



Additional contributors to stratospheric ozone depletion

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The “Montreal Protocol on Substances that Deplete the Ozone Layer” entered into force 22 years ago. Today it is generally believed that the production and atmospheric release of anthropogenic trace gases that contribute to stratospheric ozone depletion (such as chlorofluorocarbons) is well known and controlled. We challenge this perception by presenting distributions of several newly detected ozone-depleting substances in the upper troposphere and stratosphere. The respective data originate from measurements on air samples collected onboard aircraft and indicate that the amounts that were released into the atmosphere unnoticed must have been on the order of kilo tonnes. In conjunction with measurements on archived samples from a remote ground-based station we provide evidence that the atmospheric abundances of some of these compounds were still increasing in 2010.