6.208 16 years of carbon monoxide observations from MOPITT.

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Abstract:

Measurements Of Pollution In The Troposphere (MOPITT) on the NASA Terra spacecraft has been measuring the global atmospheric abundance of carbon monoxide (CO) since March 2000. CO is mainly produced by incomplete combustion from both natural fires and anthropogenic activities and is also a product of chemical reactions with other air pollutants. CO plays an important role in atmospheric chemistry and climate because it is a dominant sink for the hydroxyl radical (OH) and thus affects the abundance of greenhouse gases methane (CH_4) and ozone (O_3). Since CO is a pre-cursor to greenhouse gases, anthropogenic emissions of CO have a small but significant indirect radiative forcing of 0.22 W/m^2. Satellite measurements of carbon monoxide are used to understand how pollution is emitted and transported globally, from large scale fires to urban sources. I will present an overview of the MOPITT mission and show recent science results using MOPITT CO data, including highlights on how MOPITT data are assimilated for understanding model chemistry and emissions, global trends in CO concentrations and the impact of the 2015 ENSO on fires in Indonesia.