

# Liam Thompson

2026-2031 NSF GRFP Fellow ♦ 2025 Goldwater Scholar ♦ 2024 NOAA Hollings Scholar  
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Norman, Oklahoma 73072

## PROFILE

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Research Interests:

- *Atmospheric chemistry and aerosol composition* in urban areas
- *Economic impacts* from meteorological and climatological factors (e.g. impacts to the aviation industry and agriculture)
- *Coupled atmospheric ocean feedbacks* such as the El Nino Southern Oscillation (ENSO)
- *High-resolution, convection permitting* modeling for operational pollution and weather forecasting
- Understanding the *impacts of climate change* on societies
- *Developing techniques to enhance the educational quality and teaching methods* of students in science, technology, engineering, and mathematics (STEM) fields.

Google Scholar: <https://scholar.google.com/citations?user=wCdxrF4AAAAJ&hl=en&oi=ao>

GitHub: <https://github.com/L12D2>

LinkedIn: [www.linkedin.com/in/liamthom](http://www.linkedin.com/in/liamthom)

## EDUCATION

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*University of Utah, Salt Lake City, Utah*

August 2026—Present

GPA: N/A

**Master of Science** | Atmospheric Science

*University of Oklahoma, Norman, Oklahoma*

August 2022—May 2026

GPA: 3.96 / 4.0

**Bachelor of Science** | Meteorology

**Bachelor of Science** | Environmental Sustainability

**Undergraduate Certificate** | Sustainable Energy Systems

*University of Alaska Fairbanks, Fairbanks, Alaska*

May 2020—May 2022

GPA: 4.0 / 4.0

**Associates of Arts** | General Studies

*Graduated Summa Cum Laude*

## EDUCATION ABROAD

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*Ming Chuan University, Taipei, Taiwan*

December 2024—January 2025

GPA: 4.0 / 4.0

*University of Oklahoma Arezzo, Arezzo, Italy*

June 2023

GPA: 4.0 / 4.0

## EXPERIENCE

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**NSF National Center for Atmospheric Research (NCAR) Computational and Information Systems Laboratory (CISL)**

May 2026—August 2026

*Summer Internships in Parallel Computational Science (SIParCS) Intern*

- Integrating UXarray into MELODIES-MONET a python-based atmospheric chemistry model evaluation toolkit

**Skydweller Aero**

April 2026—May 2026

*Ultra-Endurance, Perpetual Flight Meteorologist*

- Created short-term (day 1 and day 2) up to long-term (day 12 and greater) regional and global forecasts to support solar powered aircraft operations
- Forecasts supported the identification of daily solar charging flight routes, identified areas of highest turbulence, and supported decision-making for best takeoff and landing times
- Trained pilots on the meteorological impacts and risks from icing, thunderstorms, jet streams, and more to their aircraft operations
- Taught key meteorological concepts applicable to safe aviation operations

**Mercuria**

February 2026—May 2026

*Renewable Energy Meteorologist Intern*

- Created short-term (day 1 and day 2) to medium-range (day 4 and greater) solar, wind speed, and temperature forecasts across the Electric Reliability Council of Texas (ERCOT)
- Forecasts helped Mercuria maintain stability and fairness of daily electricity prices for ERCOT customers
- Operational forecasting experience provided insight into the optimal placement of future solar and wind farms across Texas and the Southern Great Plains

**National Oceanic and Atmospheric Administration (NOAA)**

May 2025—August 2025

**Chemical Sciences Laboratory (CSL) Code Developer Intern**

- Led the development and integration of a Python-based, meteorological evaluation toolkit (MEET) within MELODIES-MONET
- Evaluated and contributed to the development of the Unified Forecast System with Chemistry (UFS-Chem)

- Performed additional analyses of the meteorological capabilities of the Weather Research and Forecasting with Chemistry (WRF-Chem) model
- Code and manuscript co-author on version 1 of the MELODIES-MONET toolkit
- Collaborated on code development and model analysis with several groups of multi-disciplinary researchers in Argentina, the Atmospheric Chemistry and Observations and Modeling (ACOM) group at the National Center for Atmospheric Research (NCAR), the Cooperative Institute for Research in Environmental Sciences (CIRES), Air Resources Laboratory (ARL), and more

**Environmental Protection Agency (EPA)**

June 2024—August 2024

***Radiation Protection Division Research Intern***

- Collaborated with the EPA Radiation Protection Division in Washington D.C. to research and improve the agency’s understanding of the impact of precipitation events on local radiation levels, using RadNet, a nationwide, near-real-time, radiation monitoring system
- Developed Python functions, scripts, and a web scraper to analyze EPA’s RadNet data against NOAA NCEI meteorological data
- Developed tools to quantitatively and qualitatively communicate the impacts of precipitation on background radiation levels to ensure public audiences can determine the differences between normal and non-normal radiation. Communications can be used in regular public communication and engagement, and during times of an emergency
- Supported communication with Tribal Nations at a Regional Tribal Operations Committee (RTOC) meeting within EPA’s Region 6 to raise awareness about the agency’s Radiation Protection Division’s ability to support Tribal Nations in radiation protection and during radiological emergencies
- Supported the Indoor Environments Tribal Air Quality Tribal Program through engagement with internal agency meetings

**Sustainable Urban Futures Lab (SURF)**

January 2024—May 2026

***Research Assistant***

- Lead author on urban energy emissions literature review
- Conducted an across-scales urban scaling law analysis of building level energy demand
- Identified climatological deviations from the urban scaling law to understand why some cities and regions deviate from linearity
- Assessed the performance of the 40-year, 4-km CONUS404 dataset in urban environments, one of the highest resolution continental-scale, convection permitting numerical weather prediction simulations
- Utilized hourly, in-situ observations, derived from a gap-filled urban weather database, to evaluate CONUS404’s ability to reproduce station-level observed temperature, dewpoint, and wind speed on different spatial and temporal scales across the CONUS
- Model evaluation is supporting the NCAR CONUS404 model research and development team’s understanding of the simulation’s performance against station-level hourly, in-situ observations—one of the first model evaluations of its type
- Developed and successfully awarded a research proposal that will investigate the influence of severe convective weather on ozone pollution in Oklahoma City, Oklahoma

- Presenting author at several regional, national, and international scientific conferences

## **South Central Climate Adaptation Science Center (SC CASC)**

May 2023—May 2026

### ***Research Assistant***

- Analyzed gridded observation products, including Daymet, PRISM, nClimGrid, Livneh, and GridMet from 1980 to 2014
- Compiled analysis to understand the role different training datasets have on the projections of regional and global climate models
- Inform modelers and collaborators of the role such biases can have in the downscaling of global climate models, especially in regions of complex topography
- Utilized the analysis to support and inform consortium decision makers and stakeholders using the South Central Climate Projections Evaluation Project's (C-PrEP) statistically downscaled climate projections
- Collaborated with the Communicating Uncertainty CoP to support the SC CASC in distilling climate information to stakeholders and agencies across four states—New Mexico, Texas, Oklahoma, and Louisiana—to support on-the-ground decision making
- Lead author on a comprehensive literature review that brings in an accumulated understanding of past and current research and identified research gaps in communicating the uncertainty in the global climate models
- Evaluated and analyzed qualitative stakeholder responses from the SC CASC Understanding Uncertainty Partners Survey to understand how their respective agencies interpret uncertainty in global climate models, how agency-level perspectives differ from a scientific level, and subsequently how to improve the communication of uncertainty in the climate models
- Lead Author on four peer-reviewed case studies that highlight collaborative conservation, decision making, and policy implementation efforts across the SC CASC consortium
- Conducted and coordinated interviews with Federal land managers affiliated with the U.S. Forest Service, U.S. Army Corps of Engineers, academic researchers affiliated with North Carolina State University, Oklahoma State University, University of Georgia, and University of Arizona to synthesize field results from Federal and Tribal projects
- Collaborated with U.S. Fish and Wildlife Service, U.S. Geological Survey, and U.S. Bureau of Reclamation to lead the development of case studies that are aligned with agency and consortium priorities that are applicable to a broad audience of general users, natural resource managers, academic researchers, and Tribal Nations across the SC CASC and Southwest Fire and Climate Adaptation Partnership consortiums

## **National Weather Center**

November 2022—August 2023

### ***Tour Guide***

- Worked with the School of Meteorology to recruit prospective College of Atmospheric and Geographic Sciences (A&GS) students via tours of the National Weather Center
- Participated in student outreach and engagement events that increased the awareness of career prospects within meteorology including those found in the Federal government such as the National Weather Service and Storm Prediction Center and in the private sector at companies such as Amazon

- Provided tours to professional organizations who hosted seminars at the National Weather Center
- Provided personal and group tours to the public that **highlighted** the behind-the-scenes work of generating a daily forecast, an 8-day convective outlook, and the criteria that trigger local National Weather Service weather forecast offices to issue weather warnings and watches

**Cooperative Institute of Severe and High Impact Weather Research and Operations (CIWRO)**

September 2022—May 2023

*Data Analyst*

- Responsible for analyzing daily operations of Atmospheric Radiation Measurement (ARM) instruments across the Southern Great Plains, the East Coast, California, and Alaska
- Created and sent data quality problem reports (DQPR) to appropriate ARM managers to alert of malfunctioning equipment to maintain the integrity of the radiation measurements collected at the various sites for future research projects
- Sent weekly data quality reports (DQR) to create a database of completed quality checks
- Participated in the Eastern Pacific Cloud Aerosol Precipitation Experiment (EPCAPE) data collection campaign:
- Submitted additional tri-weekly DQRs during intensive observational periods (IOP) to ensure any faulty equipment is addressed in a timely manner to support the integrity of future research projects that utilize ARM data.
- Participated in the 2021—2022 Tracking Aerosol Convection Interactions Experiment (TRACER) data collection campaign

**North Star Tutors**

November 2020—May 2024

*Mathematics Tutor*

- Mathematics tutor for grades 3 through college and continuing education across the Fairbanks North Star Borough to ensure success in mathematic related courses including:
  - AP Calc AB
  - College and high school Precalculus
  - College and high school Trigonometry
  - Algebra 2
  - Algebra 1
  - Geometry
  - Mathematics grades 3—8
  - Chemistry
- Provided a primary educational supplement that was available outside of the classroom during the COVID-19 Pandemic and ensured all my students were at grade level performance, or above, and were prepared for the next mathematics course in their academic journeys
- Instilled confidence into my students regardless of their personal and academic backgrounds during a time when many students were facing a period of extreme uncertainty relating to the pandemic

## PUBLICATIONS

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(Italic: Lead Author)

1. **Thompson, L.**, A. M. Wootten, I. L. Corporal-Lodangco, J. Nielsen-Gammon, and J. Trepanier, (2025): A Review: Communicating Uncertainty within the Global Climate Projections. *Weather Clim. Soc.*, <https://doi.org/10.1175/WCAS-D-25-0039.1>.
2. Moon, Z., Lichtig, P., Fillmore, D., Schwantes, B., Harkins, C., Tang, B., Bruckner, M., Rasool, Q. Z., Buchholz, R., He, J., Baker, B., Jo, D., Schnell, J., Kozi, B., Arnold, M., Emmons, L., **Thompson, L.**, & Contributors. (2025). NCAR/MELODIES-MONET: v1.0 [Software] <https://doi.org/10.5281/zenodo.15776659>
3. **Thompson, L.**, Wang, C., He, C., Lin, T. S., Liu, C., & Dudhia, J. (2025). Assessment of convection-permitting hydroclimate modeling in urban areas across the contiguous United States. *Urban Climate*, 61, 102375. <https://doi.org/10.1016/j.uclim.2025.102375>
4. **Thompson, L. C.**, Moeser, C. D. (2024). "The Effects of Wildfire on Snow Water Resources Under Multiple Climate Conditions." CART. Retrieved from <https://www.fws.gov/project/effects-wildfire-snow-water-resources-under-multiple-climate-conditions>.
5. **Thompson, L., C.** (2024). "Using Regional Soil Moisture to Map Wildfire Probability in the Rio Grande and Red River Watersheds." CART. <https://www.fws.gov/project/using-regional-soil-moisture-map-wildfire-probability>
6. **Thompson, L., C.**, Léger, A., and Jewell, K. (2024). "Wood for Life, a Collaborative Partnership to Provide Wood to the Navajo Nation and Hopi Tribe." CART. Retrieved from <https://arcg.is/0bX4PD>.
7. **Thompson, L., C.** (2023). "Rivercane Recovery to Support Tribal Cultural Practices." CART. Retrieved from <https://arcg.is/10Omvi>.

## CONFERENCES AND PRESENTATIONS

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(Italic: Presenting Author, \*: Co-author, ⊗: Presentation Award)

1. **Thompson, L.**, Wang, C. (2026, April). *Climate as a Driver of Long-Term Urban Energy Scaling: Evidence from 277 U.S. Cities*. Poster presentation at the 2026 Department of Geography and Environmental Sustainability's senior capstone highlight. Norman, Oklahoma.
2. **Thompson, L.**, Schwantes, R., Bruckner, M., Lichtig, P., Hsu, C., & McDonald, B. (2026, January). *Developing an Open Source Meteorological Evaluation Toolkit within MELODIES-MONET*. Oral presentation at the 2026 American Meteorological Society Annual Meeting. Houston, Texas.
3. **Thompson, L.**, Schwantes, R., Bruckner, M., Lichtig, P., Hsu, C., & McDonald, B. (2026, January). *The Open Source Meteorological Evaluation Toolkit within MELODIES-MONET*. Poster presentation at the 2026 American Meteorological Society Annual Meeting. Houston, Texas.
4. Bruckner, M., Lyu, C., He, J., Schwantes, R. H., \***Thompson, L.**, Zhang, L., Baker, B., Horowitz, L., Naik, V., Moon, Z., Grell, G., Ahmadov, R., Schnell, J., Wang, S., Negron, A. G., Peischl, J., Rollins, A., Robinson, M. A., & McDonald, B. (2026, January). *Influence of Smoke Emission Coefficients on Global Air Quality Simulations: An Application of UFS-Chem*. Oral presentation at the 2026 American Meteorological Society Annual Meeting. Houston, Texas.
5. Preston, B., Douglas, J., **Thompson, L.**, & Stroberg, E. (2026, January). *Analyzing moisture variables for added accuracy in hail forecasting*. Poster presentation at the 2026 American Meteorological Society Annual Student Conference. Houston, Texas.

6. \***Thompson, L.**, Delconte, C., Delconte, Krautbauer, M. K., Scarberry K., Berry C. G., Zondlo, A., Phipps, W., Douglas, J. C., & Moreno, J. (2026, January). *Speaking the Digital Language: Weather Education for a Modern Audience*. Poster presentation at the 2026 American Meteorological Society Annual Student Conference. Houston, Texas.
7. **Thompson, L.**, Schwantes, R., Bruckner, M., Lichtig, P., Hsu, C., & McDonald, B. (2025, December). *Developing an Open Source Meteorological Evaluation Toolkit within MELODIES-MONET*. Poster presentation at the 2025 American Geophysical Union Annual Meeting. New Orleans, Louisiana.
8. **Thompson, L.**, Schwantes, R., Bruckner, M., Lichtig, P., Hsu, C., & McDonald, B. (2025, December). *Meteorological Assessment of the Unified Forecast System with Chemistry (UFS-Chem) using an Open-Source Model Evaluation Toolkit*. Poster presentation at the 2025 American Geophysical Union Annual Meeting. New Orleans, Louisiana.
9. **Thompson, L.**, Schwantes, R., Bruckner, M., Lichtig, P., Hsu, C., & McDonald, B. (2025, October). *An Open-Source Model Evaluation of the Unified Forecast System with Chemistry*. Oral Presentation at the 2025 Gulf Coast Undergraduate Research Symposium (GCURS). Houston, Texas.
10. Bruckner, M., He, J., Lyu, C., Schwantes, R. H., \***Thompson, L.**, Zhang, L., Baker, B., Horowitz, L., Naik, V., Moon, Z., Grell, G., Ahmadov, R., Schnell, J., Wang, S., Gorchoy Negron, A., McDonald, B., & AEROMMA Science Team (2025, September). *Assessing biomass burning emissions in UFS-Chem version 1 during the 2023 AGES+ field campaign*. Poster presentation at the 2025 Unifying Innovations in Forecasting Capabilities Workshop (UIFCW25). Boulder, Colorado.
11. **Thompson, L.**, Schwantes, R., Bruckner, M., Lichtig, P., Hsu, C., McDonald, B., & MELODIES-MONET Development Team (2025, August). *Across-Scales Meteorological Evaluation of the Unified Forecast System with Chemistry (UFS-Chem) using MELODIES-MONET*. Poster presentation at the 2025 Ernest F. Hollings Undergraduate Scholarship Symposium. Silver Spring, Maryland.
12. ⊗**Thompson, L.**, Wang, C. (2025, April). *Evaluating a Convection Permitting Simulation in Urban Areas across the Continental U.S.* Poster presentation at the 2025 Undergraduate Research Day. Norman, Oklahoma.
13. ⊗**Thompson, L.**, Wang, C. (2025, April). *Understanding the Influence of Convective Weather on Ozone Pollution in Oklahoma City, OK*. Poster presentation at the 2025 Undergraduate Research Day. Norman, Oklahoma.
14. **Thompson, L.**, Wang, E., Montecalvo, D., Snead, K. (2025, January). *Precipitation to Radiation: Understanding and Analyzing the Impact of Precipitation on Background Radiation Across the United States*. Poster Presentation at the 2025 American Meteorological Society Annual Student Conference. New Orleans, Louisiana.
15. ⊗**Thompson, L.**, Wang, C. (2025, January). *Assessing the Performance of a Convection-Permitting Regional Hydroclimate Simulation in Urban Areas across the Continental United States*. Poster presentation at the 2025 American Meteorological Society Annual Meeting. New Orleans, Louisiana.
16. **Thompson, L.** (2025, December). *University in America: The University of Oklahoma*. Oral presentation to Taiwanese highschoolers. Taipei, Taiwan.
17. **Thompson, L.**, Wang, C. (2024, December). *Hydrometeorological evaluation of a continental-scale convection-permitting simulation across urban environments*. Oral presentation at the 2024 American Geophysical Union Annual Meeting. Washington DC.
18. ⊗**Thompson, L.**, Wang, C. (2024, October). *A Long-Term Regional Assessment of the CONUS404 Bulk Parameterization in Urban Areas*. Poster presentation at the University of Oklahoma's 2024 GIS Day. Norman, Oklahoma.

19. **Thompson, L., Wang, C. (2024, August).** *Evaluating the Hydrometeorological Performance of CONUS404 in Urban Environments.* Model evaluation findings presentation to the CONUS404 research and development team. Presented from Norman, Oklahoma to audiences in Boulder, Colorado.
20. **Thompson, L. (2024, August).** *From Rainfall to Radiation.* Final Research Presentation to EPA's Radiation Protection Division. Presented from Norman, Oklahoma to audiences in Washington D.C.
21. Montecalvo, D., Wang, E., \***Thompson, L. (2024, July).** *EPA's Radiological Emergency Response Capabilities.* Presentation at the Regional Tribal Operations Committee (RTOC) Meeting. Albuquerque, New Mexico
22. **Thompson, L. (2024, June).** *Introduction to Research: A Guide to Learning from and Embracing your Mistakes.* Oral Presentation at the 2024 National Weather Center (NWC) Research Experience for Undergraduate Students (REU) Program. Norman, Oklahoma.
23. **Thompson, L. (2024, January).** *Understanding the Consumer Awareness of Increasing Coffee Prices in Correspondence with Extreme El Nino Southern Oscillation Events.* Poster Presentation at the 2024 American Meteorological Society (AMS) Annual Student Conference. Baltimore, Maryland.
24. *Carter, J., Kraker, H., \*Thompson, L. (2023, November).* *The Conservation and Adaptation Resources Toolbox (CART).* Lead Author and Poster Presentation at the South-Central Climate Adaptation Science Center Fall Science Meeting. Lubbock, Texas.

## POSTER AWARDS

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1st Place in the Undergraduate Engineering and Physics Poster Presentation Competition, Undergraduate Research Day	2025
3rd Place in the Student Poster Competition, 33rd Conference on Weather Analysis and Forecasting (WAF) / 29th Conference on Numerical Weather Prediction (NWP)	2025
1st Place in the Undergraduate Student Poster Competition, GIS Day	2024

## RESEARCH GRANTS & AWARDED PROPOSALS

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<b>NSF Graduate Research Fellowship Program Fellow</b>	2026-2031
<ul style="list-style-type: none"> <li>• Graduate research support</li> <li>• \$159,000</li> </ul>	
<b>University of Oklahoma Open Access Research Publication Fund</b>	2025
<ul style="list-style-type: none"> <li>• Open access publication support</li> <li>• \$800</li> </ul>	
<b>Honors Research Assistant Program Fellowship</b>	2025
<ul style="list-style-type: none"> <li>• Awarded salary to support urban scaling law research</li> <li>• \$1,000</li> </ul>	
<b>Spring First Generation Undergraduate Research and Creative Activity Fellowship</b>	2025
<ul style="list-style-type: none"> <li>• Awarded research grant to research the influence of convective weather on ozone pollution in Oklahoma City, Oklahoma</li> <li>• \$1,000</li> </ul>	
<b>Honors College Study Abroad</b>	2024
<ul style="list-style-type: none"> <li>• Award to help offset the travel costs of studying abroad</li> <li>• \$1,000</li> </ul>	

- Honors College Travel Assistance** 2024
- Award to support travel expenses to research conferences
  - \$1,110
- Undergraduate Research Opportunities Program Grant** 2024
- Research grant to support my model evaluation of CONUS404
  - \$425
- School of Meteorology Grant** 2024
- Travel support for conference attendance
  - \$750

## COMMITTEES

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- Department of Geography and Environmental Sustainability Chair Search Committee** March 2026  
**Undergraduate Representative**
- Sole undergraduate member of the Department of Geography and Environmental Sustainability’s department chair search committee
  - Interviewed several chair candidates to gauge their vision and leadership capabilities of the department
  - Represented undergraduate needs from a future department chair

- American Meteorological Society (AMS)** March 2025—Present  
**Board on Environmental Information Processing Technologies (EIPT)**
- Student Chair on the AMS EIPT Committee
  - Help coordinate and plan the annual EIPT conference with scientists across the Federal government (e.g. NOAA) and the National Center for Atmospheric Research (NCAR)
  - Communicate student needs to EIPT Chairs to help ensure conference offerings can be applicable for early-career and emerging professionals
  - Increase engagement among early-career and emerging professionals during the annual EIPT conference
  - Attend monthly committee calls

- American Meteorological Society (AMS)** August 2024—January 2025  
**Student Conference Session Chair**
- Chaired the Integrated Warning Team (IWT) Workshop, which hosted approximately 100 participants from several universities across the U.S.
  - Coordinated session development with one additional chair at The Pennsylvania State University
  - Collaborated with 12 emergency responders affiliated with the Cooperative Institute of Severe and High Impact Weather Research and Operations (CIWRO), National Weather Service / NOAA, and FEMA / Department of Homeland Security to develop a natural disaster case study
  - Developed and coordinated the IWT session to expose participants to the complex decision-making process emergency managers face when responding to a natural disaster

- Encouraged analyzing the natural disaster case study from different perspectives, including those of the National Weather Service forecast offices, state environmental protection agencies, private businesses, Federal-, state-, and county-level emergency managers and authorities, and the public themselves

**University of Oklahoma Office of Academic Integrity Programs (OAIP)  
Appeals Panel**

August 2024—May 2026

- Selected to sit on the Integrity Council Appeals Panel
- Ensure timely reviews of student appeals to their academic conduct cases

**University of Oklahoma School of Meteorology (SoM)  
Faculty Interview Panel**

April 2024—May 2025

- Served on several new-hire faculty interviews, luncheons, and seminars
- Interviewed candidates for the SoM Director, a combined social science and communications faculty position, an aviation meteorology faculty position, and an undergraduate teaching lecturer position
- Provided feedback to the associated hiring committees from the perspective of an undergraduate
- Ensured undergraduate involvement and voices in the SoM hiring process

**American Meteorological Society (AMS)  
Student Conference Planning Committee (SCPC)**

January 2024—Present

- Help coordinate and plan the annual AMS Student Conference, which includes accounting for the logistics related to the poster sessions and networking reception
- Serving on a subcommittee that reviews student abstracts submitted to the AMS Student Conference

**Cooperative Institute of Severe and High Impact Weather Research  
and Operations (CIWRO)  
Fire Weather Forecasting Workshop Planning Committee**

January 2023—February 2024

- Involved in choosing four fire weather themes—fire forecasting, sub-seasonal to seasonal (S2S) understanding of fire weather, operational tools, needs, and communication of emergency management, and wildfire impacts to land, ecology, and land management—to be emphasized during the 13 to 15 February 2024 Fire Weather and Forecasting Workshop
- Coordinated a mutual date to hold the workshop to ensure maximum attendance from Federal and academic agencies and partners
- Collaborated with CIWRO, University of Oklahoma (OU) School of Meteorology (SoM), the Oklahoma Mesonet, the Storm Prediction Center (SPC), the National Severe Storms Laboratory (NSSL), and National Weather Service (NWS) Weather Forecast Office (WFO) Norman to identify the needs, resources, and uncertainties of researchers and forecasters engaged in fire weather research and decision making

## LEADERSHIP

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### Oklahoma Weather Lab (OWL) Director of Development

May 2025—May 2026

- Selected to serve as the OWL Director of Development
- Responsible for facilitating, approving, and overseeing new web features to the OWL website

### University of Oklahoma Office of Academic Integrity Programs (OAIP) Vice Chair of Reviews (VCR)

May 2025—May 2026

- Responsible for organizing and facilitating appeal meetings
- Wrote appeals panel decision summaries
- Manage sensitive student information to ensure compliance with student FERPA rights

### AMS Board of Student Affairs (BOSA) Student Outreach and Engagement Committee (SOEC)

September 2023—Present

- Co-chair January 2026—Present
  - Lead and support 20 committee members across the U.S.
  - Develop and implement a variety of online initiatives to support the AMS BoSA SOEC in finding interactive ways to engage with students through social media presence
  - Engage in outreach to field professionals, including forecasters, professors, agency directors, researchers, private industry, and more to develop content that provides students with a broad understanding of potential career paths and internship opportunities
  - Create graphics for student-led initiatives, including highlighting AMS Student Conference session chairs
  - Collaborate with additional AMS committees, including the Student Conference Planning Committee, Local Chapter Affairs Committee, and more to communicate initiatives and messaging, such as webinars, to AMS local student chapters and online audiences
  - Organize and lead monthly committee calls
  - *Previously held positions on AMS BOSA SOEC:*
    - Co-Chair in Training January 2024—January 2026

### Student Chapter of the American Meteorological Society and National Weather Association (SCAN)

June 2023—June 2026

- Chapter President 2025—2026
  - Facilitated the collaboration of 13 board members
  - Led fundraising efforts to bring SCAN's total cash on hand to over \$8,000
  - Collaborated with additional philanthropic advisors to plan the financial future of our chapter under increased student class growth
  - Acquired financial support from the College of Atmospheric and Geographic Sciences and School of Meteorology for building-wide events coordinated through SCAN

- Served as a mentor and supported the development of the future chapter leaders
  - Ensured SCAN presence at several outreach events across the University of Oklahoma and across the College of Atmospheric and Geographic Sciences
  - Served as the primary point of contact for college faculty, staff, and community leaders
  - Built and fostered the relationship between our local chapter and the national American Meteorological Society and National Weather Association
  - Facilitated the scheduling of monthly chapter meetings and inviting guest speakers
  - Ensured chapter compliance with constitutional mandates
- Vice President of External Affairs 2024—2025
    - Lead director of chapter and community relations and initiatives
    - Engaged in outreach to incoming student classes to increase chapter involvement
    - Served as the National Weather Association liaison
    - Served as the 2025 Big Event coordinator for our local chapter and two additional student organizations within the School of Meteorology
    - Organized community food bank and Christmas toy drives to help build a positive community impact and presence
    - Organized community fundraisers
  - Publicist 2023—2024
    - Lead manager of all SCAN social media accounts
    - Promote SCAN activities, events, and fundraisers via social media
    - Highlight member and chapter achievements
    - Elected in Spring 2023 by active SCAN members

**School of Meteorology Student Affairs Committee (SAC)**

May 2023—May 2026

- Undergraduate Vice Chairperson 2025—2026
  - Elected in Spring 2023 by University of Oklahoma School of Meteorology colleagues
  - Moderate the bi-annual undergraduate town hall
  - Undergraduate representative on the School of Meteorology Undergraduate Studies Committee
  - Provided a bridge of communication between students and faculty within the School of Meteorology
  - Provided an avenue of communication to university administration for students needing help filing diversity, equity, and inclusion grievances, defusing collegued-colleague academic classroom conflicts, Title IX reporting resources and procedures, and more
  - Directed students to resources available at the University of Oklahoma, including tutoring and mental health facilities
  - Provided faculty course feedback based upon student input at bi-yearly townhalls
  - Collaborated with University of Oklahoma student organizations, including Oklahoma Weather Lab and Student Chapter of the American Meteorological Society and National Weather Association to organize an annual natural disaster relief fundraiser to help support rebuilding costs of victims impacted by natural disasters

- Organized and coordinated an annual multicultural festival with the College of Atmospheric and Geographic Sciences
- *Previously held positions on SAC:*
  - Junior Representative 2024—2025
  - Sophomore Representative 2023—2024

## INVOLVEMENT

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### **American Geophysical Union (AGU) Voices for Science Fellow**

September 2025—September 2026

- Science policy advocate
- Represented Oklahoma scientific needs and concerns on Capitol Hill to the senators from Oklahoma and Oregon
- Helped draft presentation materials to the State of Oklahoma’s congressional delegation to advocate for full funding support of the National Center for Atmospheric Research (NCAR)
- Advocated for senate sponsorship of the Weather Act
- Earned a certificate titled: *Bridging the Gap Between Science and Policy: Strategies for Effective Engagement*

### **University of Oklahoma Graduate Teaching Assistant (GTA) Training**

April 2025

- Helped developed an updated set of GTA orientation training videos
- Ensured representation of undergraduate needs, concerns, and desires from GTAs who serve in grading and teaching capacities
- Videos are viewed by every GTA that becomes admitted to graduate programs at the University of Oklahoma

### **Geography and Environmental Sustainability (GES) Club**

November 2024—May 2026

- Active member

### **Oklahoma Weather Lab (OWL) Member**

August 2022—May 2026

- Gaining operational forecasting skills by generating a daily outlook that was distributed throughout University of Oklahoma by OU Nightly
- Learning technical writing experience by writing a local synopsis and statewide short-term and long-term forecasts
- Experience creating forecasts that are distributed within a podcast to local radio stations
- Produced weather brief podcasts for Key West, Florida

- Produced a brief that was aired on Key West’s local radio station in the days prior to 2022 Hurricane Ian’s landfall
- One of the top 5 students who produced the most accurate temperature forecasts within my weekly OWL shift

**University of Oklahoma Arezzo**  
**Study and Volunteer Abroad**

June 2023

- Selected to participate in a study abroad at University of Oklahoma Arezzo in Italy
- Contributed to the local community by beautifying a park that had been run down due to lack of city maintenance
  - Park was slated to be shut down to the public if renovations were not complete
- Completed renovations created an environment that fostered safety for the local school children

**University of Oklahoma**  
**President’s Community Scholars Member**

August 2022—May 2023

- Selected by the University of Oklahoma Office of Leadership and Volunteerism to represent a seat within the President’s Community Scholars (PCS). I was 1 of 100 selected out of approximately 10,000 applications to be a member within PCS.
- Learned community-oriented leadership with an emphasis on volunteerism by serving at various job sites and attending weekly meetings where I heard and learned from experienced individuals who had community-oriented leadership experience

**PROFESSIONAL AFFILIATIONS**

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Gamma Theta Upsilon	December 2024 — Present
American Geophysical Union	July 2024 — Present
National Weather Association	April 2024 — April 2026
American Meteorological Society	September 2023 — Present
Student Chapter of the American Meteorological Society and National Weather Association (SCAN)	August 2022 — June 2026

**HONORS AND AWARDS**

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NSF GRFP Fellow	2026
Barry Goldwater Scholar	2025
Kandi McCasland Outstanding Undergraduate Research Award	2026
College of Atmospheric and Geographic Sciences Outstanding Senior	2025
John W. Nichols Trailblazer Scholarship	2025
Dr. Terry C. Tarbell Scholarship	2025
American Geophysical Union (AGU) Voices for Science Award	2025
School of Meteorology Director’s Recognition for Outstanding Service to the Department as an Undergraduate Student	2025
Regents’ Award for Outstanding Junior	2025

President's Award for Outstanding Volunteer	2025
Kirsten Partridge Life Award	2025
Thomas J. Lockhart Memorial Scholarship in Meteorological Measurements & Observing Systems	2025
Nutter Scholarship	2025
Lt. William Scott Scholarship	2025
Will and Webster Scholars Fund	2025
Student Intern Scholarship	2025
NOAA Hollings Scholar	2024
President's International Scholarship	2024
Lloyd Noble Trailblazer Scholarship	2024
College of Atmospheric and Geographic Sciences Outstanding Junior	2024
NWAF Bob Glahn Scholarship in Statistical Meteorology	2024
Sustainable Energy Systems Scholarship	2024
Ralph and Margaret Olson Award	2024
President's Award for Outstanding Sophomore	2024
Spring President's Honor Roll	2025, 2024
Fall President's Honor Roll	2025, 2024, 2023, & 2022
Spring Dean's Honor Roll	2023
Participation in University Organizations, Academic Achievement, Community Service, and Excellence in Leadership (PACE) Award	2023
President's International Travel Fund (PITF)	2023
SC CASC International Studies Scholarship	2023
Elks National Scholar	2022
University of Alaska Fairbanks Institutional Honor	2022
Arctic Innovation Competition Junior Division Semifinalist	2021

## **VOLUNTEER**

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OU and OSU STEM Recruitment Fair	February 2026
OU Graduate Panel Research Fair Poster Judge	February 2026
National Weather Festival	November 2025
Gordon Family Giving Foundation High School STEM Mentor	June 2025
The Big Event	April 2025
American Meteorological Society (AMS) Volunteer Student Assistant	January 2025
American Geophysical Union Outstanding Student Presentation Awards Poster Judge	December 2025
National Weather Festival	October 2024
Advanced Radar Research Center (ARRC) Homecoming Parade	October 2024
National Weather Center Camp Crimson Open House Panelist	August 2024
American Meteorological Society (AMS) Volunteer Student Assistant	January 2024
The Big Event	April 2024
National Weather Festival	October 2023

National Weather Center Camp Crimson Open House Panelist	August 2023
NOAA Urban Heat Island (UHI) Campaign	August 2023
Volunteer abroad at the University of Oklahoma Arezzo	June 2023
The Big Event	April 2023
National Weather Festival	October 2022
School of Meteorology Homecoming Parade	October 2022

## **ADDITIONAL SKILLS & EXPERIENCE**

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- Python
- R
- GitHub
- Bash
- CPR / AED Training
- Microsoft Office Specialist (MOS)
- Warning Decision Training Division (WDTD) Experience
- National Weather Association (NWA) and Student Chapter of the American Meteorological Society and National Weather Association (SCAN) Fire Weather Forecasting Training
- Introduction to Air Quality in Tribal Communities