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Abstract for an Invited Paper
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On the Importance of Stratospheric Chemistry to the Physics of Climate

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The vast majority of climate studies have been focused on physical processes in the troposphere - the lowest 10 to 15 km of the atmosphere near the Earth's surface. It makes perfect sense to focus on tropospheric processes since they generally exert a dominant influence on climate variables of most interest, such as surface temperature, precipitation, and circulation patterns. However, there are a number of chemical and photochemical processes occurring in the stratosphere - above about 15 km altitude - that can play an important role in shaping the climate system. The most obvious case is that of stratospheric ozone, but there are other trace gases and stratospheric chemical systems that exert both direct and indirect effects on climate. This talk will include an overview of some of the more important processes and present findings from recent research, such as estimating atmospheric lifetimes for many of the important non-CO₂ greenhouse gases.