THOMAS REICHLER
Short Curriculum Vitae

Dept. of Atmospheric Sciences, U. of Utah
270 S 1400 E #E2108
Salt Lake City, UT 84112, USA

phone: (801) 585-0040
email: thomas.reichler@utah.edu
web: http://www.inscc.utah.edu/~reichler/

EMPLOYMENT

2023 - present	Professor, Dept. of Atmospheric Sciences, U. of Utah
2010 - 2023	Associate Professor, Dept. of Atmospheric Sciences, U. of Utah
2004 - 2010	Assistant Professor, Dept. of Atmospheric Sciences, U. of Utah
2003 - 2004	Postdoc, Geophysical Fluid Dynamics Laboratory, Princeton U.

PROFESSIONAL EXPERIENCE

2017 – date	Associate Editor: Journal of Climate
2019 – date	Lead Convener: EGU general assembly, "Stratospheric dynamics"
2023	Visiting Scientist: Department Física de la Tierra y Astrofísica, Universidad Complutense de Madrid (Host: Blanca Ayarzagüena) (May 15 – June 30)
2022	Visiting scientist: Laboratoire de Météorologie Dynamique (LMD) of the Ecole Normale Superieure (Host: François Lott) (May 1 – June 30)
2019	Lead Convener: AGU fall meeting, "North Atlantic Climate Variability" (Dec. 2019)
2017 – 2018	Lead Convener: AGU fall meeting, "Climate Variability and Ocean-Atmosphere Interaction Over the North Atlantic" (Dec. 2017, Dec. 2018)
2010 – 2018	Lead Convener: EGU general assembly, "Dynamical coupling between the stratosphere and the troposphere"

EDUCATION

2003	Ph.D. Oceanography, Scripps Institution of Oceanography, Univ. of California, San Diego
1996	M.S. (equivalent), Meteorology, Univ. of Munich; Physical Geography, Univ. of Augsburg, Germany

PUBLICATIONS

In preparation

1. Garrett, T. and T. Reichler (2025): High sensitivity to warming in an energetic model of Hadley cell width.

In review

2. Slawson, J., P. Plink-Bjorklund, T. Reichler, D. Baldassare (2025): Early Paleogene Climate: A Glimpse of Extreme Warming, *Nature Geos.*
3. Baldassare, D., T. Reichler, P. Plink-Bjorklund, and J. Slawson (2025): Proxy-Informed Model Estimates of Early Paleogene Climate, *Paleoceanography and Paleoclimatology*.

Book chapters

4. Reichler, T. (2016): Poleward expansion of the atmospheric circulation, in: *Climate change*, Observed impacts on planet Earth, 3rd edition, T. M. Letcher, Ed., ISBN 9780128215753, pp. 177-203.

Refereed Articles

5. Hong, H.-J., T. Reichler, and H.-H. Hsu (2025): Arctic Ozone Amplifies Stratospheric Circulation Extremes, *J. Climate*.
6. Baldassare, D., and T. Reichler (2024): A Simple Framework for Likely Climate Projections Applied to Tropical Width, *Clim. Dyn.,* **62**, 8441-8451, https://doi.org/10.1007/s00382-024-07335-7.
7. Menzel, M., D. Waugh, Z. Wu. and T. Reichler (2024): Replicating the Hadley Cell edge and subtropical jet latitude disconnect in idealized atmospheric models, *Weather Clim. Dynam.*, **5**, 251–261, https://doi.org/10.5194/wcd-5-251-2024.
8. Stone, L., C. Strong, H. Bai, T. Reichler, G. McCabe, and P. Brooks (2023): Atlantic-Pacific influence on western U.S. hydroclimate and water resources, *npj Clim Atmos Sci,* **6,** 139, https://doi.org/10.1038/s41612-023-00471-7.
9. Baldassare, D., T. Reichler, P. Plink-Bjorklund, and J. Slawson (2023): Large Uncertainty in Observed Estimates of Tropical Width From the Meridional Stream Function, *Weather Clim. Dynam.,* **4**, 531-541, https://doi.org/10.5194/wcd-4-531-2023
10. Jucker, M. and T. Reichler (2023): Lifecycle of Major Sudden Stratospheric Warmings in the Southern Hemisphere from a Multimillennial GCM Simulation, *J. Climate,* **36**(2), https://doi.org/10.1175/JCLI-D-22-0425.1.
11. Reichler, T. and M. Jucker (2022): Stratospheric wave driving events as an alternative to sudden stratospheric warmings, *Weather Clim. Dynam.*, **3**, 659-677, doi.org/10.5194/wcd-3-659-2022.
12. Hong, H.-J., and T. Reichler (2021): The Simplified Chemistry-Dynamical Model (SCDM V1.0), *Geosci. Model Dev.*, **14**, 6647-6660.
13. Jucker, M., T. Reichler, and D. Waugh (2021): How frequent are Antarctic sudden stratospheric warmings in present and future climate? *Geophys. Res. Lett.,* **48**, 1-9, doi: 10.1029/2021GL093215.
14. Hong, H.-J., and T. Reichler (2021): Local and Remote Responses of Ozone to Arctic Stratospheric Circulation Extremes, *Atmos. Chem. Phys.*, **21,** 1159-1171, doi.org/10.5194/acp-21-1159-2021.
15. Koenig, A. M., Magand, O., Laj, P., Andrade, M., Moreno, I., Velarde, F., Salvatierra, G., Gutierrez, R., Blacutt, L., Aliaga, D., Reichler, T., Sellegri, K., Laurent, O., Ramonet, M., Dommergue, A. (2021): Seasonal patterns of atmospheric mercury in tropical South America as inferred by a TGM continuous record at the Chacaltaya Station (5240 m) in Bolivia, *Atmos. Chem. Phys.,* **21**, 3447-3472, doi.org/10.5194/acp-21-3447-2021
16. Wu, Z., and T. Reichler (2020): Variations in the Frequency of Stratospheric Sudden Warmings in CMIP5 and CMIP6 and Possible Causes, *J. Climate*, **33** (23), 10305-10320, 10.1175/jcli-d-20-0104.1.
17. Wu, Z., and T. Reichler (2019): Surface control of the frequency of stratospheric sudden warming events, *J. Climate,* **30** (28), 10.1175/JCLI-D-18-0801.1.
18. Jucker, M., and T. Reichler (2018): Dynamical precursors for statistical prediction of stratospheric sudden warming events, *Geophys. Res. Lett.,* **45**, 10.1029/2018GL080691.
19. Wiedensohler, A., and Coauthors (2018): Black carbon emission and transport mechanisms to the free troposphere at the La Paz/El Alto (Bolivia) metropolitan area: A case study based on the day of census 2012, *Atmospheric Environment*, **194**, 158-169.

20. Wu, Z. and T. Reichler (2018): Towards a more Earth-like circulation in idealized models, *J. Adv. Model. Earth Sys.*, **10**, doi.org/10.1029/2018MS001356.
21. Horan, M. F., and T. Reichler (2017): Modeling seasonal stratospheric sudden warming climatology based on polar vortex statistics, *J. Climate*, DOI: 10.1175/JCLI-D-17-0257.1.
22. Zhao, B., T. Reichler, C. Strong, and C. Penland (2017): Simultaneous evolution of gyre and Atlantic meridional overturning circulation anomalies as an eigenmode of the North Atlantic system, *J. Climate*, **30**, 6737-6755.
23. Kim, J., and T. Reichler (2015): Quantifying the uncertainty of the annular mode time scale and the role of the stratosphere, *Clim. Dyn.*, DOI: 10.1007/s00382-015-2860-2.
24. Staten, P. W., T. Reichler, and J. Lu (2014): The transient circulation response to radiative forcings and surface warming, J. Climate, **27**, 9323-9336, DOI: 10.1175/JCLI-D-14-00035.1
25. Juang, H., S. Chen, S. Hong, H. Kanamaru, T. Reichler, T. Enomoto, D. Putrasahan, B. Anderson, S. Gershunov, H. Li, K. Yoshimura, N. Buenning, and D. Boomer (2014): Regional Spectral Model Workshop in Memory of John Roads and Masao Kanamitsu, *Bull. Amer. Meteor. Soc.*, **95**(3), ES61-65.
26. Staten, P. W., and T. Reichler (2013): On the ratio between shifts in the eddy-driven jet and the Hadley cell edge, *Clim. Dyn.*, **42** (5-6), 1229-1242, DOI: 10.1007/s00382-013-1905-7
27. Stevens, B., et al. (2013): The Atmospheric Component of the MPI-M Earth System Model: ECHAM6, *J. Adv. Model. Earth Syst. (JAMES),* **5** (2), 146-172, DOI: 10.1002/jame.20015.
28. Charlton-Perez, A. et al. (2013): On the lack of stratospheric dynamical variability in low-top versions of the CMIP5 models, *J. Geophys. Res.*, DOI: 10.1002/jgrd.50125.
29. Reichler, T., J. Kim, E. Manzini, and J. Kroeger (2012): A Stratospheric Connection to Atlantic Climate Variability, *Nature Geos.*, 783-787, doi: 10.1038/ngeo1586.
30. Wang, S.-Y., R. Gillies, and T. Reichler (2012): Multi-decadal drought cycles recorded by the Great Salt Lake: A transition-phase teleconnection perspective, *J. Climate*, **25** (5), 1711-1721.
31. Staten, P. W., J. Rutz, T. Reichler, and J. Lu (2011): Breaking down the tropospheric circulation response by forcing, *Clim. Dyn.*, DOI-10.1007/s00382-011-1267-y.
32. Pennell, C. and T. Reichler (2011): On the effective number of climate models, *J. Climate*, **24** (9), 2358-2367
33. Martin G., C. Senior, S. Ineson, P. James, S. Milton, M. Brooks, T. Reichler, and J. Kim (2010): Analysis and reduction of systematic errors through a seamless approach to modelling weather and climate, *J. Climate*, **23**, 22, 5933-5957
34. Baldwin, M., N. Gillett, P. Forster, E. Gerber, M. Hegglin, A. Karpechko, J. Kim, P. Kushner, O. Morgenstren, T. Reichler, S. Son, and K. Tourpali (2010): Effects of the stratosphere on the troposphere, Chpt. 10 in: SPARC CCMVal (2010): SPARC CCMVal Report on the Evaluation of Chemistry-Climate Models, V. Eyring, T. G. Shepherd, D. W. Waugh (Eds.), SPARC Report No. 5, WCRP-X, WMO/TD-No. X, http://www.atmosp.physics.utoronto.ca/SPARC (peer reviewed).
35. Manzini, E., K. Matthes, C. Blume, G. Bodeker, C. Cagnazzo, N. Calvo, A. Charlton-Perrez, A. Douglass, P. Fogli, L. Gray, J. Kim, K. Kodera, M. Kunze, C. Ortiz, B. Randel, T. Reichler, G. Stenchikov, C. Timmreck, M. Toohey, and S. Yoden (2010): Natural Variability of Stratospheric Ozone, Chpt. 8 in: SPARC CCMVal (2010): SPARC CCMVal Report on the Evaluation of Chemistry-Climate Models, V. Eyring, T. G. Shepherd, D. W. Waugh (Eds.), SPARC Report No. 5, WCRP-X, WMO/TD-No. X, http://www.atmosp.physics.utoronto.ca/SPARC (peer reviewed).
36. Staten P. W. and T. Reichler (2009): Apparent precision of GPS radio occultation temperatures, *Geophys. Res. Lett.*, **36**, L24806, doi:10.1029/2009GL041046
37. Lu, J., C. Deser, and T. Reichler (2009): Cause of the widening of the tropical belt since 1958, *Geophys. Res. Lett.,* **36**, L03803, doi:10.1029/2008GL036076

38. Austin, J. and T. Reichler (2008): Long-term evolution of the cold point tropical tropopause: Simulation results and attribution analysis, *J. Geophys. Res.,* **113**, D00B10, doi:10.1029/2007JD009768
39. Staten, P. W. and T. Reichler (2008): Use of radio occultation for long-term tropopause studies: Uncertainties, biases, and instabilities, *J. Geophys. Res.,* **113**, D00B05, doi:10.1029/2008JD009886
40. Seidel, D., Q. Fu, R. Randel, and T. Reichler (2008): Getting wider around the middle: Tropical belt is expanding as climate changes, *Nature Geosci.*, **1**, 21-24
41. Reichler, T. and J. Kim (2008): Uncertainties in the climate mean state of global observations, reanalyses, and the GFDL climate model, *J. Geophys. Res.,* **113**, D05106, doi:10.1029/2007JD009278
42. Reichler, T. and J. Kim (2008): How well do coupled models simulate present-day climate? A comparison of three generations of coupled models. *Bull. Amer. Meteor. Soc.*, **89**, (3)
43. Lu, J., G. Vecchi, and T. Reichler (2007): Correction to "Expansion of the Hadley cell under global warming". *Geophys. Res. Lett.*, **34** (14), L14808
44. Lu, J., G. Vecchi, and T. Reichler (2007): Expansion of the Hadley cell under global warming. *Geophys. Res. Lett.,* **34**, L06805
45. Fu, Q., C. Johanson, J. Wallace, and T. Reichler (2006): Enhanced midlatitude tropospheric warming in satellite measurements. *Science,* **312**, 1179
46. Reichler, T. and J. O. Roads (2005): Long-range predictability in the tropics. Part I: monthly averages. *J. Climate,* **18**, 619-633
47. Reichler, T., P. J. Kushner, and L. M. Polvani (2005): The coupled stratosphere-troposphere response to impulsive forcing from the troposphere, *J. Atmos. Sci*., **62** (9), 3337–3352
48. Reichler, T. and J. O. Roads (2005): Long-range predictability in the tropics. Part II: 30-60 days variability, *J. Climate*, **18**, 634-650
49. Reichler, T. and J. O. Roads (2004): Time-space distribution of long-range atmospheric predictability. *J. Atmos. Sci.*, **61**, 249-263
50. Reichler, T., M. Dameris, and R. Sausen (2003): Determination of tropopause heights from gridded data. *Geophys. Res. Lett.*, **30**, No. 20, 2042, doi: 10.1029/2003GL018240
51. Roads, J., R. Lawford, E. Bainto, H. Berbery, B. Fekete, K. Gallo, A. Grundstein, W. Higgins, J. Janowiak, M. Kanamitsu, V. Lakshmi, D. Leathers, D. Lettenmaier, Q. Li, L. Luo, E. Maurer, T. Meyers, D. Miller, K. Mitchell, T. Mote, R. Pinker, T. Reichler, D. Robinson, A. Robock, J. Smith, G. Srinivasan, K. Vinnikov, T. von der Haar, C. Vorosmarty, S. Williams, and E. Yarosh (2002): GCIP Water and Energy Budget Synthesis (WEBS). *J. Geophys. Res.*, **108**, No. D16, 8609, doi:10.1029/2002JD002583
52. Reichler, T. J. and J. O. Roads (2002): The role of boundary and initial conditions for dynamical seasonal predictability. *Nonlinear Processes in Geophysics,* **10**, 211

GRADUATE STUDENTS

Student	Year enrolled	Research topic	Degree
Shenghong Dong	Fall 2025	QBO	PhD. 2028
Gregory Egger	Fall 2025	QBO	PhD. 2028
Daniel Baldassare	Fall 2021	Tropical circulation changes	PhD. 2024
Zheng Wu	Fall 2017	Tropospheric impacts on low-frequency stratospheric variability	Ph.D. 2019
Hao-Jhe Hong	Fall 2016	Chemical-dynamical interaction in the stratosphere	Ph.D. 2019
Matthew Horan	Fall 2015	Modeling sudden stratospheric warming statistics	M.S. 2017
Zheng Wu	Fall 2015	Sensitivity of stratosphere-troposphere interaction to surface forcing	M.S. 2017
Bowen Zhao	Fall 2013	Normal modes in North Atlantic atmosphere-ocean system	M.S. 2016
Youngsung Kim	Summer 2011	Regional climate modeling over South America	M.S. 2012
Thong Nguyen	Summer 2011	Deterministic Nonperiodic Flow	M.S. 2012
Ryan Oates	Fall 2010	Stratospheric sudden warmings under climate change	M.S. 2013
Jon Rutz	Summer 2009	Atmospheric circulation trends	M.S. 2010
Chris Eldred	Fall 2009	Regional climate modeling over South America	
Paul Staten	Spring 2008	Mechanisms for atmospheric circulation change	Ph.D. 2013
Chris Pennell	Fall 2006	Performance analysis of climate models	M.S. 2009
Paul Staten	Fall 2006	Tropopause analysis from GPS radio occultation	M.S. 2008
Junsu Kim	Fall 2004	A dynamical understanding of stratospheric influences on tropospheric climate and the ocean	Ph.D. 2014

UNDERGRADUATE STUDENTS

Student	Year	Topic
Cal Johnson	Fall 2025	Hotspots: The wildfire-windspeed connection in a changing climate over the Southwestern US
Nate Stovak	Spring 2025	Wilkes scholars program: Predicting monthly to seasonal Southwestern US Climate Anomalies

Nate Stovak	Fall 2024	Wilkes scholars program: Predicting monthly to seasonal Southwestern US Climate Anomalies
Daniel Frerichs	2022	UROP project: A statistical study of the impact of extreme stratospheric circulation events on surface weather and climate over the Northern Hemisphere
Ian Wixom	2021	UROP project: Analyzing the Changing Length of the Four Seasons from Historical Carbon Dioxide Records
Sean Heslin	2016	UROP/capstone project: Time series analysis of stratospheric sudden warmings
Jeffrey Steven Fitzgerald	2015-2016	Capstone project: Impact of stratospheric sudden warmings on Arctic sea ice
Roland Christensen	2014	Statistical analysis of gridded data
Daniel Schaffer	2012	Precipitation analysis over the tropical Andes