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Are megacity's oxidizing environments changing?

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Elevated levels of ozone, which are harmful to human health, have been observed in many urban areas and megacities. The main precursors to ozone formation are volatile organic compounds (VOCs) and nitrogen oxides (NOx). Until now the reduction of ozone through the regulation of ozone precursors has been focused on control of VOC emissions from road transport and petrol evaporation as these are the largest sources of VOCs in urban areas.
As air quality regulations further reduce anthropogenic emissions, the role that biogenic emissions play in the formation of ozone will become increasingly important. Isoprene, a tracer for biogenic emissions, has one of the highest photochemical ozone creation potentials of a large number of volatile organic compounds (VOCs). Additionally, biogenic VOCs have been shown to have a significant impact on summer-time ozone formation not only in rural areas where the most vegetation is present, but also in urban areas.
That the oxidizing environment of a megacity (London) and the surrounding region has been changing, which is demonstrated from the examination of the long-term trends in VOCs, carbon monoxide, methane and NOx. The relative loss of these compounds with respect to the OH radical shows that the oxidizing balance of megacities and the surrounding regions have been and are changing over time. The split between anthropogenic and biogenic isoprene was investigated, and the change in the relative contributions over time determined. Data from monitoring sites in and around London are used to compare the oxidative environment in the city centre to urban background and semi-rural locations.