

## EDUCATION

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- 2022 **Ph.D. in Geography**, University of Georgia, Athens, GA  
Dissertation: Local and Remote Drivers of Greenland Ice Sheet Surface Mass Loss Under Arctic Amplification  
Advisor: Dr. Thomas L. Mote
- 2018 **M.A. in Geography/Water Resources**, University of Wyoming, Laramie, WY  
Thesis: Precipitation Anomalies Within Wyoming Headwater Basins During Strong ENSO Events  
Advisor: Dr. Jacqueline J. Shinker  
Outstanding Teaching Assistant Award
- 2014 **B.S. in Atmospheric Sciences**, University of Utah, Salt Lake City, UT  
Undergraduate Research Scholar Designation

## PUBLICATIONS

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- Preece, J. R.**, Mote, T. L., Cohen, J., Wachowicz, L. J., Knox, J. A., Tedesco, M. (**In Review**). Summer Atmospheric Circulation Over Greenland in Response to Arctic Amplification and Diminished Spring Snow Cover. *Nature Communications*
- Preece, J. R.**, Wachowicz, L. J., Mote, T. L., Tedesco, M., & Fettweis, X. (2022). Summer Greenland Blocking Diversity and Its Impact on the Surface Mass Balance of the Greenland Ice Sheet. *Journal of Geophysical Research: Atmospheres*, 127(4), e2021JD035489. <https://doi.org/10.1029/2021JD035489>
- Henderson G. R., Barrett B. S., Wachowicz L. J., Mattingly K. S., **Preece J. R.**, & Mote T. L. (2021) Local and Remote Atmospheric Circulation Drivers of Arctic Change: A Review. *Front. Earth Sci.* 9:709896. doi: 10.3389/feart.2021.709896
- Wachowicz, L. J., **Preece, J. R.**, Mote, T. L., Barrett, B. S., & Henderson, G. R. (2021). Historical trends of seasonal Greenland blocking under different blocking metrics. *International Journal of Climatology*; 41(S1), E3263–E3278. <https://doi.org/10.1002/joc.6923>
- Preece, J. R.**, Shinker, J. J., Riebe, C. S., & Minckley, T. A. (2020). Elevation-dependent precipitation response to El Niño-Southern oscillation revealed in headwater basins of the US central Rocky Mountains. *International Journal of Climatology*; 1-12. <https://doi.org/10.1002/joc.6790>
- Carter, V. A., Shinker, J. J., & **Preece, J.** (2018). Drought and vegetation change in the central Rocky Mountains and western Great Plains: potential climatic mechanisms associated with megadrought conditions at 4200 cal yr BP. *Climate of the Past*, 14(8), 1195-1212.
- Preece, J.** (2014). Urban carbon dioxide within the Salt Lake Valley: Investigating correlations and trends in atmospheric carbon dioxide concentrations. *The University of Utah Undergraduate Research Abstracts*, 14: 68.

## PRESENTATIONS

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- Preece, J.R.**, \*Mote T.L., Wachowicz L. J. Examining Atmospheric Dynamical Forcing of Greenland Ice Sheet Surface Mass Loss Within the Context of Arctic Amplification. EGU 2023, Vienna, Austria.

\*Presenting

**Preece, J. R.**, Mote T.L., Cohen J., Wachowicz L. J., Knox J. A., Tedesco M. Summer Greenland Ice Sheet Surface Conditions Linked to Spring North American Snow Cover Extent via a Stationary Rossby Wave Response. Cryosphere 2022, Reykjavik, Iceland.

**Preece, J. R.**, Wachowicz, L. J., Mote T. L., Knox J. A. Arctic Amplification and Summer Atmospheric Circulation Over the North Atlantic: Implications for Greenland blocking. AMS Annual Meeting 2022, Houston, TX.

**Preece, J. R.**, Wachowicz, L. J., Mote T. L., Tedesco M. Contrasting the Greenland Ice Sheet Surface Energy Balance Response Between Predominate Greenland Blocking Patterns. AGU 2021 Fall Meeting, New Orleans, LA.

**Preece, J. R.**, Wachowicz, L. J., Mote T. L., Tedesco M. Distinguishing Summer Greenland Blocking Types and their Impact on Greenland Ice Sheet Melt: Long-term trends and association with the North Atlantic Oscillation. Waves to Weather Atmospheric Blocking Virtual Workshop 2021.

**Preece, J. R.**, Wachowicz, L. J., Mote T. L. Examining the Relationship Between Greenland Blocking and Regional Sea Ice Variability Using Two Independent Blocking Metrics. AMS Annual Meeting 2021, Virtual Meeting.

Mote, T., Wachowicz, L., **Preece, J.** Sources of anomalous air masses associated with melting of the Greenland Ice Sheet. AAG Annual Meeting 2020, Denver, CO.

Wachowicz, L., **Preece, J.**, Mote, T., Henderson, G., Barrett, B. Understanding Arctic block representation in climate models under a unique framework. AGU 2019 Fall Meeting, San Francisco, CA.

**Preece, J. R.**, Shinker J. J., Riebe, C. S. A Comparison of Seasonal Precipitation Response to Strong ENSO Events Between Drainage Basins in Wyoming. AAG Annual Meeting 2018, New Orleans, LA.

**Preece, J. R.**, Shinker J. J., Riebe, C. S. Examining the relationship between ENSO and seasonal precipitation across drainage basins within the state of Wyoming. Great Plains/Rocky Mountains Regional AAG Meeting 2017, Grand Forks, ND.

**Preece, J.** Urban carbon dioxide within the Salt Lake Valley: Investigating correlations and trends in atmospheric carbon dioxide concentrations. Poster session presented at the University of Utah's Undergraduate Research Symposium 2014, Salt Lake City, UT.

## ACADEMIC AND COMMUNITY SERVICE

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- Present     **Reviewer**, International Journal of Climatology, Science Advances
- 2022        **Co-chair**, *Causes and Consequences of Polar Amplification*. 35<sup>th</sup> Conference on Climate Variability and Change. American Meteorological Society 102<sup>nd</sup> Annual Meeting.
- 2017        **Research Mentor**, NSF EPSCoR Summer Research Apprenticeship Program for high school students. Research project: Larissa Ford. (2017). "Bark Beetles: Preferences and Contributing Factors in the Rocky Mountain Outbreak."
- 2017        **Research Mentor**, NSF EPSCoR Summer Research Apprenticeship Program for high school students. Research project: Lucas Regnell. (2017). "Density, Diversity and Bark Beetle Outbreaks."
- 2016        **Literacy Tutor**, Project Read, Provo, Utah

## PROFESSIONAL EXPERIENCE

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Present     **Research Assistant** || University of Georgia: Athens, Georgia  
2019       **Lab Coordinator** || University of Georgia: Athens, Georgia  
2019       **Lab Instructor** || University of Georgia: Athens, Georgia  
2018       **Temporary Lecturer** || University of Wyoming: Laramie, Wyoming  
2018       **Lab Instructor** || University of Wyoming: Laramie, Wyoming  
2016       **CAD Technician** || Vivint Solar: Lehi, Utah  
2015       **GIS Technician** || Vivint Wireless: Provo, Utah  
2014       **Forestry Technician** || U.S. Forest Service: Pleasant Grove, Utah

## AWARDS & FUNDING

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2022	IGS - IACS Graham Cogley Award	\$200
2018	Great Plains/Rocky Mountain World Geography Bowl Team Travel Funding	\$600
2018	Klaenhammer Endowment Travel Fund, National AAG Meeting	\$500
2018	Wyoming NASA Space Grant Travel Fund	\$250
2018	Paul Stock Foundation Arts and Sciences Scholarship	\$500
2017	University of Wyoming Graduate Student Travel Fund, National AAG Meeting	\$350
2017	Klaenhammer Endowment Travel Fund, GPRM Regional AAG Meeting	\$500
2017	NSF EPSCoR Summer Research Apprenticeship Program for high school students	\$3,000
2017	Klaenhammer Endowment Fund for Student Research	\$2,500

## SKILLS

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**SOFTWARE:** R, Python, MATLAB, ArcGIS, QGIS, AutoCAD, Erdas Imagine