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The smog of the cities contains large amounts of ozone
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Ozone Pollution Shortens People's Life

The bad ozone

Up into the stratosphere, the ozone layer protects life on Earth by reflecting harmful UV light. But in the troposphere (lower atmosphere), another ozone story takes place. Short-term exposure to current ozone concentrations seems to kill people earlier, as signaled by a new National Research Council report. Ozone is one of the main components of smog and can provoke respiratory issues and other health problems. There has also been evidence of a link between short-term (less than 24 hours) ozone and increased mortality. The new report signals that ozone is more likely to cause premature death in the case of persons with pre-existing diseases and other factors boosting their sensitivity. The researchers also investigated on large population groups how changes in ozone air levels impact mortality in order to find the existence of a threshold (an ozone level below which exposure causes no harm). That threshold was found to be below current public health standard. The researchers also signaled an individual variation in the sensitivity to ozone exposure, some persons being unaffected by current changes in ozone air concentration. For a more detailed association between ozone and mortality, future studies must tackle exposure longer than 24 hours and long-term ones (weeks to years), which could assess not only mortality risk, but also how ozone exposure cuts short life expectancy. Death associated to short-term exposure may not take place until several days afterwards or multiple short-term exposures may prove lethal. Moreover, during winter, ozone levels are lower and in regions with warmer or cooler winters, these levels may vary. Other airborne pollution factors may boost ozone's effect on mortality risk. Another recent NOAA research has found higher than expected air levels of nitryl chloride (CINO₂) (which boosts the ozone formation), a chemical synthesized when nitrogen oxides from ship fumes and city smoke reacts with chloride rich aerosols, like sea salt spray, in coastal areas of US. The highest amounts of nitryl chloride were detected at night, as during the day the sunlight breaks down the nitryl chloride into chlorine and nitrogen dioxide. The extremely reactive chlorine atoms are crucial in boosting the ozone formation. "Areas at risk are likely to include southern California and the eastern seaboard of the US, much of the Mediterranean region and large parts of southern Asia," said Roberts.