# David A. Rahn

Department of Geography and Atmospheric Science
University of Kansas
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## Education

Ph.D., 2008: Atmospheric Science, University of Wyoming, Laramie, WY
Dissertation Topic: Forcing mechanisms of coastally trapped wind reversals
M.S., 2006: Atmospheric Science, University of Wyoming, Laramie, WY
Thesis Topic: Modification of the coastal jet by Cape Mendocino
B.S., 2003: Atmospheric and Oceanic Science, University of Wisconsin, Madison, WI

## Professional Positions

2025-present: Professor, Department of Geography and Atmospheric Science, University of Kansas, Lawrence, Kansas
2018-2025: Associate Professor, Department of Geography and Atmospheric Science, University of Kansas, Lawrence, Kansas
2012-2018: Assistant Professor, Department of Geography and Atmospheric Science, University of Kansas, Lawrence, Kansas
2008-2012: Postdoctoral Research Associate, University of Chile, Santiago, Chile
2004-2008: Graduate Research Assistant and Teaching Assistant, Department of Atmospheric Sciences, University of Wyoming, Laramie, Wyoming

## Research Interests

Mesoscale features including low-level jets, coastally trapped wind reversals, and coastal lows. Synoptic and large-scale influences on the lower atmosphere with special attention to the response of the marine atmospheric boundary layer. Physical processes related to urban heat islands and impacts on health. Topics are explored through observations (including several field campaigns that involved aircraft and radiosonde measurements) in conjunction with numerical simulations.

## Refereed Publications

[40] Kaufman, J. W., D. A. Rahn, P. C. Burke, M. L. Flora, C. K. Potvin, and D. B. Mechem, 2025: A Comparative Analysis of Near-Storm Environments for Tornadic and Nontornadic Significant-Hail Supercells using the Warn-on-Forecast System (WoFS). Wea. Forecasting, in press, https://doi.org/10.1175/WAF-D-25-0016.1.

[39] Friedman, E., B. R. Lee, D. Rahn, B. L. Martinez, and A. Mena, 2024: Assessing environmental injustice in Kansas City by linking paediatric asthma to local sources of pollution: a cross-sectional study. BMJ open **14(7)**, e080915, https://doi.org/10.1136/bmjopen-2023-080915.

[38] Wesley, E., N. Brunsell, D. Rahn, J. Saint Onge, N. Kane, and K. Kennedy, 2024: Neighborhood Effects on Acute Pediatric Asthma: Race, Greenspace, and PM2.5. Urban Sci., **8(4)**, 176, https://doi.org/10.3390/urbansci8040176.

[37] McBroom, B. D., D. A. Rahn, and N. A. Brunsell, 2024: Urban fraction influence on local nocturnal cooling rates from low-cost sensors in Dallas-Fort Worth. *Urban Climate*, **53**, 101823, https://doi.org/10.1016/j.uclim.2024.101823.

[36] Blum, M., D. Rahn, B. Fredrick, and S. M. Polanco, 2023: Land Loss in the Mississippi River Delta: Role of Subsidence, Global Sea-Level Rise, and Coupled Atmospheric and Oceanographic Processes. *Glob. Planet. Change*, **222**, 104048, https://doi.org/10.1016/j.gloplacha.2023.104048.

[35] Beamesderfer, E.R., Biraud, S.C., Brunsell, N.A., Friedl, M.A., Helbig, M., Hollinger, D.Y., Milliman, T., Rahn, D.A., Scott R.L., Stoy P.C., Diehl, J.L., and Richardson, A.D., 2023: The role of surface energy fluxes in determining mixing layer heights. *Agric. For. Meteor.*, **342**, 109687, https://doi.org/10.1016/j.agrformet.2023.109687.

[34] Boston, P. Q., B. Strouble, B., A. Balogun, B. Lugo-Martinez, M. McClain, M. M. Mitchell, K. Wasserman, D. Rahn, M. Greenberg, C. Garibay, 2023: Community voices on the experiences of community-based participatory research in the environmental justice movement. *Soc. Sci.*, **12(6)**, 358, https://doi.org/10.3390/socsci12060358.

[33] Nielsen, K. F. and D. A. Rahn, 2022: Morning transition of the boundary layer over Dallas-Fort Worth. *J. Applied Meteor. Clim.*, **61**, 1433–1448, https://doi.org/10.1175/JAMC-D-21-0169.1.

[32] Helbig, M., and Coauthors, 2021: Integrating continuous atmospheric boundary layer and tower-based flux measurements to advance understanding of land-atmosphere interactions. *Agric. For. Meteor.*, **307**, 108509, https://doi.org/10.1016/j.agrformet.2021.108509.

[31] Brunsell, N. A., D. A. Rahn, and D. B. Mechem, 2021: Impact of a nocturnal low-level jet on surface-layer turbulent characteristics. *J. Geophys. Res.*, **126(7)**, D034083. doi: 10.1029/2020JD034083, https://doi.org/10.1029/2020JD034083.

[30] Cady, T. J., D. A. Rahn, N. A. Brunsell, and W. Lyles, 2020: Conversion of abandoned property to greenspace as a strategy to mitigate the urban heat island investigated with numerical simulations. *J. Applied Meteor. Clim.,* **59**, 1827-1843, https://doi.org/10.1175/JAMC-D-20-0093.1.

[29] Aguirre, C., M. Rojas, R. D. Garreaud, and D. A. Rahn, 2019: Role of synoptic activity on projected changes in upwelling-favourable winds at the ocean's eastern boundaries. *npj Climate Atmos. Sci*., **2(1)**, 44, https://doi.org/10.1038/s41612-019-0101-9.

[28] Juliano, T. W., M. M. Coggon, G. Thompson, D. A. Rahn, J. H. Seinfeld, A. Sorooshian, and Z. J. Lebo, 2019: Marine Boundary Layer Clouds Associated with Coastally Trapped Disturbances: Observations and Model Simulations. *J. Atmos. Sci*., **76**, 2963-2993, https://doi.org/10.1175/JAS-D-18-0317.1.

[27] Juliano, T. W., Z. J. Lebo, G. Thompson, and D. A. Rahn, 2019: A New Perspective on Coastally Trapped Disturbances Using Data from the Satellite Era. *Bull. Amer. Meteor. Soc*., **100**, 631-651, https://doi.org/10.1175/BAMS-D-18-0002.1.

[26] Rahn, D. A., T. R. Parish, and D. Leon, 2017: Synthesis of observations from the Precision Atmospheric Marine Boundary Layer Experiment (PreAMBLE). *Mon. Wea. Rev*., **145**, 2325-2342, https://doi.org/10.1175/MWR-D-16-0373.1.

[25] Scaff, L., J. A. Rutllant, D. A. Rahn, R. Rondanelli, and S. Gascoin, 2017: Meteorological interpretation of orographic precipitation gradients along an Andes west slope basin at 30ºS (Elqui Valley, Chile). *J. Hydrometeor.*, **18**, 713-727, https://doi.org/10.1175/JHM-D-16-0073.1.

[24] Juliano, T. W., T. R. Parish, D. A. Rahn, and D. C. Leon, 2017: An atmospheric hydraulic jump in the Santa Barbara Channel. *J. Appl. Meteor. Climatol.*, **56**, 2981-2998, https://doi.org/10.1175/JAMC-D-16-0396.1.

[23] Parish, T. R., D. A. Rahn, and D. Leon, 2016: Aircraft measurements and numerical simulations of an expansion fan off the California coast. *J. Applied Meteor. Clim.*, **55**, 2053-2062, https://doi.org/10.1175/JAMC-D-16-0101.1.

[22] Rahn, D. A. and C. J. Mitchell, 2016: Diurnal climatology of the boundary layer in southern California using AMDAR temperature and wind Profiles, CA. *J. Applied Meteor. Clim.,* **55**, 1123-1137, https://doi.org/10.1175/JAMC-D-15-0234.1.

[21] Rahn, D. A., T. R. Parish, and D. Leon, 2016: Observations of large wind shear above the marine boundary layer near Point Buchon, CA. *J. Atmos. Sci*., **73**, 3059-3077, https://doi.org/10.1175/JAS-D-15-0363.1.

[20] Parish, T. R., D. A. Rahn, D. Leon, 2016: Research aircraft measurements of D-values, *J. Atmo. Ocean. Tech.* **33**, 391-396, https://doi.org/10.1175/JTECH-D-15-0173.1.

[19] Rahn, D. A, B. Rosenbluth, J. A. Rutllant, 2015: Detecting subtle seasonal transitions in upwelling in central Chile. *J. Phys. Oceanogr.* **45**, 854-867, https://doi.org/10.1175/JPO-D-14-0073.1.

[18] Liu, W., X. Li, and D. A. Rahn, 2015: Storm event representation and analysis based on a directed spatiotemporal graph model. *Int. J. Geogr. Inf. Sci.*, **30(5)**, 948–969. doi: https://doi.org/10.1080/13658816.2015.1081910.

[17] Parish, T. R., D. A. Rahn, and D. Leon, 2015: Aircraft observations and numerical simulations of the developing stage of a southerly surge near southern California. *Mon. Wea. Rev*., **143**, 4883-4903, https://doi.org/10.1175/MWR-D-15-0140.1.

[16] Parish, T. R., D. A. Rahn, and D. Leon, 2014: Aircraft observations of the marine boundary layer adjustment near Point Arguello, CA. *J. Applied Meteor. Clim*. **53**, 970-989, https://doi.org/10.1175/JAMC-D-13-0164.1.

[15] Rahn, D. A., T. R. Parish, and D. Leon, 2014: Coastal jet adjustment near Point Conception, CA with opposing wind in the bight. *Mon. Wea. Rev*. **142**, 1344-1360, https://doi.org/10.1175/MWR-D-13-00177.1.

[14] Rahn, D. A., 2014: Observations of the marine boundary layer under a cutoff low over the southeast Pacific Ocean. *Meteorol. Atmos. Phys.,* **123**, 1-15, https://doi.org/10.1007/s00703-013-0292-2.

[13] Rahn, D. A. and R. D. Garreaud, 2014: A synoptic climatology of the near-surface wind along the west coast of South America. *Int. J. Climatol*. **34**, 780-792, https://doi.org/10.1175/MWR-D-13-00030.1.

[12] Rahn, D. A., T. R. Parish, and D. Leon, 2013: Airborne measurements of coastal jet transition around Point Conception. CA *Mon. Wea. Rev.,* **141**, 3827-3839.

[11] Parish, T. R., D. A. Rahn, and D. Leon, 2013: Airborne observations of a Catalina eddy. *Mon. Wea. Rev.,* **141**, 3300-3313, https://doi.org/10.1175/MWR-D-13-00029.1.

[10] Rahn, D. A., 2012: Influence of large scale oscillations on upwelling-favorable coastal wind off central Chile. *J. Geophys. Res*., **117**, D19114, doi:10.1029/2012JD018016, https://doi.org/10.1029/2012JD018016.

[9] Juliá, C., D. A. Rahn, J. A. Rutllant, 2012: Assessing the influence of the MJO on strong precipitation events in subtropical, semi-arid north-central Chile (30°S). *J. Climate*, **25**, 7003-7013, https://doi.org/10.1175/JCLI-D-11-00679.1.

[8] Rahn, D. A., R. Garreaud, and J. Rutllant, 2011: The low-level atmospheric circulation near Tongoy Bay / point Lengua de Vaca (Chilean coast, 30°S). *Mon. Wea. Rev*., **139**, 3628-3647, https://doi.org/10.1175/MWR-D-11-00059.1.

[7] Garreaud, R., J. Rutllant, R. Muñoz, D. Rahn, M. Ramos, and D. Figueroa, 2011: VOCALS-CUpEx: The Chilean Upwelling Experiment. *Atmos. Chem. Phys.,* **11**, 2015-2029, https://doi.org/10.5194/acp-11-2015-2011.

[6] Rahn, D. A. and Garreaud, R., 2010: Marine boundary layer over the subtropical southeast Pacific during VOCALS-REx – Part 1: Mean structure and diurnal cycle, *Atmos. Chem. Phys*., **10**, 4491-4506, doi:10.5194/acp-10-4491-2010, https://www.doi.org/10.5194/acp-10-4491-2010.

[5] Rahn, D. A. and Garreaud, R., 2010: Marine boundary layer over the subtropical southeast Pacific during VOCALS-REx – Part 2: Synoptic variability, *Atmos. Chem. Phys*., **10**, 4507-4519, doi:10.5194/acp-10-4507-2010, http://doi.org/10.5194/acp-10-4507-2010.

[4] Rahn, D. A. and T. R. Parish, 2010: Cessation of the 22-25 June 2006 coastally trapped wind reversal. *J. Appl. Meteor. Climatol*., **49**, 1412-1428, https://doi.org/10.1175/2010JAMC2242.1.

[3] Rahn, D. A. and T. R. Parish, 2008: A study of the forcing of the 22-25 June 2006 coastally trapped wind reversal based on numerical simulations and aircraft observations. *Mon. Wea. Rev.,* **136**, 4687–4708, https://doi.org/10.1175/2007MWR2199.1.

[2] Parish, T. R., D. A. Rahn, and D. Leon, 2008: Aircraft observations of a coastally trapped wind reversal off the California coast. *Mon. Wea. Rev*., **136**, 644–662, https://doi.org/10.1175/2007MWR2199.1.

[1] Rahn, D. and T. R. Parish, 2007: Diagnosis of the forcing and structure of the coastal jet near Cape Mendocino using in situ observations and numerical simulations. *J. Appl. Meteor. Climatol.,* **46**, 1455-1468, https://doi.org/10.1175/JAM2546.1.

**Other Non Peer-reviewed Publications**

Garreaud, R., J. Rutllant, R. Muñoz, D. Rahn, M. Ramos, and D. Figueroa, 2010: VOCALS-CUpEx: The Chilean Upwelling Experiment. *CLIVAR-Exchanges Newsletter*, 15(2), 5-7.

**Conference Proceedings**

Nielsen, K. and D. A. Rahn, 2025, Testing the Capability of Using Machine Learning with Aircraft Observations to Predict Temperature Profiles, 25th Symposium on Boundary Layers and Turbulence, **89**.

Brunsell, N.A., and D. A. Rahn, 2024: Assessment of the Urban Heat Island and Differential Responses to Extreme Heat Events, *AGU Fall Meeting*, **GC43A-0115**.

Nielsen K. and D. A. Rahn. Predicting vertical profiles of temperature using simple machine learning models, 2024. *AGU Fall Meeting*, **A43K-2132**.

Kaufman, J. W., P. C. Burke, M. L. Flora, C. K. Potvin, J. P. Stachnik, D. A. Rahn, 2024: Identifying Environmental Precursors of Tornadic Supercells Within NSSL's Warn-on Forecast System. 38th Conference on Environmental Information Processing Technologies, Baltimore, MD. *Amer. Meteor. Soc.*, **286**.

Wermter, J. E., A. M. Thomas, J. Gott, M. Shepherd, M. K. Appelbaum, and D. A. Rahn, 2023: An Urban Climate Archipelago in the Southeast U.S. *AGU Fall Meeting*, **GC31K-1171**.

Boston, Q. P., Strouble B., Mitchell, M., McClain, M., Wasserman, K, Acosta, J., Lugo-Martinez Rahn, D.A., 2022: Community Voices on the Experiences and Future Vision for CBPR. *All-In: Co-Creating Knowledge for Justice Conference*, October 26-28, 2022 Santa Cruz, CA

Nielsen, K. and D. A. Rahn, 2021: Observing the Morning Transition over Dallas-Fort Worth. *21st Symposium on Meteorological Observation and Instrumentation*, Virtual Conference, *Amer. Meteor. Soc.,* **459**.

Gerken, T., et al., 2021: Integrating Continuous Atmospheric Boundary Layer and Tower-Based Flux Measurements to Advance Understanding of Land–Atmosphere Interactions. *35th Conference on Hydrology - Land–Atmosphere Interactions,* Virtual Conference, *Amer. Meteor. Soc.,* **4.2**.

Wesley, E. J., N. A. Brunsell, D. A. Rahn, and J. Saint Onge, 2021: A Bayesian Investigation of the Spatial Variability of Pediatric Asthma in the Kansas City Metro Area: Modelling the Interactions of Climatic, Environmental, and Social Systems. New Orleans, LA. *AGU Fall Meeting*, **GH25B-0625.**

Cohen, A. E., A. C. Hennecke, B. M. Baerg, W. P. Gargan, J. L. Prieto, K. D. Skow, D. A. Rahn, 2020: Building NWS-University Partnerships Through Experiential Education: NWS Topeka Meteorologists in the University of Kansas Classroom. *29th Conference on Education*, Boston, MA. *Amer. Meteor. Soc.*, **6.5**.

Blum, M. D., Rahn, D. A., & Frederick, B., 2020: Impact of the Atlantic Multidecadal Oscillation and Mississippi River Discharge Anomalies on Gulf of Mexico Sea-Level Anomalies and Land Loss Rates in the Mississippi Delta. *EP032. River Deltas: Hydrology, Geomorphology, and Sedimentology*, **730486**.

Wermter, J. E., and D. A. Rahn, 2020: Using AMDAR to Assess the Urban Boundary Layer in WRF. *15th Symposium on the Urban Environment,* Boston, MA. *Amer. Meteor. Soc.*, **1406**.

Wesley, E. J., N. A. Brunsell, D. A. Rahn, 2019: Spatial variability of public health vulnerabilities: Interactions between climate, the built environment, and social determinants of health. *Atmospheric Sciences*. San Francisco, CA, *AGU Fall Meeting*, **GC21H-1414**.

Cady, T. J., and D. A. Rahn, 2019: Using Numerical Simulations to Assess Urban Heat Island Mitigation by Converting Vacant Areas into Green Spaces. *10th Conference on Environment and Health*, Phoenix, AZ. *Amer. Meteor. Soc.,* **661**.

Metz, M., N. Brunsell, and D. A. Rahn, 2018: A Statistical Analysis of Boundary Layer Influences on Various Timescales. *33rd Conference on Agricultural and Forest Meteorology,* Boise, ID, *Amer. Meteor. Soc*., **9.4**.

Rahn, D. A., T. R. Parish, and T. W. Juliano, 2017: Deviations of Atmospheric Coastal Flow from the Open-channel Hydraulics Analogy. *Geophysical Fluid Dynamics*, New Orleans, LA, *AGU Fall Meeting*, **NG13A-02**.

Brunsell, N. A., E. Van Vleck, and D. A. Rahn, 2017: An Investigation of Land-Atmosphere Coupling from Local to Regional Scales. *Hydrology*. New Orleans, LA, *AGU Fall Meeting*, **A42D-07**.

Turner, D. S., and D. A. Rahn, 2017: AMDAR Measurements of Wind Reversals Near San Francisco Bay. *21st Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS)*. Seattle, WA, *Amer. Meteor. Soc*., **4E**.

Brunsell, N. A., and D. A. Rahn, 2016: A Multi-scale Diagnostic Framework for Investigating Temporal Variability in Land-Atmosphere Coupling. Hydrology, San Francisco, CA, *AGU Fall Meeting*, **H32B-05**.

Rahn, D. A., T. R. Parish, and D. Leon, 2016: Aircraft Measurements of a Low-Level, Three-Layer Structure Offshore of Pt. Buchon, CA and the Possible Role of Kelvin-Helmholtz Instability. *20th Conference on Integrated Observing and Assimilation Systems for the Atmosphere, Oceans, and Land Surface (IOAS-AOLS)*, New Orleans, LA, Amer. Meteor. Soc., **3A.6**.

Fisher, A. M., and D. A. Rahn, 2016: Inconsistencies in the Weather Research and Forecasting (WRF) Model of the Marine Boundary Layer along the coast of California. *14th Symposium on the Coastal Environment*, New Orleans, LA, *Amer. Meteor. Soc*., **7.1**.

Mitchell, C., J. and D. A. Rahn, 2015: Obtaining a diurnal climatology of the boundary layer along the California coast using ACARS. *13th Symposium on the Coastal Environment*, Phoenix, AZ, *Amer. Meteor. Soc*., **1.1**.

Rahn, D. A., B. Rosenbluth, and J. Rutllant, 2013: Seasonal Transition of the Southeast Pacific Anticyclone. *Trecer Congreso de Oceanografía Física, Meteorología y Clima*, Santiago, Chile. **VC.P16**

Rahn, D. A., T. R. Parish, and D. Leon, 2013: Abrupt marine boundary layer changes revealed by airborne in situ and lidar measurements. *6th Symposium on Lidar Atmospheric Applications,* Austin, TX, *Amer. Meteor. Soc*., **J3.4.**

Rahn, D. A., 2012: Assessing intraseasonal to interannual variability of upwelling-favorable coastal winds off central Chile. *10th Symposium on the Coastal Environment,* New Orleans, LA, *Amer. Meteor. Soc*., **3A.3**.

Rahn, D. A., and R. D. Garreaud, 2011: Climatology of the 10-m wind along the west coast of South America from 30 years of high-resolution reanalysis. *Segundo Congreso de Oceanografía Física, Meteorología y Clima*, Coquimbo, Chile.

Rahn, D. A., and J. Rutllant, 2011: Eventos de Precipitación intensa en función de la altitud en el valle del Elqui: Parte III: Eventos aislados en La Serena y en Embalse Laguna [Intense precipitation events as a function of altitude in the Elqui valley: Part III: Isolated events in La

Serena and the Laguna Dam]. *Segundo Congreso de Oceanografía Física, Meteorología y Clima*, Coquimbo, Chile.

Rahn, D. A., R. Garreaud, J. Rutllant, and R. Muñoz, 2010: Daytime coastal jet maximum in central Chile (30°S) during VOCALS-CUpEx. Eos Trans. AGU, 91(26), Meet. Am. Suppl., Abstract A24B-04, Foz do Iguaçu, Brasil.

Rahn, D. A., 2009: Variabilidad sinóptica de la capa límite marina durante VOCALS-REx (primavera 2008) [Synoptic variability of the marine boundary layer during VOCALS-REx (spring 2008)]. *Primer Congreso de Oceanografía Física, Meteorología y Clima*, Concepción, Chile.

Rahn, D. A., and R. Garreaud, 2009: Upsidence wave during VOCALS. *2nd VOCALS Science Meeting*, Seattle, WA., **3B**.

Rahn, D. A., 2007: Aircraft observations of a coastally trapped wind reversal off the California coast, *7th Conf. on Coastal Met./7th Conf. on Urban Environ.,* San Diego, CA, *Amer. Meteor. Soc*., **8.2**.

**Projects (PI):**
NSF Grant AGS-1439515
Title: Collaborative Research: Lidar and Modeling Applications from the PreAMBLE Dataset
PI, 2015-2019: $145,215

NSF Grant AGS-1034862
Title: Precision Atmospheric Marine Boundary Layer Experiment (PreAMBLE)
Co-PI, 2011-2014: $362,257

KU GRF Award 2301854
Title: Pilot Project for Airborne Measurements near a Wind Farm
PI, 2014-2015: $4,335

KU NFGRF Award 2302312
Title: Using commercial aircraft data in atmospheric boundary layer studies
PI, 2013-2015: $8,000

FONDECYT Grant 3110100
Title: Synoptic Influence on the subtropical Marine Boundary Layer in the Southeast Pacific: The SIMBL Experiment
PI, 2010-2012: CLP$37,800,000 (~US$78,000)

**Projects non-PI:**
FONDECYT Grant: 1090412
Title: Dynamics of the Atmospheric Marine Boundary Layer off Subtropical Chile

Role: Post-doctoral researcher and technical support
2009-2010
FONDECYT Grant: 1090492
Title: Variabilidad Climática en Chile: Evaluación, Interpretación y Proyecciones (ACT19/R19)
Role: Post-doctoral researcher
2008-2009

ONR Grant N000140510720 and NSF Grant ATM-0332202
Title: Dynamics and Microphysics in Marine Stratocumulus (DMIMS)
Role: Research assistant (Ph. D. Student)
2006-2008

NSF Grant: ATM-0332202
Title: An Application of Airborne Global Positioning System (GPS) Measurements to Studies of Atmospheric Dynamics
Role: Research assistant (M.S. Student)
2005-2006

**Field Work**
May/June 2012: Precision Atmospheric Marine Boundary Layer Experiment (PreAMBLE). Directed aircraft missions that investigated a variety of coastal meteorological phenomena in southern California. Total flight hours: 34.5

September 2011: Synoptic Influence on the subtropical Marine Boundary Layer (SIMBL). Radiosondes were launched twice daily for two weeks from Robinson Crusoe Island (archipelago Juan Fernández), ~700 km west of the central Chilean coast.

December 2009 – January 2011: VOCALS-CUpEx. Flew missions measuring the coastal jet along the coast of Chile. Total flight hours: 9.3.

November/December 2009: VAMOS Ocean-Cloud-Atmosphere-Land Study – Chilean Upwelling Experiment (VOCALS-CUpEx). Stationed at Talcaruca, Chile with main duties including launching radiosondes.

June 2006: Dynamics and Microphysics in Marine Stratocumulus (DMIMS). Maintained airborne aerosol instrumentation and directed missions. Total flight hours: 23.7.

**Teaching**
ATMO 105 – Introductory Meteorology, University of Kansas
ATMO 505 – Weather Forecasting, University of Kansas
ATMO 605 – Operational Forecasting, University of Kansas
ATMO 606 – Forecasting Practicum - Private Industry, University of Kansas
ATMO 607 – Forecasting Intern - National Weather Service, University of Kansas
ATMO 630 – Synoptic Meteorology, University of Kansas

ATMO 650 – Advanced Synoptic Meteorology, University of Kansas
ATMO 697 – Seminar for Seniors, University of Kansas
ATMO 710 – Atmospheric Dynamics, University of Kansas
GEOG 500 – Senior Capstone in Geography, University of Kansas

ATSC 2000 Lab – Introduction to Meteorology, Lab Instructor, Department of Atmospheric Science, University of Wyoming
ATSC 2000 Lecture – Introduction to Meteorology, Co-lecturer, Department of Atmospheric Science, University of Wyoming

**Graduate Student Advisor**

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|---|---|
| Christopher Mitchell | M.S., Atmospheric Science, U. of Kansas (Summer 2015) |
| Andrew Fisher | M.S., Atmospheric Science, U. of Kansas (Summer 2017) |
| Dillon Turner | M.S., Atmospheric Science, U. of Kansas (Spring 2018) |
| Timothy Cady | M.S., Atmospheric Science, U. of Kansas (Fall 2019) |
| Joseph Wermter | M.S., Atmospheric Science, U. of Kansas (Fall 2020) |
| Kip Nielsen | M.S., Atmospheric Science, U. of Kansas (Summer 2021) |
| Jerod Kaufman | M.S., Atmospheric Science, U. of Kansas (Summer 2024) |
| Meghan Anderson | M.S., Atmospheric Science, U. of Kansas (in progress) |
| Kip Nielsen | Ph.D., Atmospheric Science, U. of Kansas (in progress) (Self Fellowship) |

**Graduate Student Committees**

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| Lucía Scaff | M.S., Atmospheric Science, Universidad de Chile (Fall 2012) |
| Leiqiu Hu | Ph.D., Geography, U. of Kansas (Summer 2014) |
| Carly Fish | M.S., Atmospheric Science, U. of Kansas (Summer 2014) |
| Cody Jones | M.S., Atmospheric Science, U. of Kansas (ABD) |
| Kevin Nelson | M.S., Atmospheric Science, U. of Kansas (Summer 2015) |
| Weibo Liu | Ph.D., Geography, U. of Kansas (Summer 2016) |
| Skylar Koerner | M.S., Atmospheric Science, U. of Kansas (ABD) |
| Clay Matheny | M.S., Atmospheric Science, U. of Kansas (incomplete) |
| Hanna Chandler | M.S., Atmospheric Science, U. of Kansas (Fall 2016) |
| Prescott Bishop | M.S., Atmospheric Science, U. of Kansas (Spring 2017) |
| Jeffrey Delaroy | M.S., Atmospheric Science, U. of Kansas (Summer 2017) |
| Elizabeth Wesley | M.S., Geography, U. of Kansas (Spring 2018) |
| Rodney Chai | M.S., Atmospheric Science, U. of Kansas (Spring 2018) |
| Lucas McMichael | M.S., Atmospheric Science, U. of Kansas (Fall 2018) |
| Laura Tomkins | M.S., Atmospheric Science, U. of Kansas (Summer 2019) |
| Patrick Klinger | Ph.D., History, U. of Kansas (Fall 2019) |
| Brett Chrisler | M.S., Atmospheric Science, U. of Kansas (Fall 2019) |
| Brian L. Schath | P.S.M., Environmental Assessment, U. of Kansas (Fall 2020) |
| Jacob Tindan | M.S., Atmospheric Science, U. of Kansas (Summer 2022) |
| Elizabeth Wesley | Ph.D., Geography, U. of Kansas (Summer 2022) |
| Noah Ring | M.S., Atmospheric Science, U. of Kansas (Summer 2024) |
| Zachary Horning | M.S., Atmospheric Science, U. of Kansas (Summer 2024) |
| Yurika Kato | Ph.D., Geography, U. of Kansas (Fall 2024) |
| Yane Tan | M.S., Geography, U. of Kansas (in progress) |

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| Brett Chrisler | Ph.D., Atmospheric Science, U. of Kansas (in progress) |
| Jordan Eissner | Ph.D., Atmospheric Science, U. of Kansas (in progress) |
| Soudeh Syrios | Ph.D., Geography, U. of Kansas (in progress) |

**Undergraduate Student Advisor**
Michael Riedl, Tyler Trigg, Megan Hamersky, Dalton Dixon, Rachel Buccieri, Braedyn McBroom (UGRA), Sam Hanson (UGRA)

**Professional Activities**
2024 – present: Director of Graduate Studies
2022 – 2024: Undergraduate Affairs/Curriculum Committee, Chair
2012 – 2022: Undergraduate Affairs Committee (Chair: 2017 – 2022).
2012 – present: Supervisor for Student Weather Lab Manager and NWS Cooperative Observer
2016 – present: CleanAirNow (Kansas City) Member
2014 – 2018: UCAR Member Representative
2012 – 2018: Local Manager for The Weather Challenge
2013 – 2015: Geography Department Ambassador to the Center for Teaching Excellence
2013 – 2014: Faculty Affairs Committee
2006 – 2008: Member, University of Wyoming Flight Safety Committee

Reviewer for (102):
Advances in Atmospheric Sciences (2), Agricultural and Forest Meteorology (3), Atmosphere-Ocean (1), Atmosphere (6), Atmospheric Chemistry and Physics (8), Atmospheric Measurement Techniques (2), Atmospheric Pollution Research (2), Atmospheric Research (5), Atmospheric Environment (1), Boundary Layer Meteorology (1), Climate Dynamics (1), Cognella Textbook Review (1), Computers, Environment and Urban Systems (1), Conicyt (2), CRDF Global (1), Earth's Future (1), Earth and Space Science (1), Frontiers in Earth Science (1), Geophysical Research Letters (3), International Journal of Climatology (2), International Journal of Digital Earth (1), International Journal of Marine Science (1), Journal of Applied Meteorology and Climatology (14), Journal of Atmospheric and Oceanic Technology (2), Journal of the Atmospheric Sciences (1), Journal of Geophysical Research (4), Journal of Southern Hemisphere Earth Systems Science (2), KU GRF (2), Meteorology and Atmospheric Physics (2), Monthly Weather Review (3), NASA NPP (1), NCAS-M (1), NSF-AGS proposal (1), NSF-PDM proposal (3), NSF-Panels (4), Ocean Science (1), PLOS ONE (2), Progress in Community Health Partnerships: Research Education and Action (1), Promotion & Tenure (1), Pure and Applied Geophysics (1), Quarterly Journal of the Royal Meteorological Society (7), Remote Sensing (1), Science of the Total Environment (1)

**Languages**
English (native), Spanish

*Updated: 8/27/2025*