

Andrew E. Dessler

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Research Areas: Climate change, climate feedbacks, remote sensing, climate change policy

Education:

- 1994 - Ph.D. - Chemistry, Harvard University
- 1990 - A.M. - Chemistry, Harvard University
- 1986 - B.A. - Physics, Rice University

Employment

2007-present	Professor, Dept. of Atmospheric Sciences, Texas A&M University
2005-2007	Associate Professor, Dept. of Atmospheric Sciences, Texas A&M University
2000	Senior Policy Analyst, White House Office of Science and Technology Policy, Environment Division, Washington, DC
1996-2005	Research Scientist, Earth System Science Interdisciplinary Center (ESSIC), Univ. of Maryland, College Park, MD
1994-1996	National Research Council Research Associateship in the Atmospheric Chemistry and Dynamics Branch of NASA Goddard Space Flight Center, Greenbelt, MD.

Research Experience Narrative

Dessler began his research career working on stratospheric photochemistry, with a focus on ozone depletion. This led him to work on stratospheric water vapor, and the processes that regulate them. His work on water vapor at the tropopause led him to start working on tropospheric water vapor and the water vapor feedback. After the water vapor feedback was basically settled in the late 2000s, he began working on clouds and to quantify that feedback. Most recently, he has been working on estimates of climate sensitivity and how internal variability can confound our estimates of that quantity.

Selected Honors: Fellow of the American Geophysical Union and the American Association for the Advancement of Science; American Meteorology Society Louis J. Battan Author's Award for *Introduction to Modern Climate Change*;

American Geophysical Union Atmospheric Sciences Section Ascent Award; Google Science Communication Fellow

Professional society memberships: American Geophysical Union, American Association for the Advancement of Science, American Meteorology Society

Books

A. E. Dessler, *The chemistry and physics of stratospheric ozone*, Academic Press, San Diego, 2000.

A. E. Dessler, *Introduction to modern climate change*, Cambridge Univ. Press, second edition, 2016, third edition in prep.

A. E. Dessler and E. A. Parson, *The science and politics of global climate change: A guide to the debate*, Cambridge Univ. Press, third edition 2019.

Selected peer-reviewed publications

Dessler, A. E., and Forster, P. M.: An estimate of equilibrium climate sensitivity from interannual variability, *Journal of Geophysical Research: Atmospheres*, 123, 8634-8645, doi:10.1029/2018JD028481, 2018.

Dessler, A. E., Mauritsen, T., and Stevens, B.: The influence of internal variability on Earth's energy balance framework and implications for estimating climate sensitivity, *Atmos. Chem. Phys.*, 18, 5147-5155, 2018.

Dessler, A. E., M. R. Schoeberl, T. Wang, S. M. Davis, and K. H. Rosenlof, Stratospheric water vapor feedback, *Proc. Natl. Acad. Sci.*, 110, 18,087-18,091, doi: 10.1073/pnas.1310344110, 2013.

Dessler, A.E., Observations of climate feedbacks over 2000-2010 and comparisons to climate models, *J. Climate*, 26, 333-342, doi: 10.1175/JCLI-D-11-00640.1, 2013.

Schoeberl, M. R., and A. E. Dessler, Dehydration of the stratosphere, *Atmos. Chem. Phys.*, 11, 8433-8446, doi:10.5194/acp-11-8433-2011, 2011.

Dessler, A. E., A determination of the cloud feedback from climate variations over the past decade, *Science*, 330, doi:10.1126/science.1192546, 1523-1527, 2010.

Minschwaner, K. and A. Dessler, Water vapor feedback in the tropical upper troposphere: Model results and observations, *J. Climate*, 17, 1272-1282, doi:10.1175/1520-0442(2004)017<1272:WVFITT>2.0.CO;2, 2004.

Dessler, A. E. and S.C. Sherwood, Effect of convection on the summertime extratropical lower stratosphere, *J. Geophys. Res.*, 109, doi:10.1029/2004JD005209, 2003.

Dessler, A. E. and S. C. Sherwood, Simulations of tropical upper tropospheric humidity, *J. Geophys. Res.*, 105, 20,155-20,163, 2000.

Dessler, A. E., A reexamination of the "stratospheric fountain" hypothesis, *Geophys. Res. Lett.*, 25, 4165-4168, 1998.

Dessler, A. E., E. J. Hints, E. M. Weinstock, J. G. Anderson, and K. R. Chan, Mechanisms controlling water vapor in the lower stratosphere: "A tale of two stratospheres", *J. Geophys. Res.*, 100(D11), 23,167-123,172, doi:10.1029/95JD02455