




Thomas M. Kavoo

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| Contact | College of Forestry, Wildlife and Environment Auburn University 602 Duncan Dr Auburn, AL 36830 USA |  tmk0038@auburn.edu  https://tkavoo.github.io  https://github.com/tkavoo | |
| Education | Auburn University Auburn, AL MS. Natural Resources/Conservation Advisor: Sanjiv Kumar | | 2022 - Present |
| | PAUWES – Tlemcen University Tlemcen, Algeria MSC. Water Engineering <i>Thesis: Rainfall-Intensity Duration Frequency Analysis for urban flood management options within the Gounti Yena basin in Niamey, Niger</i> | | 2017 - 2019 |
| | Maseno University Maseno, Kenya BSC. Earth Science with Information Technology | | 2012 - 2015 |
| Research Experience | CWS Lab, Auburn University Auburn, AL Graduate Research Assistant | | 2022 - Present |
| | <ul style="list-style-type: none">• Conducting research on land-atmosphere interactions, focusing on climate change and land use change's impacts on water resources.• Performing land system model simulations to analyze different scenarios and evaluate their consequences on water-carbon cycle processes.• Presenting research findings at workshops and conferences, effectively communicating my research findings information to diverse audiences. | | |
| | WASCAL Competency Center Ouagadougou, Burkina Faso Internship on technical tools for water and energy sciences | | 2019 |
| | <ul style="list-style-type: none">• Participated in training workshops on technical tools for water and energy sciences, including WEAP/LEAP, remote sensing, and hydrological models.• Conducted research on the management of extreme flood risk, contributing to the development of effective flood management strategies.• Analyzed data and generated reports to support research findings and recommendations.• Completed MSc dissertation showcasing practical knowledge gained through hands-on training sessions and lectures. | | |
| | PAUWES – Tlemcen University Tlemcen, Algeria Graduate student, MSC. Thesis Research | | 2018 - 2019 |

Research Topic: *Rainfall-Intensity Duration Frequency Analysis for Urban Flood Management Options within the Gounti Yena Basin in Niamey, Niger*

- Conducted a comprehensive literature review to inform the research on rainfall-intensity duration frequency analysis for urban flood management.
- Analyzed data and performed data presentation to assess flood risk within the Gounti Yena basin.
- Participated in field visits and data collection activities, including stream discharge measurements and topographic surveys.
- Attended workshops, conferences, and seminars to enhance knowledge in weather extremes management, including droughts and flooding.

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| Industry Experience | Georama Engineering Services Limited Nairobi, Kenya Project Manager/Hydrologist | 2019 – 2021 |
| | <ul style="list-style-type: none">• Conducted desk studies and collected relevant data for hydrological and hydrogeological projects. This involved conducting comprehensive literature reviews and gathering data from various sources to inform project planning and analysis.• Led geophysical surveys and performed data analysis. Oversaw the implementation of geophysical surveys to gather subsurface data and analyzed the collected data to understand geological and hydrological characteristics.• Prepared technical reports based on findings and analysis. Compiled and organized research findings, survey results, and data analysis into comprehensive technical reports for clients and stakeholders.• Conducted hydrological data analysis and modeling for various projects. Utilized hydrological data sets and software tools to analyze water-related data, assess water availability, and simulate hydrological processes.• Assisted in 2-D imaging field surveys and mapping activities. Participated in field surveys using 2-D imaging techniques to map geological and hydrological features, contributing to the overall understanding of the study area. | |
| | SWAS Water Surveys Limited Nairobi, Kenya Assistant Hydrogeologist | 2016 - 2017 |
| | <ul style="list-style-type: none">• Assisted in hydrogeological investigations and assessments for various projects, including borehole locations at proposed developments, groundwater assessments, and oil leak assessments.• Conducted site surveys and geotechnical investigations for dam projects and wildlife trust locations. | |

- Participated in geophysical studies and borehole siting for drought mitigation projects, athletics championships, and water authorities.
- Contributed to geological investigations and geotechnical assessments for infrastructure projects, such as road expansions and landfill developments.

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| Leadership | NCAR – NEON Workshop Steering Committee | |
| Experience | Member | 2023 |
| | <ul style="list-style-type: none"> • Workshop Planning and Organization: Participated in developing workshop agendas, outlining objectives, and ensuring comprehensive planning to meet the workshop goals. • Speaker Selection and Participant Evaluation: Took part in identifying suitable speakers based on their expertise and relevance to the workshop theme. Evaluated participant applications to ensure a diverse and knowledgeable attendee group. • Workshop Facilitation and Engagement: Actively participated in the workshop through group project and giving a talk on the NCAR-NEON tool applications in the classroom and constraining water-carbon cycle projection uncertainties. | |
| | Outreach and Communications Committee, GSC | |
| | Member | 2022 – 2023 |
| | <ul style="list-style-type: none"> • Social Media Management: Managed all social media platforms of the GSC, including creating and posting content, ensuring regular updates, and engaging with the GSC community. Played a crucial role in promoting the activities, achievements, and initiatives of the GSC through effective social media strategies. • Communication and Documentation: Responsible for facilitating effective communication within the GSC by documenting and distributing agendas and meeting minutes. Ensured that important information and updates were shared promptly and accurately with members of the GSC and relevant stakeholders. | |
| | Graduate Student Council, Auburn University | |
| | Senator | 2022 – 2023 |
| | <ul style="list-style-type: none"> • Representation: Acted as a representative for the College of Forestry, Wildlife, and Environment within the Graduate Student Council, voicing the concerns, needs, and perspectives of the students from the college. Played a crucial role in advocating for the interests of the college and ensuring their representation in council decisions and activities. • Participation in College Events: Actively participated in various college events, including new students' orientation and social events, fostering a sense of community and engagement among the graduate student body. Collaborated with fellow senators | |

and council members to organize and support these events, creating a welcoming and inclusive environment for all graduate students within the college.

Earth Science Department, Maseno University
Class President

2012 – 2015

Earth Science Student Association of Maseno University
Founder and Organizing Secretary

2013 - 2015

Presentations & Workshops **Community Earth System Model (CESM) Annual Workshop. *Talk – Virtual*** | A parameter sensitivity study of the CLM-NEON simulation tool in the Southeastern United States. June 2023 2023

National Center for Atmospheric research (NCAR)-National Ecological Observatory network (NEON) Workshop *Talk – In person* | Title: Scaling up: Can point scale calibration using NEON data improve coupled carbon-water cycle in CLM at a regional scale? June 2023 2023

Community Earth System Model (CESM) Land Model and Biogeochemistry working Group - 2023 *Talk – In person* | Title: Scaling up: Can point scale calibration using NEON data improve coupled carbon-water cycle in CLM at a regional scale? At NCAR Mesa Lab, Boulder, CO. February 2023. 2023

2022 Community Earth System Model (CESM) *Tutorial Workshop* | Boulder, CO. August 2022 2022

Teaching Experience **Auburn University, College of Forestry, Wildlife and Environment**
Teaching Assistant, FORY5480 - GIS Database Design & Analysis Spring 2023, Professor: Sanjiv Kumar 2023

Skills and Languages **Software and Programming Languages:** Land surface modeling (CESM), hydrological modeling (SWAT), ArcGIS, high-performance computing for climate model simulation on NCAR machines, MS Excel, and Big-Data analysis and visualization using R, Python (including NumPy, xarray, and matplotlib), Command Line Scripting, and MATLAB

Spoken Languages: English