Theodros Woldeyohannes, M.S.

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University of New Mexico
Health and Environmental Research GIS Lab
Interdisciplinary Science Co-op
210 Yale Blvd NE, Office 2140
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EDUCATION:

ORGANIZATION AND LOCATION	DEGREE (if applicable)	DATE RECEIVED	FIELD OF STUDY
University of New Mexico, Albuquerque, New Mexico, United States	PHD	05/2025	Geography
Rochester Institute of Technology, Rochester, New York, United States	MS	05/2020	Environmental Science
Rochester Institute of Technology, Rochester, New York, United States	BS	05/2018	Environmental Science

Grants and Awards

2024 - Present **Environmental Health and Toxicology Pilot Award:** "Grant County Air Information and Research for a Well-Informed Society (Air Wise) Pilot," University of New Mexico College of Pharmacy, Award Amount: $50,000

2023 - 2024 **Graduate Fellow, Zancada Fellowship Program 2024 Cohort**, UNM Research, University of New Mexico, Albuquerque, NM, United States, Award Amount: $2,500 https://research.unm.edu/zancada

2023 **Departmental Citizenship award,** UNM Department of Geography and Environmental Studies, Albuquerque, NM, United States, Award Amount: $100

2022 – 2023 **Southwest American Association of Geographers (SWAAG) Summer Research Grant**, Award Amount: $450

Publications

Articles in referenced journals

2023 Girlamo C., Lin Y., Hoover J., Beene D., **Woldeyohannes T**., Liu Z., Campen M., MacKenzie D., Lewis J. "Meteorological Data Source Comparison – a Case Study in Geospatial Modeling of Potential Environmental Exposure to Abandoned Uranium Mine Sites on Navajo Nation". *Environmental Monitoring and Assessment*. doi: 10.1007/s10661-023-11283-w. PubMed PMID: 37303005; PubMed Central PMCID: PMC10258180.

Featured Articles at professional institutions

2023 **Woldeyohannes, T**., J. Hoover, Y. Lin, D. Beene, C. Girlamo, and L. Zhuoming. 2023. Geospatial and Community-based Approach Investigates Potential Exposures from Fires at Waste Disposal Sites. *National Institute of Environmental Health Sciences*. https://www.niehs.nih.gov/research/supported/centers/ehd/highlights/waste-disposal/index.cfm

Newsletters

2023 **Woldeyohannes T.** "Geography Awareness Week". *UNM Department of Geography & Environmental Studies Alumni Chapter Winter 2023 Newsletter*

Manuscripts in Preparation

2022 - present **Woldeyohannes T.**, Lin Y., Zhang X., Doyle J., Eggers M., Hoover J., Zhuoming L., Hridoy A., Bimaghra E., Bizure T., Mirka B., James L. "Leveraging remote sensing and air monitoring tools for waste fire surveillance".

2022 - present **Woldeyohannes T**., Ginossar T., MacLeod T., Siwik A., Tree R., Quetawki M., Sayadi M., Riffenburgh A., Lin Y. "Assessing community exposure to particulate matter in Grant County, New Mexico using environmental monitoring and geospatial modeling".

2022 - present **Woldeyohannes T**., MacKenzie, D., Erdei E., Lin Y., Hoover J., O'leary R., James L. "Evaluating cumulative individual exposure using geospatial modeling and passive silicone wristbands paired with activity logging and biomonitoring for personal exposure assessment".

Sessions, Workshops, and Presentations

Organized Conference Sessions

2024 **Woldeyohannes T**., Huang Y. "GIScience approaches for assessing pollution and environmental health." American Association of Geographers Annual Meeting (Honolulu, HI), April 16 – 20, 2024

Hosted Workshops

2024 Beene D., **Woldeyohannes T**. "Introduction to Spatial Regression Methods in Environmental Health." National Institute of Environmental Health Sciences – Partnerships for Environmental Public Health: Climate Change and Environmental Justice: Engaging Diverse Teams, Session: Workshops (Research Triangle Park, NC), February 20 – 22, 2024. https://dbeene.github.io/SpatialReg_Workshop_Compiled.html

Conference and Professional Meeting Presentations

2024 **Woldeyohannes T**., Doyle J., Hoover J. "What's the awful smell from trash burning? Checking our air quality." Crow Water Quality Project Community Open House, (Crow Agency, MT), June 25, 2024

2024 **Woldeyohannes T**., Lin Y., Hoover J., Beene D., Liu Z., Erdei E., MacKenzie D. "GIScience for Community Driven Environmental Health Equity Research with Indigenous Communities." CAGIS + UCGIS Symposium, Session: Poster (Columbus, OH), June 3 – 6, 2024

2024 **Woldeyohannes T**., Lin Y. "UNM Native Environmental Health Equity Center (P50) – Research Project 2 Air Quality Projects." Inspiring Community-Based Air Quality Projects: Lessons from New Mexico Teams, Session: Air Quality Monitoring Project Presentations (Albuquerque, NM), May 28, 2024

2024 **Woldeyohannes T**., Lin Y., Zhang X., Doyle J., Eggers M., Hoover J., Zhuoming L., Hridoy A., Bimaghra E., Bizure T., Mirka B., James L. "Leveraging remote sensing tools to monitor waste fires." American Association of Geographers Annual Meeting, Session: AAG Remote Sensing Specialty Group Student Honors Paper Competition 2 (Honolulu, HI), April 16 – 20, 2024

2024 **Woldeyohannes T.**, Beene D., Doyle J., Martin C., Eggers M., Liu Z., Lin Y., MacKenzie D., Erdei E., Hoover J. "Evaluating cumulative environmental exposure to metals and non-metals and community-level health using geospatial modeling and personal exposure assessment." National Institute of Environmental Health Sciences – Partnerships for Environmental Public Health: Climate Change and Environmental Justice: Engaging Diverse Teams, Session: Poster #1 (Research Triangle Park, NC), February 20 – 22, 2024

2023 Mackenzie D., Hoover J., James L., Lin Y., **Woldeyohannes T**. "Evaluating Cumulative Environmental Exposure Using Geospatial Modeling and Personal Exposure Assessment." Study Protocol Presentation to the Navajo Nation Human Research Review Board (online), December 19, 2023

2023 **Woldeyohannes T**. "Machines vs. People: Determining Criterion Weights for Environmental Exposure Models." Superfund Research Program Annual Grant Recipient Meeting, Session: Three – Science Communication and Future of Machine Learning/Artificial Intelligence in Research (Albuquerque, NM), December 4 – 6, 2023

2023 **Woldeyohannes T**., Doyle J., Girlamo C., Zhuoming L., Sethuraman A., Eggers M., Erdei E., Lin Y., Hoover J. "Researching Environmental Health Impacts from Unregulated Solid Waste Disposal (USWD) with Native American Communities." Superfund Research Program Annual Meeting, Session: Poster (Albuquerque, NM), December 4 – 6, 2023

2023 **Woldeyohannes T.**, Beene D., Hoover J., Lin Y., Mirka B. "Geographic mixed methods approaches to assess environmental justice issues relating to unregulated waste disposal sites." Department of Geography and Environmental Studies GIS Day, Session: Lightning Talks (University of New Mexico, Albuquerque NM), November 16, 2023

2023 **Woldeyohannes T**., Doyle J., Girlamo C., Zhuoming L., Sethuraman A., Eggers M., Erdei E., Lin Y., Hoover J. "Researching Environmental Health Impacts from Unregulated Solid Waste Disposal (USWD) with Native American Communities." Department of Geography and Environmental Studies GIS Day, Session: Poster (Albuquerque, NM), November 16, 2023

2023 **Woldeyohannes T**., Doyle J., Girlamo C., Zhuoming L., Sethuraman A., Eggers M., Erdei E., Lin Y., Hoover J. "Researching Environmental Health Impacts from Unregulated Solid Waste Disposal (USWD) with Native American Communities." UNM Center for the Advancement of Spatial Informatics Research and Education Open House, Session: Poster (Albuquerque, NM), November 9, 2023

2023 Lewis J., De Pree T., **Woldeyohannes T**. "Resources for Disaster Response through UNM Centers." City of Albuquerque Air Quality Control Board (Albuquerque, NM), September 11, 2023

2023 **Woldeyohannes T.**, Doyle J., Girlamo C., Zhuoming L., Sethuraman A., Eggers M., Erdei E., Lin Y., Hoover J. "Researching Environmental Health Impacts from Unregulated Solid Waste Disposal (USWD) with Native American Communities." 2023 NIH IDeA Western Regional Conference, Session: Poster (Santa Ana Pueblo, NM), August 2 – 4, 2023

2023 **Woldeyohannes T**., Doyle J., Girlamo C., Zhuoming L., Sethuraman A., Eggers M., Erdei E., Lin Y., Hoover J. "Researching Environmental Health Impacts from Unregulated Solid Waste Disposal (USWD) with Native American Communities." Missouri Breaks Research Symposia, Session: Community Research Symposium (Eagle Butte, SD), April 17, 2023

2023 **Woldeyohannes T**. "A Multi-Scalar Geographic Mixed Method Approach to Assess Environmental Justice Issues for Unregulated Waste Disposal Sites". American Association of Geographers Annual Meeting, Session: Geospatial Big Data: Theory, Methods, and Applications I (Denver, CO), March 23 - 27, 2023

2022 **Woldeyohannes T**., Beene D., Hoover J., Lin Y., Mirka B. "Utilizing Remote Sensing to Examine Occurrence of Fires at Unregulated Waste Disposal Sites". SRP 35th Anniversary Annual Meeting, Session: Tools and Technologies to Enable Systems Level Science (Raleigh, NC), December 14 - 16, 2022

2022 **Woldeyohannes T**., Beene D., Hoover J., Lin Y., Mirka B. "Geographic Mixed Methods Approaches to assess Environmental Justice Issues relating to unregulated waste disposal sites". Environmental Health Disparities Annual Meeting, Session: ESI Presentation (Virtual), December 1 - 2, 2022.

2022 **Woldeyohannes T**., Beene D., Hoover J., Lin Y., Mirka B. "Geographic Mixed Methods Approaches to assess Environmental Justice Issues relating to unregulated waste disposal sites". Southwest American Association of Geographers Annual Meeting, Session: Geographic Information Science (Fayetteville, AR), October 27 – 29, 2022.

2022 **Woldeyohannes T**., Hoover J., Lin Y., Beene D., Liu Z., Girlamo C. "Geospatial Modeling of Potential Exposure to Contaminants from Unregulated Trash Disposal Sites on the Crow Nation". College of Pharmacy Research Day, Session: Poster (University of New Mexico, Albuquerque, NM), April 28, 2022.

2022 **Woldeyohannes T**., Hoover J., Lin Y., Beene D., Liu Z., Girlamo C. "Geospatial Modeling of Potential Exposure to Contaminants from Unregulated Trash Disposal Sites on the Crow Nation". American Association of Geographers Annual Meeting, Session: Research in Rural Geography (Virtual), February 25 – March 1, 2022.

Employment Experience

2023 - present **Trainee**, *NIH P30 New Mexico Integrative Science Program Incorporating Research in Environmental Sciences (NM-INSPIRES) Center*, University of New Mexico, Albuquerque, NM, United States https://hsc.unm.edu/pharmacy/research/areas/nm-inspires/cec/team.html

- Supervisor: Dr. Tamar Ginossar (UNM)
- Environmental sampling and exposure modeling for assessment of exposure to air pollution from forest fires, mining operations, and other sources in partner communities
- Designed and installed air quality monitoring stations
- Member of NM-INSPIRES community engagement core (CEC)

2021 - present **Research Assistant**, *Health and Environmental Research GIS Lab, Department of Geography and Environmental Studies*, Albuquerque, NM, United States https://yanlingeo.wordpress.com/health-environmental-research-gis-lab/'

- Supervisor: Dr. Yan Lin (UNM)
- Performance of geospatial research including geospatial modeling, livestock tracking, personal exposure assessment, and report and manuscript preparation
- Designed and set up network attached storage (NAS) server for laboratory team

2021 - present **Research Assistant**, *Center for Advancement of Spatial Informatics Research & Education*, University of New Mexico, Albuquerque, NM, United States https://aspire.unm.edu/research/student-research/index.html

- Supervisor: Dr. Yan Lin (UNM)
- Geospatial data science

2021 - present **Trainee**, *UNM METALS Superfund Research Program Center*, College of Pharmacy, Albuquerque, NM, United States

- Supervisor: Dr. Yan Lin (UNM)
- Performance of geospatial research including geospatial modeling, livestock tracking, personal exposure assessment, and report and manuscript preparation
- Manager of center data on internal server
- Member of data analysis management core (DMAC)

2021 - present **Trainee**, *NIH P50 Center for Native Environmental Health Equity Research*, College of Pharmacy, Albuquerque, NM, United States

- Supervisor: Dr. Yan Lin (UNM)
- Performance of geospatial research including geospatial modeling, livestock tracking, personal exposure assessment, and report and manuscript preparation
- Project-lead for multiple projects, including an air quality monitoring study and personal exposure assessment study
- Designed and installed air quality monitoring stations and meteorological stations
- Designed personal exposure assessment study, including survey instruments and sampling regime. Processed biosamples.

2020 - 2021 **Environmental Health & Safety Technician**, *HSE Consulting Services*, Syracuse, NY, United States

- Supervisor: Brian King (HSE)
- Community air project monitoring (CAMP), environmental health and safety oversight, asbestos remediation, lead inspection, mold inspection
- Maintained and analyzed data from air quality and meteorological stations at remediation sites
- Was primary health and safety oversite on numerous environmental remediation sites

2019 - 2020 **CAMP Technician/Environmental Scientist**, *AECOM*, Rochester, NY, United States

- Supervisor: George Hermance (AECOM)
- Community air project monitoring (CAMP), environmental health and safety oversight

2017 - 2020 **Teaching Assistant** , *Department of Environmental Science*, College of Science, Rochester Institute of Technology, Rochester, NY, United States

- Supervisor: Karl Korfmacher (RIT)
- TA in intro to GIS course

2014 - 2018 **Mechanical Assistant**, *Housing Operations*, Rochester Institute of Technology, Rochester, NY, United States

- Supervisor: Ausberto Vargas (RIT)
- Performed infrastructure maintenance on student housing properties

Research Experience

2023 - present **NIH P30 New Mexico Integrative Science Program Incorporating Research in Environmental Sciences (NM-INSPIRES) Community Engagement Core (CEC)**: "*Grant County Information and Research for a Well-Informed Society (Air Wise) Pilot*," National Institute of Environmental Health Sciences

- Project Aim: Design and deploy a PM sensor network to assess air quality, utilize geospatial modeling to identify high risk areas from mining operations, and co-design with community partners outreach strategies and mitigation plans

2021 - present **NIH P50 Center for Native American Environmental Health Equity Research, Research Project 2**: "*Evaluating Cumulative Environmental Exposure to Metals and Non-metals and Community-level Health Using Geospatial Modeling and Personal Exposure Assessment*," National Institutes on Minority Health and Health Disparities

- Project Aim: Examine environmental chemical exposure among individuals and community-level health outcomes using silicone wristbands paired with activity logging, biomonitoring, a community level health survey, and space-time modeling

2021 - present **NIH/Nation Institute of Environmental Health Sciences (NIEHS) Superfund Research Program**, "*UNM Metal Exposure Toxicity Assessment on Tribal Lands in the Southwest (METALS) Superfund Research Program*"

- Project Aim: Studying the toxic effects of mixed metals and uranium exposure on tribal communities in the Southwest

2021 - present **NIH IDeA Networks of Biomedical Research Excellence (INBRE)**: "*Improving geospatial environmental health research with Tribal communities in Montana and New Mexico*"

- Project Aim: Refine knowledge of the potential environmental and health impacts associated with unregulated solid waste disposal

2021 - present **GPS Tracking Livestock Movement and Exposure to Abandoned Uranium Mine Waste in Cove Watershed**", United States Environmental Protection Agency (USEPA)

- Project Aim: Assess potential exposures to contaminants from abandoned uranium mines for livestock in the Navajo Nation through the use of GPS tracking and geospatial modeling

2021 - 2022 **Unconventional Gas/Oil & Pediatric Asthma in Rural New Mexico** – a Pilot Study, UNM RAC

- Project Aim: Study air quality and associations between VOC exposure and pediatric asthma in rural communities of New Mexico that face intensive fracking operations

2021 - present **Doctoral Dissertation Research**: "*Community-Engaged Multi-Scale Geospatial Modeling of Exposure to Environmental Contaminants on Tribal Lands of the American Intermountain West*"

- Primary advisor: Dr. Yan Lin (UNM)
- Project Aim: Investigate exposure to contaminants from mining and waste disposal in the U.S. through the conceptualization of exposure as a multi-scale spatial process driven by hydrogeotechnical and sociocultural factors.

2018 - 2020 **Master's Thesis:** "*Exposure to Pesticides and Hepatocellular Carcinoma (HCC) Risk in and around Monroe County, NY*"

- Primary advisor: Dr. Karl Korfmacher (RIT)
- Project Aim: Study relationships between pesticide exposure and incidence of hepatocellular carcinoma (HCC) in New York State

2016 - 2017 **Directed Undergraduate Research**: "*Secondary Rainforest Regrowth of the Wet Tropics: The Effect of Streams on Vegetation Structure and Species Distribution*"

- Project Aim: Study the effect of stream riparian zones on bio-diversity in logged rainforest of the Wet Tropics region of Australia.

Teaching Experience

2022 - present	**Graduate Mentor**, UNM – Bunker Hill Community College internship, Health and Environmental GIS Research Lab
2022	**Lead Instructor**, UNM – Diné College Summer Internship, National Science Foundation EPSCoR
2018	**Teaching Assistant**, RIT – Applications of GIS, ENVS 250
2016	**Teaching Assistant**, RIT – Introduction to Statistics II, STAT 146

Professional Training and Certifications

Seminar or Workshop

2023	Responsible Conduct of Research (RCR), Office of Research Integrity and Compliance, UNM, with Dr. Veronica C. Mitchell

UNM Health Sciences Center

2023	Research With Human Subjects, Collaborative Institutional Training Initiative (CITI)
2022	Research With Animal Subjects, Institutional Animal Care and Use Committee (IACUC)

Other training and certification

2018 - 2021	OSHA 40hr HAZWOPER
2018 - 2021	OSHA 30hr Construction Safety and Health
2021	Asbestos Inspector Initial
2021	Lead Inspection and Radiation Safety
2021	Member of ASSP & AIHA

Professional Affiliations

2024 - present **University Consortium GIS** (UCGIS)

2023 - present **Inducted Member**, Phi Kappa Phi

2021 - present **American Association of Geographers** (AAG)

2021 - present **United Graduate Workers** (UGW)

2021 - present **Student Association of Geography and Environmental Studies** (SAGES)

2021 - present **Inducted Member**, Gamma Theta Upsilon

2015 - present **Inducted Member**, National Society of Leadership and Success

Awards

2024	Graduate Student Poster, 1st place, CAGIS + UCGIS Symposium
2023	Graduate Student Poster, 2nd place, NIH IDeA Western Regional Conference
2023 – 2024	Zancada Graduate Fellowship
2023	Departmental Citizenship award, UNM GES
2014 - 2020	Dean's List, Rochester Institute of Technology
2013	Advanced Regents with Distinction Diploma, Pittsford Mendon High School

Professional Service and Leadership Roles

2024	**Session Chair**, GIScience approaches for assessing pollution and environmental health, American Association of Geographers Annual Meeting, Honolulu, HI, April 16 – 20, 2024

2023 - present **Data Repository Manager**, UNM METALS SRP, University of New Mexico (UNM)

2023 - 2024 **Secretary**, Student Association of Geography and Environmental Studies (SAGES), University of New Mexico (UNM)

2023 **Event Planner**, Department of Geography and Environmental Studies (GES) Graduation Ceremony Reception, UNM

2023 **Field Trip Planner**, Student Field Trip to White Sands, UNM

2023 **Conference Trip Organizer**, American Association of Geographers Annual Meeting (Denver, CO), March 23 - 27, 2023

2022 - 2023 **President**, Student Association of Geography and Environmental Studies (SAGES), University of New Mexico (UNM)

2022 **Event Planner**, Geography Awareness Week (GAW), UNM, November 14 – 18, 2022

2022 **Event Organizer**, Film Screening: "Soil, Struggle and Justice: Agroecology in the Brazilian Landless Movement", UNM – Student Union Building (SUB) Theater, November 17, 2022

2022 **Event Organizer**, GIS Day Symposium, UNM –SUB Ballroom B, November 16, 2022

2022 **Conference Trip Organizer**, Southwest American Association of Geographers Annual Meeting (Fayetteville, AR), October 27 - 29, 2022

2021 - present **Steward**, United Graduate Workers (UGW), University of New Mexico (UNM)

2014 **Environmental Science Exhibit**, Imagine RIT, Rochester Institute of Technology (Rochester, NY), May 1, 2014

Skills and Expertise

GIS and GIScience	Coding (JS, Python, R, HTML, CSS)
Geospatial technology	Web development
Data science	Spatial statistics
Machine Learning	Environmental Monitoring
Scientific Writing	Environmental Field Skills
Organization	Laboratory skills
Quantitative skills	Basic understanding of NEPA, MEPA, and Clean Water Act
Verbal communication	Analytical chemistry protocols, including HPLC, GC, and Mass Spectrometry
Teamwork	Event planning
Collaboration	Structural and settlement monitoring, (AMTS, vibration monitoring, liquid level, ground water gauging, inclinometer wells)
Interdisciplinary research	
GPS	
Scientific communication	

Collaborators and other Affiliations

Current PhD Committee:

- **Yan Lin, PhD.** Department of Geography and Environmental Studies, University of New Mexico. Phone: (512) 618-0796, Email: yanlin@unm.edu (Main Advisor).
- **Joseph Hoover, PhD.** Department of Environmental Science, University of Arizona. Phone: (720) 352-0321, Email: jhoover@arizona.edu
- **Miriam Gay-Antaki, PhD.** Department of Geography and Environmental Studies, University of New Mexico. Phone: (505) 615-9217, Email: mgayantaki@unm.edu
- **Michaela Buenemann, PhD.** Department of Geography, New Mexico State University. Phone: (575) 646-6493, Email: elabuen@nmsu.edu

Primary References

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- Karl Korfmacher
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Professional Website and Social Media

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