

# Katherine (Katie) Dagon

National Center for Atmospheric Research  
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## EDUCATION

<b>Harvard University</b>	Cambridge, MA
Ph.D., Earth and Planetary Sciences	2017
A.M., Earth and Planetary Sciences	2015
<i>Advisor: Dr. Daniel Schrag</i>	
<b>Brown University</b>	Providence, RI
B.S., Mathematics-Physics, graduation with Honors	2010
<i>Advisor: Dr. Brad Marston</i>	

## PROFESSIONAL APPOINTMENTS

<b>National Center for Atmospheric Research</b>	Boulder, CO
Project Scientist I, Climate and Global Dynamics	2019-present
Advanced Study Program (ASP) Postdoctoral Fellow	2017-2019
<b>Harvard University</b>	Cambridge, MA
Graduate Research Assistant, Department of Earth and Planetary Sciences	2011-2017
<b>United Technologies</b>	South Windsor, CT
NASA-UTC Internship Program	2010
<b>Brown University</b>	Providence, RI
Undergraduate Research Assistant, Department of Physics	2009-2010
<b>State of Connecticut Department of Energy and Environmental Protection</b>	Hartford, CT
Seasonal Resource Assistant	2007, 2008, & 2010-2011

## PEER-REVIEWED PUBLICATIONS

Kravitz, B., D.G. MacMartin, S. Tilmes, J.H. Richter, M.J. Mills, W. Cheng, **K. Dagon**, A.S. Glanville, J.-F. Lamarque, I.R. Simpson, J.J. Tribbia, and F. Vitt, Comparing Surface and Stratospheric Impacts of Geoengineering with Different SO<sub>2</sub> Injection Strategies. *Journal of Geophysical Research: Atmospheres*, 124, 7900-7918, <http://dx.doi.org/10.1029/2019JD030329>.

**Dagon, K.**, and D.P. Schrag (2019), Quantifying the Effects of Solar Geoengineering on Vegetation, *Climatic Change*, 153, 235-151, <http://dx.doi.org/10.1007/s10584-019-02387-9>.

**Dagon, K.**, and D.P. Schrag (2017), Regional Climate Variability under Model Simulations of Solar Geoengineering. *Journal of Geophysical Research: Atmospheres*, 122, 12106-12121, <http://dx.doi.org/10.1002/2017JD027110>.

**Dagon, K.**, and D.P. Schrag (2016), Exploring the Effects of Solar Radiation Management on Water Cycling in a Coupled Land-Atmosphere Model. *Journal of Climate*, 29, 2635-2650, <http://dx.doi.org/10.1175/JCLI-D-15-0472.1>.

Tobias, S.M., **K. Dagon**, and J.B. Marston (2011), Astrophysical Fluid Dynamics via Direct Statistical Simulation. *The Astrophysical Journal*, 727, 127, <http://dx.doi.org/10.1088/0004-637X/727/2/127>.

## SUBMITTED PUBLICATIONS

Cheng, W., D.G. MacMartin, **K. Dagon**, B. Kravitz, S. Tilmes, J.H. Richter, M.J. Mills, and I.R. Simpson, Soil moisture and other hydrological changes in a stratospheric aerosol geoengineering large ensemble, *submitted to Journal of Geophysical Research: Atmospheres*.

## SELECTED AWARDS AND FELLOWSHIPS

Andrew Slater Award, NCAR Land Model Working Group Meeting	2019
NCAR Advanced Study Program Postdoctoral Fellowship	2017
Presidential Management Fellowship Finalist	2017
Certificate of Teaching Excellence, Bok Center for Teaching & Learning	2014, 2016
Duff Family Endowed Graduate Support Fund, Harvard University	2013-2014
Graduate Consortium Fellowship, Harvard University Center for the Environment	2012-2013
Brown University Undergraduate Research and Teaching Award	2009

## SELECTED CONFERENCE PRESENTATIONS

**Dagon, K.**, Exploring Machine Learning to Reduce Uncertainty in a Land Surface Model. *NCAR/UCP Science & Discovery Day*, Boulder, CO, oral presentation, May 2019.

**Dagon, K.**, R. Fisher, D.M. Lawrence, and B.M. Sanderson, Machine Learning for Parameter Estimation in CLM5. *CESM Land Model Working Group Meeting*, Boulder, CO, oral presentation, February 2019.

**Dagon, K.**, R. Fisher, D.M. Lawrence, and B.M. Sanderson, Reducing Uncertainty in Land Surface Models. *American Geophysical Union Fall Meeting*, Washington, DC, oral presentation, December 2018.

**Dagon, K.**, R. Fisher, D.M. Lawrence, and B.M. Sanderson, Moving towards a global biogeophysical parameter optimization for CLM5. *Community Earth System Model Workshop*, Boulder, CO, oral presentation, June 2018.

**Dagon, K.**, and D.P. Schrag, Effects of Solar Geoengineering on Vegetation: Implications for Biodiversity and Conservation. *American Geophysical Union Fall Meeting*, New Orleans, LA, oral presentation, December 2017.

**Dagon, K.**, and D.P. Schrag, Regional Climate Variability under Model Simulations of Solar Geoengineering. *Gordon Research Conference: Climate Engineering*, Newry, ME, poster presentation, July 2017.

**Dagon, K.**, Soil Moisture-Climate Coupling under Model Simulations of Solar Geoengineering. *Community Earth System Model Workshop*, Breckenridge, CO, oral presentation, June 2016.

**Dagon, K.**, Exploring the Effects of Solar Radiation Management on Water Cycling in a Coupled Land-Atmosphere Model. *Graduate Climate Conference*, Woods Hole, MA, oral presentation, November 2015.

## INVITED SEMINARS

Pennsylvania State University	State College, PA
Department of Meteorology and Atmospheric Science Colloquium	February 2019
American University	Washington, DC
Department of Environmental Science Seminar	February 2019
Indiana University	Bloomington, IN
Department of Earth and Atmospheric Sciences Colloquium	January 2019
Pennsylvania State University	State College, PA
Department of Geography Seminar	January 2019
University of Washington	Seattle, WA
Department of Atmospheric Sciences Seminar	July 2018

## TEACHING EXPERIENCE

<b>National Center for Atmospheric Research</b>	Boulder, CO
Instructor, Community Terrestrial Systems Model Tutorial	2019
<b>Harvard University</b>	Cambridge, MA
Teaching Fellow, Department of Earth and Planetary Sciences	2013-2016
<ul style="list-style-type: none"><li>• The Consequences of Energy Systems (graduate level, Fall 2015 and Fall 2016)</li><li>• The Climate-Energy Challenge (undergraduate level, Fall 2014, Fall 2015 and Fall 2016)</li><li>• The Fluid Earth (undergraduate level, Spring 2013)</li></ul>	
<b>Brown University</b>	Providence, RI
Teaching Assistant, Department of Mathematics	2009
Math Peer Tutor, Brown University Tutoring Program	2008

## ACADEMIC SERVICE AND LEADERSHIP

Co-Chair, Gordon Research Seminar on Climate Engineering ( <i>to be held in 2020</i> )	2019 -
Physics of Climate Executive Committee, American Physical Society	2019 -
Postdoctoral Fellows Networking Committee, National Center for Atmospheric Research	2017-2019
Physics of Climate Program Committee, American Physical Society	2017-2018
Plants and Climate Seminar Series Organizer, Harvard University	2015-2016
Agassiz Visiting Lecturer Committee, Harvard University	2013-2014
Summer School on Geoengineering Organizing Committee, Harvard University	2013
Harvard Graduate Consortium on Energy and Environment	2012-2015
<i>Journal Reviewer:</i> Geoscientific Model Development, Atmospheric Chemistry and Physics, Journal of Hydrometeorology	

## MENTORING

UCAR Next Generation Fellowship Research Mentor	2019 -
NCAR SOARS Internship Program Community Mentor	2018
Harvard College Women's Center WISTEM Mentor	2016-2017
Intel Science Research Program High School Student Mentor	2014-2015
Harvard Graduate Women in Science and Engineering Mentoring Program	2011-2013
Brown University Women's Launch Pad Mentoring Program	2009-2010

## PUBLIC ENGAGEMENT

NCAR Traveling Climate Exhibit Scientific Team, Boulder, CO	2019
USA Science and Engineering Festival Volunteer, Washington, DC	2018
Project Bridge Colorado Science Day at the State Capitol, Denver, CO	2018
Twin Peaks Charter Academy Guest Scientist, Longmont, CO	2017
NCAR Super Science Saturday Volunteer, Boulder, CO	2017, 2018
Harvard GSAS Science Policy Group Trip, Washington, DC	2016
There's a Scientist in My Classroom! Guest Lecturer, Danvers, MA	2014
Science in the News Event Organizer and Lecturer, Boston, MA	2013-2016

## SCIENCE WRITING

Dagon, K., "Engineering the Earth to Fight Climate Change," <i>Science in the News Blog</i> , 25 October 2016, <a href="http://sitn.hms.harvard.edu/flash/2016/engineering-earth-fight-climate-change">http://sitn.hms.harvard.edu/flash/2016/engineering-earth-fight-climate-change</a> .
Dagon, K., "Climate Change 2016: Make America Hot Again," <i>Science in the News Blog</i> , 9 August 2016, <a href="http://sitn.hms.harvard.edu/flash/2016/climate-change-2016-make-america-hot">http://sitn.hms.harvard.edu/flash/2016/climate-change-2016-make-america-hot</a> .
Dagon, K., "Science by the Pint," <i>The Plainspoken Scientist</i> , Student Blog Series, 18 July 2016, <a href="http://blogs.agu.org/sciencecommunication/2016/07/18/science-by-the-pint">http://blogs.agu.org/sciencecommunication/2016/07/18/science-by-the-pint</a> .

Dagon, K., “Pausing to Talk About Climate Change,” *Science in the News Blog*, Special Edition on Climate Change, 30 June 2014,  
<http://sitn.hms.harvard.edu/flash/2014/pausing-to-talk-about-climate-change>.

### SELECTED WORKSHOPS AND SHORT COURSES

CGD-CISL Python Tutorial and Hackathon National Center for Atmospheric Research, Boulder, CO	2019
Rising Voices 7 Workshop: Building Relationships and Practices for Intercultural Science National Center for Atmospheric Research, Boulder, CO	2019
The Community WRF-Hydro Modeling System Training Workshop National Center for Atmospheric Research, Boulder, CO	2018
UCAR/NCAR Equity and Inclusion (UNEION) 101 Training Series National Center for Atmospheric Research, Boulder, CO	2018
Earth Educators’ Rendezvous Preparing for an Academic Career Workshop University of Kansas, Lawrence, KS	2018
The Functionally Assembled Terrestrial Ecosystem Simulator (FATES) Tutorial National Center for Atmospheric Research, Boulder, CO	2018
Low Environmental Impact Solar Radiation Management Experiments Workshop Institute for Advanced Sustainability Studies, Potsdam, Germany	2016
Active Learning in the Sciences Teaching Seminar Derek Bok Center for Teaching and Learning, Cambridge, MA	2015
Community Land Model (CLM) Tutorial National Center for Atmospheric Research, Boulder, CO	2014
ComSciCon-local Communicating Science Workshop Harvard University, Cambridge, MA	2014
Shaping Policy with Science, Graduate Student Council Short Course Harvard University, Cambridge, MA	2014
Fourth Interdisciplinary Summer School on Geoengineering Harvard University, Cambridge, MA	2013
Global Climate Coalition at UNFCCC COP15 University of Copenhagen, Copenhagen, Denmark	2009

### PROFESSIONAL AFFILIATIONS

American Geophysical Union, American Physical Society, Earth Science Women’s Network

### TECHNICAL SKILLS

*Languages:* Unix, Fortran, C, Objective C/C++, HTML, LaTeX, Bash  
*Modeling Tools:* NetCDF, HDF4/5, HPC, Machine Learning, Open MPI, NCAR CESM/CLM  
*Development Tools:* Git/GitHub, Subversion, Jupyter Notebooks  
*Scientific Visualization & Analysis:* Python, NCL/NCAR, R, Matlab, Keras, TensorFlow