Randy J. Chase

Curriculum Vitae

| randy.chase@colostate.edu | https://dopplerchase.github.io/ |

EDUCATION

2021

Ph.D. Atmospheric Sciences
University of Illinois at Urbana-Champaign, Urbana, IL
Dissertation Title: Improving active remote sensing retrievals of snowfall at microwave wavelengths: an emphasis on the global precipitation measurement mission's dual-frequency precipitation radar
Dissertation Advisers: Stephen Nesbitt and Greg McFarquhar

2018

M.S. Atmospheric Sciences
University of Illinois at Urbana-Champaign, Urbana, IL
Thesis title: Evaluation of triple-frequency radar retrieval of snowfall properties using coincident airborne in-situ observations during olympex
Thesis Advisers: Stephen Nesbitt and Greg McFarquhar

2016

B.S. Double major: Meteorology, Water Resources
Minor in Mathematics
State University of New York (SUNY), Brockport, NY

PROFESSIONAL APPOINTMENTS

2023 – present

Global Cloud Retrieval Scientist (Research Scientist I)
Cooperative Institute for Research in the Atmosphere (CIRA)
Colorado State University

2021 – 2023

Postdoctoral Research Associate
NSF AI Institute for Research on Trustworthy AI in Weather, Climate, and Coastal Oceanography (AI2ES)
University of Oklahoma

PUBLICATIONS

Summary (metrics from Google Scholar):

| Total: 21 | First Author: 7 | Citations: 520 | h-index: 12 | i10-index: 14 |

2024

21 Schulte, R., **Chase, R. J.,** Dolan B., Marinescu P. J., Posselt, D. J., Rasmussen K. and van den Heever, S. 2024: Unclouding the Correlations: A Principal Component Analysis of Convective Environments. *GRL, accepted.*
https://essopenarchive.org/doi/full/10.22541/essoar.172280686.69970864/v1

20 Schmidt, T., … **Chase, R. J.**, … and McGovern A. 2024: Gridded Hail Nowcasting using UNets, Lightning Observations, and the Warn-on-Forecast System. *WAF*, *in press.*
https://doi.org/10.1175/AIES-D-24-0026.1

19 Pletcher, M. D., Veals, P. G., Wessler, M., … **Chase, R. J.** and Steenburgh, W. J. 2024: Validation of Cool-Season Snowfall Forecasts at a High-Elevation Site in Utah's Little Cottonwood Canyon. *WAF, **39**, 1261–1277*
https://doi.org/10.1175/WAF-D-23-0176.1

18 Sherman, Z., …, **Chase, R. J.** 2024, … 2024: Effective Visualization of Radar Data for Users Impacted by Color Vision Deficiency. *BAMS inbox*, ***105**, E1479–E1489,*
https://doi.org/10.1175/BAMS-D-23-0056.1

17 Chase, R. J., McGovern A., Homeyer, C., Marinescu, P. and Potvin, C. 2024: Machine Learning Estimation of Maximum Vertical Velocity from Radar. *Artif. Intell. Earth Syst., **3**, 230095.*
https://doi.org/10.1175/AIES-D-23-0095.1

2023

16 McGovern, A., Bostrom, A., McGraw, M., **Chase, R. J.,** Gagne II, D. J., Ebert-Uphoff, I., Musgrave, K. and Schumacher, A. 2023: Identifying and Categorizing Bias in AI/ML for Earth Sciences, *Bull. Amer. Meteor. Soc.*, **105**, E567–E583.
https://doi.org/10.1175/BAMS-D-23-0196.1

15 Bostrom, A., Demuth, J., Wirz, C., …, **Chase, R. J.,** …, and Williams J. 2023: Trust and Trustworthy Artificial Intelligence: A Research Agenda for AI in the Environmental Sciences. *Risk Analysis*, 00, 1–16.
https://doi.org/10.1111/risa.14245

14 McGovern, A., **Chase, R. J.,** Flora, M., Gagne II, D. J., Lagerquist, R., Potvin, C. K., Snook, N. and Loken, E. 2023: Machine Learning for Convective Weather. *AIES*, 1-61
https://doi.org/10.1175/AIES-D-22-0077.1

13 Chase, R. J., Harrison, D. R., Lackmann G. and McGovern A. 2023: A Machine Learning Tutorial for Operational Meteorology, Part II: Neural Networks and Deep Learning. *WAF, **38**, 1271–1293.*
https://doi.org/10.1175/WAF-D-22-0187.1

12 McGovern, A., Gagne II, D. J., Wirz, C. D., Ebert-Uphoff, I., Bostrom, A., … **Chase, R. J.,** … Peterson, T. 2022: Trustworthy Artificial Intelligence for Environmental Sciences: An Innovative Approach for Summer School, *Bull. Amer. Meteor. Soc.*, **104**, E1222–E1231
https://doi.org/10.1175/BAMS-D-22-0225.1

2022

11 Finlon, J. A., McMurdie, L. and **Chase, R. J.** 2022: Investigation of microphysical properties within regions of enhanced dual-Frequency ratio during the IMPACTS field campaign. *Journal of Atmospheric Science,* **79**, 2773–2795.
https://doi.org/10.1175/JAS-D-21-0311.1

10 Chase, R. J., Nesbitt, S. W., McFarquhar, G. M., Wood, N. B. and Heymsfield, G. M. 2022: Direct comparisons between GPM-DPR and CloudSat snowfall retrievals. *JAMC,* 61, 1257-1271. https://doi.org/10.1175/JAMC-D-21-0081.1

9 Chase, R. J., Harrison, D. R., Burke, A., Lackmann G. and McGovern A. 2022: A Machine Learning Tutorial for Operational Meteorology, Part I: Traditional Machine Learning. *WAF,* 37, 1509-1529. https://doi.org/10.1175/WAF-D-22-0070.1

2021

8 Chase, R. J., Nesbitt, S. W. and McFarquhar, G. M. 2021: A dual-frequency radar retrieval of two parameters of the snowfall particle size distribution using a neural network. *JAMC,* 60, 341 – 359.
https://doi.org/10.1175/JAMC-D-20-0177.1

7 Turk, F. J., Ringerud, S. E., Camplani, A., Casella, D., **Chase, R. J.,** Ebtehaj, A. , . . . Wood, N. 2021: Applications of a CloudSat-TRMM and CloudSat-GPM Satellite coincidence dataset. *MDPI Remote Sensing,* 13, 2264.
https://doi.org/10.3390/rs13122264

2020

6 Chase, R. J., Nesbitt, S. W. and McFarquhar, G. M. 2020: Evaluation of the microphysical assumptions within GPM-DPR using ground-based observations of rain and snow. *MDPI Atmosphere,* 11, 619.
https://doi.org/10.3390/atmos11060619

5 Ding, S., McFarquhar, G. M., Nesbitt, S. W., **Chase, R. J.,** Poellot, M. R. and Wang, H. 2020: Dependence of mass-dimensional relationships on median mass diameter. *MDPI Atmosphere*, 11, 756.
https://doi.org/10.3390/atmos11070756

2019

4 Tridon, F., Battaglia, A., **Chase, R. J.,** Turk, J., Leinonen, J., Kneifel, S., Mroz, K., Finlon, J. A., Bansemer, A., Tanelli, S., Heymsfield, A., and Nesbitt, S. W. 2019: The microphysics of stratiform precipitation during OLYMPEX: compatibility between 3-frequency radar and airborne in situ observations. *Journal of Geophysical Research Atmospheres,* 124, 8764–8792. https://doi.org/10.1029/2018JD029858

2018

3 Chase, R. J., Finlon, J. A., Borque, P., McFarquhar, G. M., Nesbitt, S. W., Tanelli, S., Sy, O. O., Durden, S. L. and Poellot, M. 2018: Evaluation of triple-frequency radar retrieval of snowfall properties using conincident airborne in-situ observations during OLYMPEX. *Geophys. Res. Lett.*, 45, 5752 – 5760. https://doi.org/10.1029/2018GL077997

2 Leinonen, J., Lebsock, M. D., Tanelli, S., Sy, O. O., Dolan, B., **Chase, R. J.**, Finlon, J. A., von Lerber A. and Moisseev, D. 2018: Retrieval of snowflake microphysical properties from multi-frequency radar observations. *Atmospheric Measurement Techniques*, 11, 5471 – 5488. https://doi.org/10.5194/amt-11-5471-2018

2016

1 Gerken, T., Wei, D., **Chase, R. J.,** Fuentes, J. D., Schumacher, C., Machado, L. A., . . . Trowbridge, A. M., 2016: Downward transport of ozone rich air and implications for atmospheric chemistry in the Amazon rainforest. *Atmospheric Environment,* 124, 64-76. https://doi.org/10.1016/j.atmosenv.2015.11.014

Submitted or in preperation

Chase, R. J., Dolan, B., Rasmussen, K., Shulte, R., Stephens, G., and van den Heever, S. 2024: A multi-frequency spaceborne radar perspective of deep convection. *JAMC*, *in review.* https://arxiv.org/abs/2406.17110

Shotande, M. O., … **Chase, R. J.,** … and Potvin, C. K. 2024: A Model-Agnostic ML system for Tornado forecasting. *AIES*, *in review.*

Veals. P., Pletcher, M., Schwartz, A. J., **Chase, R. J.,** Harnos, K., Correia, J. and Steenburgh, W. J., 2024: Predicting Snow-to-Liquid Ratio in the Mountains of the Western United States. *WAF*, *in prep.*

Chase, R. J., Haynes, K., and Ebert-Uphoff, I. 2024: Score based diffusion nowcasting of GOES imagery. *AIES, in prep*.

Haynes, K., **Chase, R. J.**, Slocum, C., Knaff, J., Musgrave, K., Razin, N., and Ebert-Uphoff, I. 2024: Utilizing U-Net and Diffusion Models to Create Synthetic Passive Microwave Imagery. *AIES*, *in prep.*

AWARDS AND HONORS

2023

AMS AIES/WAF Editor's Award

2020

AGU Technical Committee Student Award

2016

The Father James B. Macelwane Annual Award in Meteorology (AMS)
The Chancellor's Award of Student Excellence (SUNY)
The School of Science and Mathematics Undergraduate Award (SUNY Brockport)

2015

The David S. Johnson Endowed Undergraduate Scholarship (AMS)
Leader of the Year, United States Tennis Association

GRANTS AND FELLOWSHIPS

Selected: PI

2017 – 2020

Use of GPM field campaign in-situ cloud measurements to evaluate precipitation retrieval assumptions.
NASA Earth and Space Science Graduate Fellowship
$45,000 per year

Selected: Collaborator

2023 – 2026

Advancing understanding of cold cloud and precipitation processes using NASA airborne data and deep learning microphysical retrievals
NASA ROSES '22: Weather and Atmospheric Dynamics Proposal
Main PI: Stephen Nesbitt

Submitted

WoFSCast: A GraphCast-based emulator for the NSSL Warn-on-Forecast System
NOAA Weather Program Office FY25: Testbeds Program Priority HWT-1 and HMT-1
Main PI: Monte Flora (CIWRO/NSSL)
Co-I: Corey Potvin; Kent Knopfmeier, Joshua Martin, Brian Matilla, Patrick Skinner, Miranda Silcott, Nusrat Yussouf; **Randy Chase.**

MENTORING

PhD Committees

2024

Michael Pletcher
Committee: Jim Steenburgh, **Randy Chase**, Courtney Strong, Peter Veals
Anticipated Defense: Summer 2025
University of Utah

Students

2024

Miles Harmala
CSU REU
Evaluating machine learning updraft retrieval skill

Charlie Remmers
CSU REU
Observing the relationship between changes in reflectivity and vertical velocity

2022

Kayla Hoffman
OU REU
Machine learning updraft retrieval

Alex Nozka
OU undergraduate intern
Nowcasting tornadoes using machine learning

Lydia Spychalla
OU undergraduate intern
Nowcasting tornadoes using machine learning

Daniel Lopez
UIUC undergraduate intern
Generative adversarial networks for generating reflectivity from microwave imagers

2021

Lydia Spychalla
OU REU
Hail forecasting with machine learning

Jordan Robinson
Hail forecasting with machine learning

Daniel Lopez
UIUC undergraduate intern
Generative adversarial networks for generating reflectivity from microwave imagers

PRESENTATIONS

Invited

2025

Chase, R. J. (2025): Data driven weather models: a new tool for weather forecasting and research. Invited seminar for the Department of Atmospheric and Environmental Sciences (DAES) and the Atmospheric Sciences Research Center (ASRC) at the University at Albany , oral presentation, spring semester 2025.

2024

Chase, R. J. (2024): Introduction to AI and Machine Learning. Invited speaker for the NOAA/NWS SOO/WCM Development Course Virtual Workshop. Remote Oral Presentation. 14 November 2024.

Chase, R. J. (2024): Revolutionizing numerical simulations of Earth systems: A primer on AI-Weather Models. Invited virtual seminar for Dept. of Earth and Space Sciences Columbus State University, Georgia, Oral Presentation, 7 November 2024.

Chase, R. J. (2024): A primer on AI-Weather Models. Invited speaker for the Fall 2024 Friends and Partners in Aviation Weather (FPAW) meeting. Remote Oral Presentation. 31 October 2024.

Chase, R. J. (2024): Diffusion Models. Guest Lecture for METR5970: AI for Environmental Science at the University of Oklahoma. Remote Oral Presentation. 29 October 2024.

2023

Chase, R. J. (2023): AI/ML for Precipitation: Where Are We and Where Should We Go? Invited abstract for the AGU 2023 Fall meeting. 13 December 2023.

Chase, R. J. (2023): Machine Learning Tutorials for Meteorologists. Invited seminar for Environment and Climate Change Canada seminar series, oral presentation, 5 December 2023.

Chase, R. J. (2023): Machine Learning Tutorials for Meteorologists. Invited seminar for University of North Dakota seminar series, oral presentation, 2 November 2023.

Chase, R. J. (2023): Machine Learning Tutorials for Meteorologists. Invited seminar for NWS Northern Plains SOO Community Meeting, oral presentation, 7 September 2023.

Chase, R. J. (2023): Is Machine Learning for Numerical Weather Prediction a *Symbiotic* Relationship? Invited seminar for IBM weather. 1 August 2023.

2022

Chase, R. J. (2022): Machine Learning Tutorials for Meteorologists. Invited seminar for University of Utah, oral presentation, 5 October 2022.

Chase, R. J., Hoffman, K., Stechman, D., Homeyer, C., Potvin, C. and McGovern A. (2022): Machine Learning Estimation of Storm Updrafts. Invited seminar for the

Cooperative Institute for Research in the Atmosphere (CIRA), oral presentation, 13 September 2022.

2021

Chase, R. J. (2021): Machine Learning for Meteorology. Guest Lecture for GPH 413/513: Meteorologic Instrumentation and Measurement at Arizona State University. Oral Presentation. November 2021.

Kirschbaum, D., Fuchs Z. and **Chase, R. J.** (2021): American Geophysical Union: Precipitation Technical Committee Early Career Scientists Panel. American Geophysical Union Fall Meeting, online, invited panelist December 2021.

2020

Chase, R. J., Nesbitt, S. W., McFarquhar, G. M., Tridon, F. and Leinonen, J. S. (2020): Improving active remote sensing through the use of multiple frequencies, in-situ data and neural networks. Invited oral presentation for department seminar, University of Alabama at Huntsville/National Space Science and Technology Center, Huntsville AL, 19 February 2020.

2018

Chase, R. J. (2018): Behind the camera and beyond the greenscreen: A look at your everyday weather forecast. American Chemical Society (Lake and Ashtabula County section) Invited Presentation, oral presentation, Cleveland, OH, 20 July 2018.

General

2025

Chase, R. J., Haynes, K., Haynes, J. and Ebert-Uphoff, I. (2025): Score based diffusion nowcasting of GOES imagery. American Meteorological Society Annual Meeting. New Orleans, LA, 12 – 16 January 2025.

Flora, M., Potvin, C. and **Chase, R. J.** (2025): WoFSCast: A machine learning model for predicting thunderstorms at watch-to-warning scales. American Meteorological Society Annual Meeting. New Orleans, LA, 12 – 16 January 2025.

Potvin, C., Flora, M., and **Chase, R. J.** (2025): Extending the WoFSCast – a storm-scale weather emulator – to ensemble predictions. American Meteorological Society Annual Meeting. New Orleans, LA, 12 – 16 January 2025.

Harmala, M. S., **Chase, R. J.,** Marinescu, P. J. and Stechman, D. (2025): Evaluating Machine Learning Updraft Retrieval Retrieval skill: Convective Storm Case Studies, American Meteorological Society Annual Meeting. New Orleans, LA, 12 – 16 January 2025.

Remmers, C., Dolan, B., Schulte, R., and **Chase, R. J.** (2025): Observing the Relationship between Changes in Reflectivity and Vertical Velocity in Convection. American Meteorological Society Annual Meeting. New Orleans, LA, 12 – 16 January 2025.

Auth, R., **Chase, R. J.**, Freeman, S., Marinescu, P. and van den Heever, S. (2025): Global Distributions and Characteristics of Overshooting Tops. American Meteorological Society Annual Meeting. New Orleans, LA, 12 – 16 January 2025.

Haynes, K., Slocum C., Knaff, J., Musgrave, K., **Chase, R. J.,** Razin, N., and Ebert-Uphoff, Imme (2025): Creating synthetic Passive Microwave Observations Using Deep Learning to Aid Tropical Cyclone Forecasting. American Meteorological Society Annual Meeting. New Orleans, LA, 12 – 16 January 2025.

2024

Haynes, K., **Chase, R. J.**, Slocum, C., Knaff, J., Musgrave, K., Razin, N., and Ebert-Uphoff, I. (2024): Utilizing U-Net and Diffusion Models to Create Synthetic Passive Microwave Imagery. American Geophysical Union Fall Meeting. Washington DC, 9 – 13 December 2024.

Bukowski, J., Saleeby, S., **Chase, R. J.,** Posselt, D., Dolan, B., Grant, L., Leung, G., Marinescu, P., Rasmussen, K., Singh, I., Storer, R., and van den Heever, S. (2024): Sensitivity of Modeled Tropical Anvils to Ice Aggregation. American Geophysical Union Fall Meeting. Washington DC, 9 – 13 December 2024.

Dolan, B., van den Heever, S., Kollias, P., Marinescu, P., Posselt, D., **Chase, R. J.,** Rasmussen, K., Schulte, R., Bukowski, J., Singh, I. and Grant, L. (2024): The NASA INCUS mission and observations of convective mass flux through reflectivity differencing. European Radar Conference. Rome Italy, 9 – 13 September 2024.

2023

Chase, R. J., Dolan, B., Kollias, P., Rasmussen, K. L., Stephens, G. L. and van den Heever, S. C. (2023): GPM KaPR Deep Convection Observations: Insight for Future Spaceborne Radar Missions. American Meteorological Society radar meteorology conference. Minneapolis, MN, oral presentation, 28 August – 01 September 2023.

Dolan, B., Bukowski, J., **Chase, R. J.,** … and van den Heever, S. C. (2023): Quantitvative Analysis of the Delta-t Approach for Estimating Convective Mass Flux. American Meteorological Society radar meteorology conference. Minneapolis, MN, oral presentation, 28 August – 01 September 2023.

Posselt, D., Storer, R. L., Schulte, R., Marinescu, P. J., **Chase, R. J.,** Tanelli, S., and van den Heever, S. R. (2023): State Dependent Sensitivity of Spaceborne Radar to Ice Cloud Microphysical Assumptions. American Meteorological Society radar meteorology conference. Minneapolis, MN, oral presentation, 28 August – 01 September 2023.

van den Heever, S. C., … **Chase, R. J.,** … and Takahashi, H. (2023): Tropical Convection through the lens of the INCUS mission. American Meteorological Society radar meteorology conference. Minneapolis, MN, oral presentation, 28 August – 01 September 2023.

Sherman, Z., … , **Chase, R. J.,** … and Gardner S. T. (2023): Effective Visualization of Radar Data for Users Impacted by Color Vision Deficiency. American Meteorological

Society radar meteorology conference. Minneapolis, MN, oral presentation, 28 August – 01 September 2023.

Chase, R. J., Harrison, D., Burke, A., Lackmann, G. and McGovern, A. (2023): Machine Learning Tutorials for Meteorologists. American Meteorological Society annual meeting, Denver, CO, oral presentation, 9 – 12 January 2023.

2022

Chase, R. J., Hoffman, K., Stechman, D., Homeyer, C., Potvin, C. and McGovern, A. (2022): Machine learning estimation of storm updrafts. ECMWF–ESA Workshop on Machine Learning for Earth Observation and Prediction. Reading, United Kingdom, poster presentation, 14 – 17 November 2022.

Chase, R. J., Hoffman, K., Stechman, D., Homeyer, C., Potvin, C. and McGovern, A. (2022): Machine learning estimation of storm updrafts. American Meteorological Society severe and local storms conference. Santa Fe, NM, oral presentation, 24 – 27 October 2022.

Chase, R. J., and McGovern A. (2022): Deep Learning Parameter Considerations When Using Radar and Satellite Measurements. American Meteorological Society annual meeting, virtual, oral presentation, 24 – 27 January 2022.

Lopez, D., Nesbitt, S., and **Chase, R. J.** (2022): Generating cloudSat reflectivity using passive microwave brightness temperatures and cGANS. American Meteorological Society annual meeting, virtual, oral presentation, 24 – 27 January 2022.

2021

Chase, R. J., McGovern, A. and Lagerquist, R. (2021): Next hour tornado prediction dual-polarization radar signatures gleaned from deep learning and explainable artificial intelligence. *3rd NOAA Workshop on Leveraging AI in Environmental Sciences*, Virtual, poster presentation, September 2021.

Chase, R. J., Spychalla, L. , Robinson J., McGovern, A., Williams, J. K., Allen, J. and Snook, N. (2021): Near real-time hail forecasts using machine learning and convective allowing models. *3rd NOAA Workshop on Leveraging AI in Environmental Sciences*, Virtual, oral presentation, September 2021.

2020

Chase, R. J., Nesbitt, S. W. and McFarquhar, G. M. 2020: Global retrieved snowfall properties using a neural network and GPM-DPR. American Geophysical Union Fall Meeting, Online, oral presentation, December 2020

Chase, R. J., Nesbitt, S. W., McFarquhar, G. M., Tridon, F. and Leinonen, J. S. 2020: Improving active remote sensing through the use of multiple frequencies, in-situ data and neural networks. American Meteorological Society annual meeting, Boston MA, oral presentation, 13 – 16 January 2020.

2019

Chase, R. J., Nesbitt, S. W., McFarquhar, G. M., Tridon, F. and Leinonen, J. S. 2019: Improving active remote sensing through the use of multiple frequencies, in-situ data and

neural networks. American Geophysical Union Fall Meeting, San Francisco CA, oral presentation, 9 – 13 December 2019

2018

Chase, R. J., Borque, P., Finlon, J., Nesbitt, S. W., McFarquhar, G. M. and Dolan, B. 2018: In-situ and radar investigation of snow aggregation in Northwest Midlatitude Cyclones. American Meteorological Society conference on cloud physics and atmospheric radiation, Vancouver, British Columbia, Canada, oral presentation, 8 – 13 July 2018.

2017

Leinonen, J., Lebsock, M. D., Tanelli, S., Sy, O. O., Dolan, B., **Chase, R. J.** and Finlon, J. 2017: Triple-frequency radar retrievals of snowfall properties from the OLYMPEX field campaign. American Geophysical Union Fall Meeting, New Orleans, LA, poster presentation, 11 – 15 December 2017.

Nesbitt, S. W., **Chase, R. J.,** Finlon, J., Borque, P. and McFarquhar, G. 2017: Evaluation of GPM algorithm assumptions using GPM-GV data. Precipitation Measurement Mission Science Team Meeting, San Diego, CA, oral presentation, 16 – 20 October 2017.

Chase, R. J., Nesbitt, S. W., McFarquhar, G. M., Borque, P., Finlon, J., Tanelli, S., and Poellot, M. 2017. Evaluation of triple-frequency retrieval of snowfall properties using coincident airborne in-situ and radar observations collected during OLYMPEX. American Meteorological Society Radar Conference, Chicago, IL, poster presentation, 28 August – 1 September 2017.

2016

Chase, R. J., McFarquhar, G. M., Nesbitt, S. W., Borque, P., Poellot, M. R., Heymsfield A. J., and Bansemer, A., 2016: Microphysical Measurements during OLYMPEX. Precipitation Measurement Mission Science Team Meeting, Houston, TX, poster presentation, 24-27 October 2016.

Chase, R. J., Fuentes, J. D., Gerken, T., Wei, D., Schumacher, C., Machado, L. A., Nascimento dos Santos, R., and Springston, S., 2016: Convection and redistribution of tropospheric ozone in central Amazonia. 8th Annual Symposium on Aerosol, Cloud and Climate Interactions at the 96th AMS annual meeting, New Orleans, LA, poster presentation, January 2016.

2015

Chase, R. J., Fuentes, J. D., and Gerken, T., 2015: Downward transport of ozone due to convection near Manaus, Brazil.14th Annual AMS Student Conference, Phoenix, AZ, poster presentation, January 2015.

TEACHING EXPERIENCE

2017

Graduate Teaching Assistant
ATMS 140: Climate and Global Change
University of Illinois

2014 – 2016

Mathematics Tutor
Academic Success Center Tutoring
SUNY Brockport

2015

Undergraduate Teaching Assistant
ESC 211 Introduction to Meteorology
SUNY Brockport

SERVICE TO PROFESSION

Volunteer positions

2021 – present

Associate Editor
Artificial Intelligence for the Earth Systems (AIES)
American Meteorology Society

2024

Co-Chair
24th Conference on Artificial Intelligence for Environmental Science
American Meteorology Society
January 12th – January 16th, New Orleans, Louisiana

Reviewer
31st Severe and Local Storms Conference
American Meteorology Society
October 21st – October 25th, Virginia Beach Virginia

2023

Topical subcommittee chair (artificial intelligence and machine learning)
40th Radar Conference
American Meteorology Society
August 28th – September 1st, Minneapolis Minnesota

2019 – 2021

Scientific and Technological Activities Commission (STAC) Member
Planned and Inadvertent Weather Modification
American Meteorology Society

Panels

2021

Proposal Review Panel Member
NASA's Research Opportunities in Space and Earth Science (ROSES)

Reviews

2018 – present

74 total verified reviews
Journals (**total reviews** *journal name (publisher)*)

19 *Artificial Intelligence for Earth Systems (AMS)*
12 *Journal of Applied Meteorology and Climatology (AMS)*
10 *Weather and Forecasting (AMS)*
6 *Geophysical Research Letters (AGU)*
5 *Journal of Atmospheric and Oceanic Technology (AMS)*
4 *Remote Sensing (MDPI)*
3 *Remote Sensing of the Environment (Elsevier)*
3 *Atmospheric Measuring Techniques (EGU)*
3 *Journal of Geophysical Research: Atmosphere (AGU)*
3 *Monthly Weather Review (AMS)*
2 *Atmosphere (MDPI)*
1 *Earth and Space Science (AGU)*
1 *Education for Chemical Engineers (Science Direct)*
1 *Quarterly Journal of the Royal Meteorological Society (RMetS)*
1 *Bulletin of the American Meteorological Society (AMS)*
1 *Water Resources Research (AGU)*

Media Coverage

2024

Bult, L. (2024, Feb). Can AI help us predict extreme weather? *Vox*.
https://youtu.be/hU4viZzTaRc?si=4pLwBvO4GO8tTOg2

EXTRA TRAINING

2021
Pod Member
Unlearning Racism in Geoscience (URGE)
University of Oklahoma

2015
Sports Leadership Certification
Student Life: Leadership Development
SUNY Brockport

COMPUTER EXPERIENCE/LANGUAGES

Python (including: xarray, dask, tensorflow, pytorch, sklearn, matplotlib)
Linux/Unix
High Performance Computing (i.e., SLURM/SBATCH)

AUXILLARY PROFRESSIONAL INTERNET RESOURCES

Google Scholar
https://scholar.google.com/citations?user=65CXtA4AAAAJ&hl=en

ORCID
https://orcid.org/0000-0002-2606-7612

Github
https://github.com/dopplerchase

Web Of Science
https://www.webofscience.com/wos/author/record/574217

Twitter
https://twitter.com/DopplerChase

Website
dopplerchase.github.io