

Sungshik Kim

“Patrick”



Graduate Institution: Harvard University

Location: Cambridge, MA

Graduate Discipline: Earth and Planetary Science

Hometown: Tallahassee, FL

Research Interests:

Intercontinental transport of pollution is increasingly recognized as an important issue for air quality and climate. I am currently interested in the representation of these intercontinental plumes in global atmospheric composition and climate models. Observations show that pollution plumes can retain a well-defined concentrated structure for over a week in the atmosphere despite shear and dilution as they are advected downwind, yet models have difficulty in recreating this layered structure – this modeled dissipation may be related to the interaction between numerical diffusion and flow stretching. Using satellite observations and a global chemical transport model, I want to better understand the meteorological factors that govern the dissipation of intercontinental plumes and what corrective action may be necessary to fix the representation of these plumes in models.

About me:

I am a member of the Atmospheric Chemistry Modeling Group at Harvard where we maintain an open source global chemical transport model. My work in understanding anthropogenic pollution and its implications feeds naturally into my interest in the consequence of energy systems and sustainability. I am currently a member of AiCHE and Tau Beta Pi (California Beta chapter). Other than spending time at the office, I enjoy hiking and sports of all kinds, and I am both an avid reader and professional T.V. watcher.



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