



## **Exploring regional trends in surface ozone: a multimodel approach**

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Long-term observations in different parts of the world suggest that trends in surface ozone are strongly dependent on region. This reflects the balance between slow increases in 'background' ozone in the global troposphere and regional changes driven by regional precursor emissions. Reproducing these trends in chemistry-transport models has proved difficult, reflecting uncertainties in our understanding of emissions, chemical processing and important transport and mixing processes. This study uses results from recent model intercomparisons organised by the CLRTAP task force on Hemispheric Transport of Air Pollutants (HTAP) to estimate regional trends in ozone in the past and under different projections of future conditions, accounting for the uncertainties in our understanding as represented by an ensemble of different models. The approach used here allows us to attribute the simulated changes to different source regions, and to examine the sensitivity of different regions to long-term changes in regional and global emissions.