

Logan Mitchell

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RESEARCH INTEREST

Studying how biomass burning aerosols interact with radiation, clouds, and climate.

EDUCATION

Ph.D. in Meteorology In Progress

University of Oklahoma – Norman, OK
Committee: Dr. Jens Redemann, Dr. Connor Flynn,
Dr. Feng Xu, Dr. Marcela Loria-Salazar,
Dr. Caitlin Hodges

M.S. in Meteorology May 2022

University of Oklahoma – Norman, OK
M.S. Thesis: *Subseasonal Variability of Biomass Burning Aerosol Radiative Properties Retrieved by 4STAR during the ORACLES 2016-2018 Campaigns*
Committee: Dr. Jens Redemann, Dr. Connor Flynn,
Dr. Feng Xu, Dr. Marcela Loria-Salazar

B.S. in Meteorology (*Summa Cum Laude*) May 2018

Western Kentucky University – Bowling Green, KY
Minors: Water Resources, GIS, and Mathematics
Honors Thesis: *An Analysis of Urban Heat Islands in Kentucky*
Committee: Dr. Rezaul Mahmood, Dr. Stuart Foster

B.A. in Chinese (*Summa Cum Laude*) May 2018

Western Kentucky University – Bowling Green, KY

Carol Martin Gatton Academy (*Honors with Distinction*) – Bowling Green, KY May 2014

Conner High School (*Summa Cum Laude*) – Hebron, KY May 2014

RESEARCH EXPERIENCE

Graduate Research Assistant Aug 2019 to Present

Cloud CLimatE Aerosol Radiation ((CL)²EAR) Research Group, University of Oklahoma

- Studies the aerosol-radiation interactions of biomass burning aerosols with Dr. Jens Redemann and Dr. Connor Flynn.
- Created a complete set of 4STAR sky scan retrievals for ORACLES 2016-2018.

Field Technician**May 2023 to Sep 2023***Small-Scale Variability of Solar Radiation (S2VSR), University of Oklahoma*

- Performed twice-weekly site maintenance for 60 pyranometer stations at the Atmospheric Radiation Measurement (ARM) Southern Great Plains (SGP) facility, in collaboration between the Leibniz Institute for Tropospheric Research (Dr. Hartwig Deneke, Dr. Jonas Witthuhn, Oscar Ritter) and the University of Oklahoma (Dr. Jens Redemann and Dr. Connor Flynn).
- Assisted in station installation/teardown, levelled pyranometers, replaced batteries and data cards, downloaded data, recorded site metadata, and drove the OU Fleet vehicle between sites.

Student Forecaster**May 2016 to Jun 2016***Storm Chase, Western Kentucky University*

- Tracked severe storms in Texas, Oklahoma, Kansas, Nebraska, New Mexico, and Colorado with Dr. Joshua Durkee and Dr. Grady Dixon.
- Participated in forecast discussions and storm photography.

Intern**Jun 2014 to May 2018***Center for Human Geo-Environmental Studies (CHNGES), Western Kentucky University*

- Conducted hydrologic budgeting research of Lost River Cave with Dr. Jason Polk.
- Assisted field team with pre-trip preparations, sample collection, equipment maintenance, and post-trip analysis of Lost River Cave site visits.

Intern**Jun 2013 to May 2014***Hoffman Environmental Research Institute, Western Kentucky University*

- Conducted hydrologic budgeting research of Crumps Cave with Dr. Chris Groves.
- Assisted field team with pre-trip preparations, sample collection, equipment maintenance, and post-trip analysis of Crumps Cave site visits.

PROFESSIONAL EXPERIENCE

Graduate Teaching Assistant**Aug 2023 to Present***School of Meteorology, University of Oklahoma*

- Grader for METR 3513 – Atmospheric Chemistry.
- Graded exams, quizzes, and homework.
- Proctored exams and quizzes.

Graduate Teaching Assistant

Aug 2020 to Dec 2020

School of Meteorology, University of Oklahoma

- Instructor for METR 1014 – Introduction to Weather and Climate Lab.
- Lectured on new content.
- Administered labs and proctored quizzes.
- Graded assignments.
- Provided office hours to students.

QA/QC Student Operator

Jun 2014 to May 2018

Kentucky Mesonet, Western Kentucky University

- Wrote daily reports listing issues found at any of the network's 70 weather stations.
- Issued trouble tickets directing technicians to deal with issues present at sites.
- Wrote weekly reports listing all trouble ticket activity that occurred.
- Entered trouble ticket information into the metadata website.
- Scanned and filed physical copies of trouble tickets.
- Fielded phone calls regarding data requests.

CONFERENCE PRESENTATIONS

Mitchell, L., Flynn, C., Redemann, J., Pistone, K., LeBlanc, S., & Schmidt, K. S. (2023). *Subseasonal Variability of Biomass Burning Aerosol Radiative Properties Retrieved by 4STAR during the ORACLES 2016-2018 Campaigns and Comparison with In-Situ Observations and the AERONET Extended Record*. Poster presented at Remote Sensing Workshop and GRASP ACE Summer School, Lille, France.

Mitchell, L., Flynn, C., Redemann, J., Pistone, K., LeBlanc, S., & Schmidt, K. S. (2023). *Subseasonal Variability of Biomass Burning Aerosol Radiative Properties and Composition Retrieved by 4STAR during the ORACLES 2016-2018 Campaigns and Comparison with the AERONET Extended Record*. Talk presented at 103rd American Meteorological Society Annual Meeting, Denver, CO.

Mitchell, L., Flynn, C., Redemann, J., Pistone, K., LeBlanc, S., & Schmidt, K. S. (2022). *Subseasonal Variability of Biomass Burning Aerosol Radiative Properties Retrieved by 4STAR during the ORACLES 2016-2018 Campaigns*. Poster presented at American Meteorological Society Collective Meeting, Madison, WI.

Mitchell, L., Flynn, C., Redemann, J., Pistone, K., LeBlanc, S., & Schmidt, K. S. (2021). *Seasonality of Aerosol Absorption in the 2016 to 2018 ORACLES Campaigns*. Talk presented at American Geophysical Union Fall Meeting 2021, New Orleans, LA.

Mitchell, L., Flynn, C., Redemann, J., Pistone, K., LeBlanc, S., Kacenelenbogen, M. S., & Schmidt, K. S. (2021). *4STAR Measurements and Retrievals from the 2016 ORACLES Campaign*. Talk presented at 101st American Meteorological Society Annual Meeting, Boston, MA.

Mitchell, L., Flynn, C., Redemann, J., Pistone, K., LeBlanc, S., Kacenenbogen, M. S., & Schmidt, K. S. (2020). *4STAR Measurements and Retrievals from the 2016 ORACLES Campaign*. Talk presented at American Geophysical Union Fall Meeting 2020, Washington, DC.

Mitchell, L., Mahmood, R., Ordóñez, P., Quintanar, A. I., & Ochoa-Moya, C. (2018). *A Comparison of Air Temperatures at Irrigated and Non-Irrigated Sites in Andalucía, Spain*. Poster presented at 98th American Meteorological Society Annual Meeting, Austin, TX.

Mitchell, L., Mahmood, R., & Goodrich, G. (2017). *An Analysis of Urban Heat Islands in Kentucky*. Poster presented at 97th American Meteorological Society 97th Annual Meeting, Seattle, WA.

Mitchell, L., Polk, J., McClanahan, K., Lawhon, N., & Nedvidek, D. (2015). *An Analysis of the Lost River Karst Aquifer's Hydrometeorological Response to Storm Events*. Poster presented at 21st Annual National Cave and Karst Management Symposium, Cave City, KY.

Mitchell, L., Polk, J., McClanahan, K., Lawhon, N., & Nedvidek, D. (2017). *An Analysis of the Lost River Karst Aquifer's Contributions to Flood Events*. Poster presented at 47th Annual WKU Student Research Conference, Bowling Green, KY.

Mitchell, L., Polk, J., McClanahan, K., Lawhon, N., & Nedvidek, D. (2016). *Long-term Monitoring of Storm Responses within a Complex Karst Aquifer*. Poster presented at 46th Annual WKU Student Research Conference, Bowling Green, KY.

Mitchell, L., Polk, J., McClanahan, K., Lawhon, N., & Nedvidek, D. (2015). *An Analysis of the Lost River Karst Aquifer's Hydrometeorological Response to Storm Events*. Poster presented at 45th Annual WKU Student Research Conference, Bowling Green, KY.

Mitchell, L., Groves, C., & Polk, J. (2014). *Hydrologic Budgeting of Autogenic Recharge in Crumps Cave, Kentucky*. Poster presented at 44th Annual WKU Student Research Conference, Bowling Green, KY.

HONORS AND AWARDS

Fulbright Grant (Study Abroad to China) **Apr 2018**
U.S. Department of State.

Critical Language Enhancement Award (Study Abroad to China) **Apr 2018**
U.S. Department of State.

First Place (Natural Sciences Undergraduate Poster Session 51) **Apr 2016**
46th Annual WKU Student Research Conference.

First Place (Poster Session I, Gatton Session V) 44 th Annual WKU Student Research Conference.	Mar 2014
FUSE Grant (Honors Thesis Research) Office of Research and Creative Activity, Western Kentucky University.	2015 to 2017
Gatton Academy Alumni Research Grant (Hydrology Research, four times) Office of Scholar Development, Western Kentucky University.	2014 to 2018
Research Internship Grant (Hydrology Research) Carol Martin Gatton Academy of Mathematics and Science.	2013 to 2014
Dr. James Leslie Davis Scholarship (Study Abroad to Iceland) Department of Geography and Geology, Western Kentucky University.	May 2017
John and Jacque Hughes Jarve Scholarship (Storm Chase in Western USA) Mahurin Honors College, Western Kentucky University.	May 2016
William Ralph Walls Jr. International Travel Award (Study Abroad to China) Department of Modern Languages, Western Kentucky University.	May 2015
HSK Scholarship (Study Abroad to China) Confucius Institute at Western Kentucky University.	May 2014
Winter Travel Abroad Award (Study Abroad to Italy) Carol Martin Gatton Academy of Mathematics and Science.	Jan 2014
World Topper Scholarship (Study Abroad to the United Kingdom) Study Abroad and Global Learning, Western Kentucky University.	May 2013
Winter Travel Abroad Award (Study Abroad to Greece) Carol Martin Gatton Academy of Mathematics and Science.	Jan 2013

STUDY ABROAD

Fulbright Grant Nanjing University, China.	2018 to 2019
CET Harbin Harbin Institute of Technology, China.	Summer 2018
WKU Iceland: Perspectives and Realities of Climate Change Akureyri and Reykjavik, Iceland.	Summer 2017

North China Electric Power University HSK Summer Program Beijing and Shanghai, China.	Summer 2015
Confucius Institute Summer Bridge Changchun and Beijing, China.	Summer 2014
Gatton Academy Italy Experience Rome, Florence, Venice, and Pompeii, Italy.	Winter 2014
Gatton Academy Harlaxton Experience Grantham, London, Oxford, Nottingham, and Bath, United Kingdom.	Summer 2013
Gatton Academy Greece Experience Athens, Thessaloniki, Olympia, and Delphi, Greece.	Winter 2013

TECHNICAL SKILLS

- Weather Forecasting:
 - IDV
 - GRLevel2
- Geospatial Analysis and Modelling:
 - QGIS
 - ArcGIS for Desktop 10.3.1
 - Software - ArcCatalog, ArcMap, ArcScene
 - Extensions - 3D Analyst, Network Analyst, Spatial Analyst, Spatial Statistics
 - Data Models - Vector, Raster, TIN
 - Related Applications - Trimble Pathfinder, Trimble SketchUp, TerraSync
- Statistical Analysis:
 - SPSS
 - SigmaPlot
- Computer Programming:
 - MATLAB
 - Python
 - Java
 - Mathematica
 - Fortran

LANGUAGES

English (Native Speaker)
Mandarin (Minimum Professional Proficiency)

PROFESSIONAL MEMBERSHIPS

- American Geophysical Union (AGU)
- American Meteorological Society (AMS)

COMMUNITY INVOLVEMENT

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| • OU SOM Mentoring Program – Group Leader | Present |
| • National Weather Festival – Volunteer | 2019 to 2023 |
| • WKU Chinese Club – President (one year), Ambassador (four years) | 2012 to 2018 |
| • WKU Storm Topper Network – Storm Spotter | 2014 to 2018 |
| • WKU Meteorology Club – Member | 2014 to 2018 |
| • WKU Water Professionals – Member | 2017 to 2018 |
| • Golden Key International Honour Society – Member | 2015 to 2018 |
| • National Society of Collegiate Scholars – Member | 2014 to 2018 |
| • WKU Hall Council – Vice-President (two years), Marketing (two years) | 2014 to 2018 |

REFERENCES

Dr. Jens Redemann
Professor, University of Oklahoma
Director Emeritus, School of Meteorology
Group Leader, (CL)²EAR
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Dr. Connor Flynn
Senior Research Associate, University of Oklahoma
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Dr. Feng Xu
Associate Professor, University of Oklahoma
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405-325-2860

Dr. Marcela Loria-Salazar
Assistant Professor, University of Oklahoma
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