Theodros Woldeyohannes, M.S.

Email: twoldey94@unm.edu Website: https://theodros-Health and Environmental Research GIS Lab woldevohannes.github.io/ GeoResume: https://arcg.is/zWvSC

Interdisciplinary Science Co-op 210 Yale Blvd NE, Office 2140

Albuquerque, NM, 87106

University of New Mexico

EDUCATION:

ORGANIZATION AND LOCATION	DEGREE (if applicable)	DATE RECEIVED	FIELD OF STUDY
University of New Mexico, Albuquerque, New Mexico, United States	PHD	07/2025	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 Barret-Campbell Scholarship: University of New Mexico Department of Geography and Environmental Studies, Award Amount: \$4,000
- 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 2023Southwest 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/wastedisposal/index.cfm

Newsletters

2023

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

Manuscripts in Review

2024

Woldeyohannes T., Lin Y., Zhang X., Doyle J., Eggers M., Zhuoming L., Hridoy A., Bimaghra E., Bizure T., Mirka B., James L., Hoover J. Waste fire surveillance using remote sensing and air contaminant monitoring. Submitted to Waste Management. Pre-print available at SSRN: https://ssrn.com/abstract=5017036 or http://dx.doi.org/10.2139/ssrn. 5017036

Manuscripts in Preparation

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

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

Woldeyohannes T., Beene D. "Introduction to Spatial Regression Methods and GIS Tools in Environmental Health using R/RStudio." NM-INSPIRES CEC GIS Workshop hosted by UNM Department of Communication and Journalism (Albuquerque, NM), September 17, 2024. https://theodros-woldeyohannes.github.io/SpatialReg Workshop.html

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

- 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
- 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

- 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
- 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
- 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
- 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
- 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

- 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
- 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
- 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
- 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
- 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
- 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

- 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
- 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
- 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
- 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.
- 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.
- 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.

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)
 - Project management
 - Supervision of air quality sensor network and management of data
 - Communication and interface between academic team, community partners, local schools, U.S. Forest Service, and other stakeholders
- 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
 - Supervision and mentoring of lab interns.
 - Management of various research projects and lab data

- 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.
 - Interface and communication between NIH officials, academic teams, State, Tribal, and local government and community partners.
 - Management of data for research center on network attached storage server.

- 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 codesign 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 analysis of environmental contamination from mining and waste management"
 - Primary advisor: Dr. Yan Lin (UNM)
 - Project Aim: Investigate environmental contamination and human exposure from mining and waste disposal in the U.S. through the conceptualization of environmental contamination and human 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	UNM GES Barret-Campbell Scholarship, CAGIS + UCGIS Symposium			
2024	Graduate Student Poster, 1st place, CAGIS + UCGIS Symposium			
2023	Graduate Student Poster, 2 nd 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 Expe				
GIS and GIScience		Coding (JS, Python, R, HTML, CSS)		
Geospatial technology		Web development		
Data science		Spatial statistics		
Data Management		ArcGIS Platform – Pro, Online		
Open Source Web GIS – leaflet (JS)		Open Source GIS – GeoPANDAS and		
AI prompt engineering		RasterIO (Python), Spatial Dataframes (R), QGIS		

Machine Learning
Scientific Writing
Organization

Organization

Quantitative skills

Verbal communication

Teamwork Collaboration

Interdisciplinary research

GPS

Scientific communication

Environmental Monitoring Environmental Field Skills

Laboratory skills

Basic understanding of NEPA, MEPA,

and Clean Water Act

Analytical chemistry protocols, including HPLC, GC, and Mass

Spectrometry Event planning

Structural and settlement monitoring, (AMTS, vibration monitoring, liquid

level, ground water gauging,

inclinometer wells)

Collaborators and other Affiliations

Current PhD Committee:

• Yan Lin, PhD. Department of Geography, Penn State University. Phone: (512) 618-0796, Email: yanlin@psu.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 (cochair)
- **Michaela Buenemann, PhD.** Department of Geography, New Mexico State University. Phone: (575) 646-6493, Email: <u>elabuen@nmsu.edu</u>
- **Tamar Ginossar, PhD.** Department of Communication and Journalism, University of New Mexico. Phone: (505) 715-7225, Email: ginossar@unm.edu

Primary References

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- Brian King
 - o <u>bking@hseconsultingservices.com</u>
 - o (315) 427 1412
- Karl Korfmacher
 - o kfkscl@rit.edu
 - o (909) 499 1111

Professional Website and Social Media

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GeoResume: https://arcg.is/zWvSC

LinkedIn: https://www.linkedin.com/in/theodros-woldeyohannes-73834387/