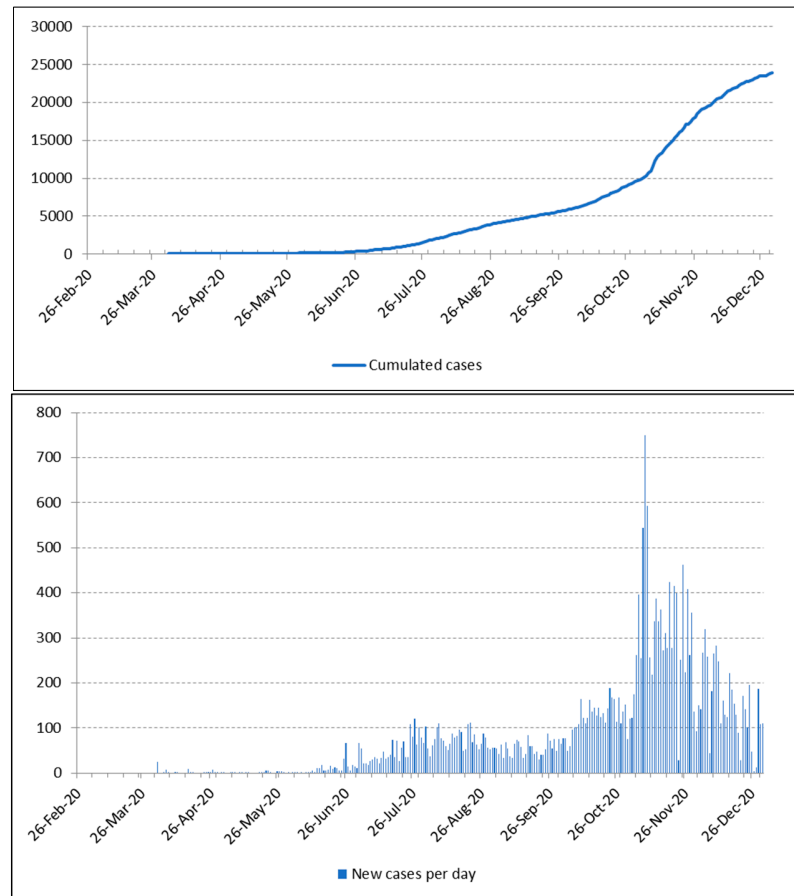


**Figure S4.** Daily precipitations (mm) extracted from the ERA-5 reanalysis dataset for the center of Ploiesti city in 2020 (weekly scale)



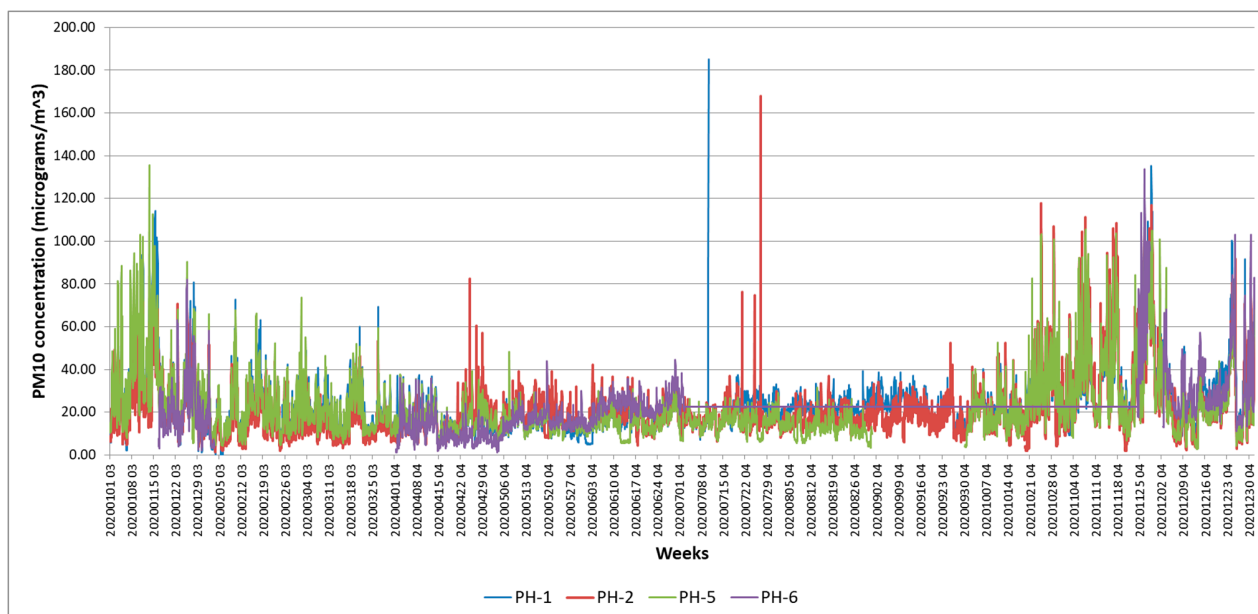
**Figure S5** Lighthouse 3016 IAQ particle counter in operation.

## Supplementary

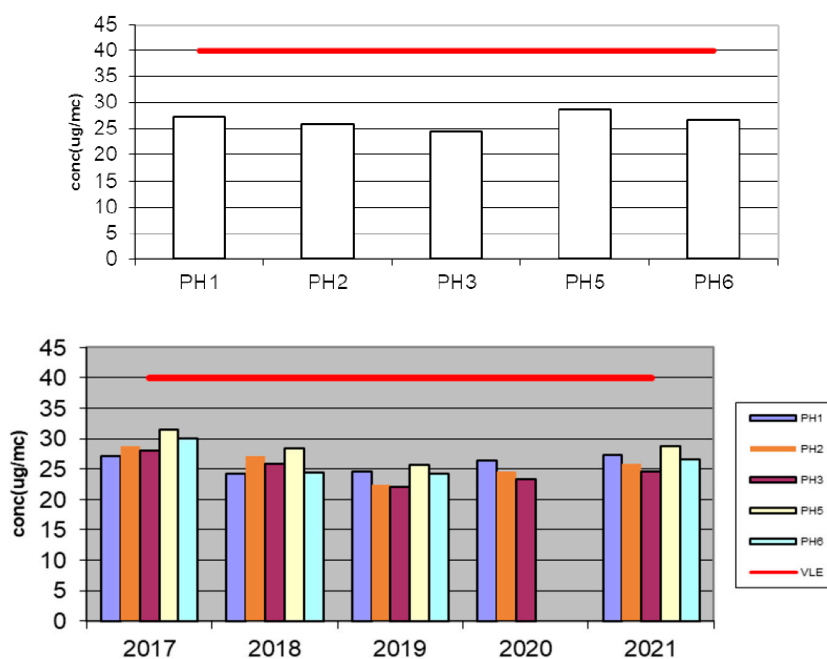


**Figure S6** Incidence of COVID-19 in Prahova county including Ploiesti city (cumulated cases and new cases per day) - based on data from [31].

## Supplementary

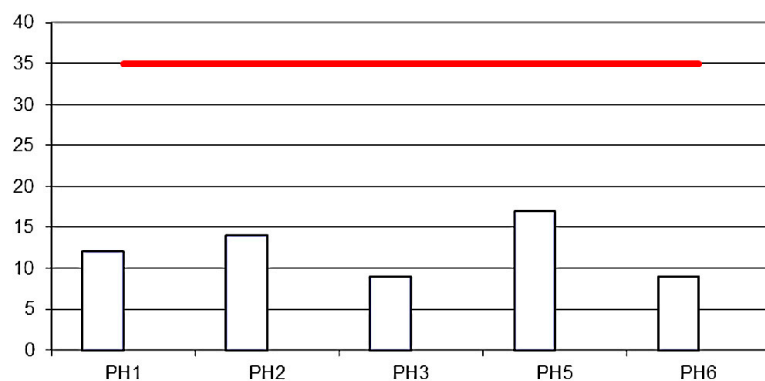


**Figure S7.** Data recorded by the optical sensors of the four monitoring stations located in Ploiesti during 2020 (weekly scale) – PM 10 concentrations - hourly values ( $\mu\text{g m}^{-3}$ ).



**Figure S8.** Annual averages of PM10 concentrations ( $\mu\text{g m}^{-3}$ ) at various automatic stations located in Ploiesti in 2020 and from 2017 to 2021 as reported by the EPA Prahova (Source: Annual report for environmental status in Prahova county - <http://www.anpm.ro/documents/25675/81190391/cap+1.pdf/0f8582fa-f4e2-4308-b4ab-51b58496b757>); red line represents the Limit Value for PM10 ( $40 \mu\text{g m}^{-3}$ ).

## Supplementary



**Figure S9.** Number of recorded PM10 concentrations exceeding the daily limit value at various automatic stations located in Ploiesti in 2020 as reported by the EPA Prahova (Source: Annual report for environmental status in Prahova county - <http://www.anpm.ro/documents/25675/81190391/cap+1.pdf/0f8582fa-f4e2-4308-b4ab-51b58496b757>); red line represents the maximum number of 35 exceedances of the daily limit values ( $40 \mu\text{g m}^{-3}$ ).