

SEMINAR

On science informing international policy: Are emissions of a banned ozone-depleting substance still increasing, and what's being done about it?

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Ongoing global-scale measurements of long-lived gases provide unique information for addressing important science and policy-relevant questions. As an example, in May of 2018 we suggested that emissions of CFC-11 were increasing despite the reported production phase out mandated globally via the Montreal Protocol (<https://doi.org/10.1038/s41586-018-0106-2>). Since we announced this surprising finding, scientists, policymakers, and industry experts worldwide have sought to improve understanding of the underlying causes of this apparent violation of the Montreal Protocol. For their part, the Parties to the Protocol have made efforts to gather more information on this issue to consider how this international Protocol might be amended to prevent similar violations in the future. Scientists have also provided more information, as in a second paper (<https://doi.org/10.1038/s41586-019-1193-4>), our initial result was confirmed and refined: it appears that at least 40 to 60% of the emission increase is attributable to eastern China. To their credit, China promptly devised a broad-reaching plan in an effort to address the issue, and yet their internal investigations have not found activities of the magnitude required to account for the measured atmospheric changes.

In this presentation, I will review the scientific evidence pointing to an emission increase in CFC-11 that has occurred in recent years, and describe how this evidence implies renewed production in contravention of the Montreal Protocol. I will also update our global-scale measurements to provide an understanding how the CFC-11 emissions have changed since publication of these papers and China's initial mitigation efforts.

Finally, I will take the opportunity to describe how the international communities of policymakers, scientists, and industry experts have responded to this surprising finding, and how they are working to improve our understanding of the issue to ensure its rapid resolution and a minimal delay in the recovery of stratospheric ozone.

Monday, August 26, 2019, 3:30 p.m

Refreshments 3:15 p.m

NCAR Foothills Laboratory

3450 Mitchell Lane, Boulder, CO 80301

FL2-1022, large seminar room

Live webcast: <http://ucarconnect.ucar.edu/live>

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