

September 2020

**John R. Albers, Ph. D.**

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Cooperative Institute for Research in the Environmental Sciences  
University of Colorado  
and  
Earth System Research Laboratory – Physical Science Division  
National Oceanic and Atmospheric Administration  
Boulder, CO USA

**Education**

Ph.D. – Atmospheric Science, University of California-Davis, September 2012  
B.S. – Atmospheric Science, University of Wisconsin-Madison, January 2005  
B.S. – Applied Mathematics, University of Wisconsin-Madison, January 2005

**Research Interests**

I) Large-scale atmospheric dynamics including: Rossby wave dynamics, teleconnections, sudden stratospheric warmings, stratosphere-troposphere coupling, subseasonal-to-seasonal prediction, extratropical-tropical interactions  
II) Stratosphere-troposphere exchange including: potential vorticity intrusions, effects of stratospheric trace constituents on tropospheric air quality  
III) Stratospheric chemistry including: couplings between radiation, chemistry, and large-scale waves and climate change in the middle atmosphere

**Appointments**

April. 2018-present Research Scientist II, Cooperative Institute for Research in the Environmental Sciences (CIRES), University of Colorado – Boulder  
Jan. 2016-April 2018 Research Scientist I, Cooperative Institute for Research in the Environmental Sciences (CIRES), University of Colorado – Boulder  
Jan. 2014-Dec. 2015 National Science Foundation Atmospheric and Geospace Science Postdoctoral Fellow, Cooperative Institute for Research in the Environmental Sciences (CIRES), University of Colorado – Boulder  
Oct. 2013-Dec. 2013 Postdoctoral research associate, Cooperative Institute for Research in the Environmental Sciences (CIRES), University of Colorado – Boulder (Supervisors: Drs. Judith Perlwitz and George Kiladis)  
Jan. 2013-Sept. 2013 Postdoctoral research fellow, Colorado State University Department of Atmospheric Science (Supervisor: Prof. Thomas Birner)  
Fall 2005-Aug. 2012 Graduate student researcher, University of California-Davis Department of Land, Air, Water Resources - Atmospheric Science Program (Advisor: Prof. Terrence R. Nathan)  
Fall 2004 Student research employee (focus: nonlinear dynamics), University of California-Davis Center for Computational Sciences (Advisor: Prof. James P. Crutchfield)  
Summer 2004 Undergraduate research intern (focus: nonlinear dynamics), Santa Fe Institute (Advisor: Prof. James P. Crutchfield)  
Summer 2003 National Science Foundation research experiences for undergraduates, Santa Fe Institute (Advisor: Prof. James P. Crutchfield)

**External activities**

Oct. 2017 **Invited lecturer** (2 weeks) – Advanced School on Tropical-Extratropical Interactions on Intra-Seasonal Time Scales, International Centre for Theoretical Physics, Trieste, Italy  
Nov. 2017-present **Associate editor** – American Meteorological Society *Monthly Weather Review*

**Fellowships and Awards**

Jan. 2017 Bulletin of the American Meteorological Society Editor's Award  
Jan. 2014-Dec. 2015 National Science Foundation Atmospheric and Geospace Sciences Postdoctoral Fellowship. Project title: *A Hierarchical Modeling Approach to Quantifying the Effects of Changes in Ozone and Solar Variability on the Brewer-Dobson Circulation and Tropospheric Climate.*

- Summer 2011 Best graduate student presentation award – 18<sup>th</sup> American Meteorological Society Conference on Atmospheric and Oceanic Fluid Dynamics in Spokane, WA
- Spring 2010 University of California-Davis Henry A. Jastro Graduate Research Scholarship

## Publications

- Albers, J. R.**, and M. Newman, (2019): A Priori Identification of Skillful Extratropical Subseasonal Forecasts. *Geophys. Res. Lett.*, **46**, 12527-12536.
- Alvaro de la Camara, Thomas Birner, **J. R. Albers**, (2019): Are Sudden Stratospheric Warmings Preceded by Anomalous Tropospheric Wave Activity? *J. of Climate*, **32**, 7173-7189
- Annarita Mariotti, Cory Baggett, Elizabeth A. Barnes, Emily Becker, Amy Butler, Dan C. Collins, Paul A. Dirmeyer, Laura Ferranti, Nathaniel C. Johnson, Jeanine Jones, Ben P. Kirtman, Andrea L. Lang, Andrea Molod, Matthew Newman, Andrew W. Robertson, Siegfried Schubert, Duane E. Waliser, and **J. R. Albers**, (2019): Windows of Opportunity for Skillful Forecasts Subseasonal to Seasonal and Beyond *Bull. of the Amer. Met. Society*
- Edward J. Charlesworth, Thomas Birner, **J. R. Albers**, (2019): Ozone Transport-Radiation Feedbacks in the Tropical Tropopause Layer *Geophys. Res. Lett.*, **46**
- Kim, Y. -H., G. N. Kiladis, **J. R. Albers**, J. Dias, M. Fujiwara, J. W. Anstey, I. -S. Song, C. J. Wright, Y. Kawatani, F. Lott, and C. Yoo, (2019): Comparison of equatorial wave activity in the tropical tropopause layer and stratosphere represented in reanalysis. *Atmos. Chem. Phys.*
- Albers, J. R.**, J. Perlwitz, A. H. Butler, T. Birner, G. N. Kiladis, Z. D. Lawrence, G. L. Manney, A. O. Langford, J. Dias (2018): Mechanisms governing interannual variability of stratosphere to troposphere ozone transport. *J. of Geophys. Res.*, **123**, 234-260.
- de la Camara, A., **J. R. Albers**, T. Birner, R. R. Garcia, P. Hitchcock, D. E. Kinnison, A. K. Smith (2017): Sensitivity of sudden stratospheric warmings to previous stratospheric conditions. *J. Atmos. Sci.*, **74**, 2857-2877.
- Birner, T. and **J. R. Albers** (2017): Sudden stratospheric warmings and anomalous upward wave activity flux. *SOLA*, **13A**, 8-12, doi:10.2151/sola.13A-002.
- Albers, J. R.**, G. N. Kiladis, T. Birner, and J. Dias (2016): Tropical upper tropospheric potential vorticity intrusions during sudden stratospheric warmings. *Journal of the Atmospheric Sciences*, (73), 2361-2384.
- Albers, J. R.** and T. Birner, (2014): Relative roles of gravity and planetary waves in vortex preconditioning prior to sudden stratospheric warmings. *Journal of the Atmospheric Sciences*, **71**, 4028-4054.
- Albers, J. R.** and T. R. Nathan, (2013): Ozone loss and recovery and the preconditioning of upward propagating planetary wave activity. *Journal of the Atmospheric Sciences*, **70**, 3977-3994.
- Albers, J. R.**, J. P. McCormack, and T. R. Nathan, (2013): Ozone and the morphology of the planetary waveguide. *Journal of Geophysical Research*, **118**, 563-576.
- Albers, J. R.**, and T. R. Nathan, (2012): Pathways for communicating the effects of stratospheric ozone to the polar vortex: Role of zonally asymmetric ozone. *Journal of the Atmospheric Sciences*, **69**, 785-801.
- Nathan, T. R., **J. R. Albers**, and E. C. Cordero, (2011): Role of wave-mean flow interaction in sun-climate connections: Historical overview and some new interpretations and results. *J. Atm. Solar-Terr. Physics*, **73**, 1594-1605.

## Recent Conference Presentations

- January 2020 **American Meteorological Society Conference Annual Meeting**, Boston, MA (talk) – “A priori identification of skillful extratropical subseasonal forecasts”
- December 2019 **American Geophysical Union Annual Conference, San Francisco, CA**, (talk) – “A priori identification of skillful extratropical subseasonal forecasts”
- June 2019 **American Meteorological Society 22<sup>nd</sup> Conference on Atmospheric and Oceanic Fluid Dynamics**, Portland, ME (talk) – “Impacts of Damping on Stratospheric Equatorial Wave Signals in Reanalysis Data”
- 15-19 June 2015 **American Meteorological Society 20<sup>th</sup> Conference on the Middle Atmosphere**, Phoenix, AZ (talk) – “Identifying Skillful Subseasonal Forecasts via Stratospheric and Tropical Anomaly Growth”