

GABRIEL J. KOOPERMAN

University of Georgia • Department of Geography • Atmospheric Sciences Program
kooperman@uga.edu • (706) 542-9599 • kooperman.uga.edu

EDUCATION

- Doctor of Philosophy in Oceanography (Climate Science)** 2014
University of California, San Diego, Scripps Institution of Oceanography
Dissertation title: *Impacts of anthropogenic aerosol and greenhouse gas emissions on clouds, convection, and precipitation as simulated in a super-parameterized global climate model*
- Master of Science in Oceanography (Climate Science)** 2010
University of California, San Diego, Scripps Institution of Oceanography
- Bachelor of Science in Applied Physics, Cum Laude** 2004
Tufts University, Department of Physics and Astronomy

CURRENT APPOINTMENT

- Assistant Professor**, Atmospheric Sciences Program 2017 – Present
University of Georgia, Department of Geography

PREVIOUS APPOINTMENTS

- Postdoctoral Scholar** 2014 – 2017
University of California, Irvine, Department of Earth System Science
Advisor: Professor James Randerson
- NSF Postdoctoral Research Fellow** 2014 – 2016
University of California, Irvine, Department of Earth System Science
Advisor: Professor Michael Pritchard
- Graduate Student Researcher** 2008 – 2014
University of California, San Diego, Scripps Institution of Oceanography
Advisor: Professor Richard Somerville

PROFESSIONAL MEMBERSHIP

American Geophysical Union, American Meteorological Society, American Association of Geographers, and Ecological Society of America

PUBLICATIONS

IN-REVIEW

- Fowler, M. D., M. S. Pritchard, and **G. J. Kooperman**, Assessing the impact of Indian irrigation on precipitation in the irrigation-enabled CESM, in revision November 2017.
- Kooperman, G. J.**, F. M. Hoffman, C. D. Koven, K. Lindsay, A. L. Swann, and J. T. Randerson, Future flooding risk in the tropics as measured by changes in extreme runoff intensity is strongly influenced by plant-physiological responses to rising CO₂, in review September 2017.

Kooperman, G. J., M. S. Pritchard, and T. A. O'Brien, Rainfall from resolved rather than parameterized processes better represents the present-day and climate change response of moderate rates in the Community Atmosphere Model, in review October 2017.

Kooperman, G. J., Y. Chen, F. M. Hoffman, C. D. Koven, K. Lindsay, M. S. Pritchard, A. L. S. Swann, and J. T. Randerson, Forest response to rising CO₂ drives zonally asymmetric rainfall change over tropical land, in revision November 2017.

Qin, H., M. S. Pritchard, **G. J. Kooperman**, and H. Parishani, Global effects of superparameterization on hydro-thermal land-atmosphere coupling on multiple timescales and an amplification of the Bowen ratio, in review September 2017.

PEER-REVIEWED

Elliott, E. J, S. Yu, **G. J. Kooperman**, H. Morrison, M. Wang, and M. S. Pritchard (2016), Sensitivity of summer ensembles of fledgling superparameterized U.S. mesoscale convective systems to cloud resolving model microphysics and grid configuration, *J. Adv. Model. Earth Syst.*, 8, doi:10.1002/2015MS000567.

Kooperman, G. J., M. S. Pritchard, M. A. Burt, M. D. Branson, and D. A. Randall (2016), Impacts of cloud superparameterization on projected daily rainfall intensity climate changes in multiple versions of the Community Earth System Model. *J. Adv. Model. Earth Syst.*, 8, 1-24, doi:10.1002/2016MS000715.

Kooperman, G. J., M. S. Pritchard, M. A. Burt, M. D. Branson, and D. A. Randall (2016), Robust effects of cloud superparameterization on simulated daily rainfall intensity statistics across multiple versions of the Community Earth System Model, *J. Adv. Model. Earth Syst.*, 8, 140-165, doi:10.1002/2015MS000574.

Kooperman, G. J., M. S. Pritchard, and R. C. J. Somerville (2014), The response of US summer rainfall to quadrupled CO₂ climate change in conventional and super-parameterized versions of the NCAR Community Atmosphere Model, *J. Adv. Model. Earth Syst.*, 6, 859-882, doi:10.1002/2014MS000306.

Zhang, K., H. Wan, X. Liu, S. J. Ghan, **G. J. Kooperman**, P.-L. Ma, P. J. Rasch, D. Neubauer, and U. Lohmann (2014), Technical Note: On the use of nudging for aerosol-climate model intercomparison studies, *Atmos. Chem. Phys.*, 14, 8631-8645, doi:10.5194/acp-14-8631-2014.

Zhao, Z., **G. J. Kooperman**, M. S. Pritchard, L. M. Russell, and R. C. J. Somerville (2014), Investigating impacts of forest fires in Alaska and Western Canada on regional weather over the Northeastern United States using CAM5 global simulations to constrain transport to a WRF-Chem regional domain, *J. Geophys. Res. Atmos.*, 119, doi:10.1002/2013JD020973.

Kooperman, G. J., M. S. Pritchard, and R. C. J. Somerville (2013), Robustness and sensitivities of Central US summer convection in super-parameterized CAM: Multi-model intercomparison with a new regional EOF index, *Geophys. Res. Lett.*, 40, 3287-3291, doi:10.1002/grl.50597.

Shen, S. S. P., M. Velado, R. C. J. Somerville, and **G. J. Kooperman** (2013), Probabilistic assessment of cloud fraction using Bayesian blending of independent datasets: Feasibility study of a new method, *J. Geophys. Res. Atmos.*, 118, 4644-4656, doi:10.1002/jgrd.50408.

Kooperman, G. J., M. S. Pritchard, S. J. Ghan, M. Wang, R. C. J. Somerville, and L. M. Russell (2012), Constraining the influence of natural variability to improve estimates of global aerosol indirect effects in a nudged version of the Community Atmosphere Model 5, *J. Geophys. Res. Atmos.*, 117, D23204, doi:10.1029/2012JD018588.