

Joseph Hamilton Hoover

Assistant Professor of GIS and Water Resources
Environmental Studies Program
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I am an environmental scientist studying water resources, environmental health, and health disparities utilizing geospatial tools and techniques. My career path continues to expand my research, teaching, and leadership to promote environmental justice through community-engaged team science with indigenous and rural communities.

EDUCATION

Ph.D.	Geography. University of Denver, Advisor Dr. Paul Sutton Dissertation: "The impact of Internet GIS on water quality data access"	2009-2014
M.A.	Geography. University of Arizona, Advisor Dr. Chris Scott Thesis: "The Arizona Water-Energy Nexus: Electricity For Water and Wastewater Services"	2007-2009
B.A.	Environmental Sciences. Northwestern University, Advisor, Dr. John Hudson. Senior thesis: "Sulfur Cycling in Modern Terrestrial Waters"	2003-2007

AREA OF EXPERTISE AND CURRENT LINE OF RESEARCH

Community-based environmental science in the study of groundwater sourced drinking water in tribal and rural communities. My research examines the occurrence and distribution of environmental metals (alone and in mixtures) in drinking water and other media using spatial and statistical analysis tools.

CURRENT AND RECENT ENVIRONMENT PROJECTS

Center for Native Environmental Health Equity Research. **Sponsor.** National Institutes of Health (NIEHS and NIMHD), Specialized Center of Excellence on Environmental Health Disparities Research, Prime Aware University of New Mexico, \$6,798,537. (2015 - 2025). **Position.** Co-Director (2020-2025) (MPI) and Co-lead Research Project 2 (2020-2025); Co-lead Community Engagement Core (2017-2020). MSU Billings Subaward PI, **Responsibilities.** Conceptualization and lead writer for Research Project 2 ("Evaluating Cumulative Environmental Exposure to Metals and Non-metals and Community-level Health Using Geospatial Modeling and Personal Exposure Assessment") in partnership with community organizations; Administrative lead for research and community engagement activities that occur with Crow and Cheyenne River Sioux partners; Co-lead research project 2, responsible for collecting GPS tracking data of livestock and leading analysis and interpretation of environmental, health and geospatial data. **Communities** – Blue Gap/Tachee Chapter, Navajo Nation; Crow Environmental Health Steering Committee, Crow Nation; Cheyenne River Sioux Tribe. **Select Project Partners** – John Doyle, Crow Environmental Health Steering Committee and Little Big Horn College; Dr. Mari Eggers, Montana State University; Marica O’Leary, Missouri Breaks Research Industries (Eagle Butte, SD, Cheyenne River Sioux Tribe reservation); Drs. Johnnye Lewis and Debra MacKenzie (MPIs), University of New Mexico.

Radon Knowledge and Testing Among Pueblo Communities in Northern New Mexico. **Sponsor.** University of New Mexico Center for Native Environmental Health Equity Research. \$17,000. (2018-2019). **Position.** Co-PI (MPI). **Responsibilities** - Conceptualization and writing of community-based project including geospatial data collection methods and analysis of environmental data; administrative lead for

project; facilitated community meetings, training sessions; and research translation and community report back. **Project Partners** – Dr. Sheldwin Yazzie (Co-PI), Deputy Director Albuquerque Area Southwest Tribal Epidemiology Center; Nambe community partners Monica Vigil, Community Health Representative IHS; and Marcus Lopez, GIS technician.

Navajo COVID-19 Water Needs Mapping. **Sponsor** - Agnese Nelms Haury Program in Environment and Social Justice. Subaward for \$6,157 (2020-2022). **Position.** Subaward PI and Co-investigator (PI K Chief). **Responsibilities.** Conceptualization and implementation of data harmonization, database management, mapping, and statistical analysis. Presented findings to Navajo Water Access group. **Select Project Partners** – Drs. Karletta Chief and Stephanie Carroll, University of Arizona; Dr. Jani Ingram, Northern Arizona University; Dr. Johnnye Lewis, University of New Mexico.

Cove (Navajo Nation) Livestock Project. **Sponsor.** US Environmental Protection Agency, award to Diné College, MSUB subaward for \$76,000. **Position.** Subaward PI and Co-investigator (PI D Robinson). **Responsibilities.** A community-based project in which I led conceptualization and writing of GPS tracking, spatial analysis, and analysis of biological and environmental data; supervision of undergraduate and graduate students. **Project Partners** – Dr. Don Robinson (PI) and Perry Charlie, Diné College; Dr. Jani Ingram, Northern Arizona University; Drs. Johnnye Lewis and Yan Lin, University of New Mexico.

University of New Mexico Metals Exposure and Toxicity Assessment on Tribal Lands (METALS) Superfund Research Program Center. **Sponsor.** National Institutes of Environmental Health Science. **Position.** Co-Investigator, Research Translation Core (2017-2019). **Responsibilities.** Development of research translation activities and materials for research projects occurring in partnership with Pueblo of Laguna and Tachee/Blue Gap community, Navajo Nation. **Select Project Partners** – Dr. Johnnye Lewis (PI);

Navajo Birth Cohort Study/Environmental Influences on Child Health Outcomes. University of New Mexico. **Sponsor.** US Centers for Disease Control and Prevention, Office of the Director National Institutes of Health. **Responsibilities.** Co-Investigator responsible for spatial analysis of water quality and other environmental data including 500+ home environmental assessments; statistical analysis linking environmental exposure data to health outcomes for 1000+ pregnant Navajo women from across Navajo Nation; community engagement activities; attending Navajo Nation Human Research Review Board meetings. **Select Project Partners** – Drs. Johnnye Lewis and Debra MacKenzie (MPIs)

AWARDS AND HONORS

Cox Award, Montana State University Billings, nominated and not selected	2020, 2021
Faculty Award, Montana State University Billings, nominated and not selected	2020
Best Poster Presentation by A Post-Doctoral Researcher– College of Pharmacy Research Day, College of Pharmacy, Health Sciences Center, University of New Mexico. Paper titled, “Occurrence and spatial distribution of arsenic and uranium in unregulated water sources on the Navajo Nation”	2015
Best Doctoral Student Paper Award – Association of American Geographers, Water Resources Group. Paper titled, “Development of a Groundwater Quality webGIS Application Employing Usability Testing,”	2013
Dr. Laurance C. Herold Award for Outstanding Graduate Teaching Assistant, University of Denver, Department of Geography	2011
Best poster presentation. 2009 Annual meeting of the American Water Resources Association, Seattle, WA, Paper titled, “The Arizona Water Energy Nexus.”	2009
Best Doctoral Student presentation – AAG-Rocky Mountain/Great Plains Region Annual meeting, Logan, UT, Paper titled, “Electricity requirement for Arizona water service”	2009
Invited presenter and travel grant awarded by the Border Energy/Water Forum	2008
Howard Hughes Medical Institute Award - Best Oral Presentation, Inaugural Chicago Area Undergraduate Research Symposium	2005
Howard Hughes Medical Institute Internship Participant, Northwestern University	2004
Undergraduate Success in Science Program Fellowship, Northwestern University	2003

ACADEMIC APPOINTMENTS AND TRAINING

Assistant Professor, Environmental Studies Program, Department of Social Sciences & Cultural Studies, Montana State University Billings	2019-Present
Affiliate faculty, Community Environmental Health Program, College of Pharmacy, University of New Mexico Health Sciences Center	2019-Present
Research Assistant Professor, Community Environmental Health Program, Department of Pharmaceutical Sciences, College of Pharmacy, University of New Mexico Health Sciences Center	2017-2019
Temporary Instructor, Environmental Sciences Program, Southwest Indian Polytechnic Institute, Albuquerque, NM	2016
NIGMS ASERT Post Doctoral Fellow, Community Environmental Health Program, Department of Pharmaceutical Sciences, College of Pharmacy, University of New Mexico Health Sciences Center	2014-2017
Visiting scholar, Department of Geography, UC Santa Barbara, mentor Dar Roberts, PhD	2013-2014
Visiting scholar, Bren School of Environmental Science & Management, mentor Arturo Keller, PhD	2012-2013
Adjunct Professor, Department of Geography, University of Denver	2011-12, 14
Water and People Synthesis Summer Institute Fellow, City College CUNY, New York City, New York, funded by National Science Foundation	2010
Graduate Teaching Assistant, Department of Geography, University of Denver	2009-2012
Graduate Teaching Assistant, Department of Geography and Regional Development, University of Arizona	2008-2009
Graduate Research Assistant, PI Chris Scott, Udall Center of Public Policy and Department of Geography and Regional Development	2008
Graduate Teaching Assistant, Department of Geography and Regional Development, University of Arizona	2007
University of California – Irvine NSF REU Fellow in Biogeochemistry and Climate Change	2006
Undergraduate research assistant, Lab PI Matt Hurtgen, Geology, Northwestern University	2006-2007
University of Alaska, Fairbanks, Geophysical Institute, NSF REU Fellowship	2005
Undergraduate research assistant, Lab PI Hilary Godwin, Chemistry, Northwestern University	2003-2006

RESEARCH MENTORING

I have provided research mentoring to 18 undergraduate and graduate students since 2016. I seek out students from the communities or tribes where my work is on-going with the goal of providing mentored research opportunities. Of the students I have mentored, nine are tribal members and three are underrepresented minorities. Students that I have mentored have gone on to graduate school, post-doctoral fellowships, leadership positions in Tribal serving organizations, and private industry.

Student	Outcome	
Graduate Students		
Andee Lister (Diné), Earth Sciences and Environmental Sustainability, Northern Arizona University (Committee Member)	PhD in progress	2021-Present
Dana Clashin (Diné), Chemistry, Northern Arizona University (Committee Member)	MA in progress	2020-Present
Zhuoming Liu, Geography and Environmental Studies, University of New Mexico (Committee Member)	MA granted Summer 2021	2017-2021
Cherie DeVore (Diné), Civil and Environmental Engineer, University of New Mexico	PhD 2020, Post Doc Stanford University	2016-2020
Emery Three Irons (Crow), Land Resources and Environmental Science, Montana State University (Committee Member)	MA, 2019, Researcher at Little Big Horn College	2016-2019

Jennifer Ong, Biological Sciences, University of New Mexico	PhD granted 2020	2015-2020
Sheldwin Yazzie (Diné), Exposure Science, University of Washington	PhD granted 2018	2015-2018
Sagert Sheets, Geography and Environmental Studies, University of New Mexico (Committee Member)	MA Completed	2017
Undergraduate and High School Students		
Madisan Chavez (Crow), Environmental Studies, Montana State University Billings	BA environmental studies in progress	2020-Present
Lenny Patterson, Environmental Studies, Montana State University Billings	BA granted Fall 2021	2021
Destinee Gondara (Northern Cheyenne), Environmental Studies, Montana State University Billings	BA granted 2020	2019-2020
Brianna Gray, Environmental Studies, Montana State University Billings	BA granted 2020	2019-2020
Rusty Butler, Environmental Studies, Montana State University Billings	BA granted 2020, now MA student University of Montana	2019-2020
Raquel Goh (Diné), Biology, Undergraduate Pipeline Network, Fort Lewis College	BA Completed	2018
Lillian Deenan, Undergraduate Pipeline Network, Arizona State University	BA Completed	2018
Danielle Duarte (URM), Psychology, Undergraduate Pipeline Network, University of New Mexico	BA Completed	2015-2018
Juan Placidis (URM), Undergraduate Pipeline Network, Southwestern Indian Polytechnic Institute	BA Completed	2017
Grace Tolson (URM), Undergraduate Pipeline Network, Eastern New Mexico University	BA Completed	2016
Jacquelyn Tolth (Diné), high school student, CURE Native American Cancer Research Program, Santa Fe Indian School		2016

ONLINE BIBLIOGRAPHY OF PUBLICATIONS

Google Scholar - <https://scholar.google.com/citations?user=fSI7qB8AAAAJ&hl=en&oi=ao>

PEER REVIEWED PUBLICATIONS

1. **Hoover JH**, Doyle J, Ducheneaux C, Erdie E, ..., Gonzales M. (accepted). Deepening multi-directional cultural understanding for research scientists and tribal community members at an international research conference using community engagement practices. Case Study Exemplar, Chapter 3 in *Principles of Community Engagement*, 3rd Edition. US Centers for Disease Control and Prevention.
2. Lin, Y., Lippitt, C., Beene, D., **Hoover, J. H.** (2021). Impact of travel time uncertainties on modeling of spatial accessibility: a comparison of street data sources. *Cartography and Geographic Information Science*
3. Sauder, K. A., Harte, R. N., Ringham, B. M., Guenther, P. M., Bailey, R. L., Alshwabkeh, A., Cordero, J. F., Dunlop, A. L., Ferranti, E. P., Elliott, A. J., Mitchell, D. C., Hedderson, M. M., Avalos, L. A., Zhu, Y., Breton, C. V., Chatzi, L., Hertz-Picciotto, I., Karagas, M. R., Sayarath, V., **Hoover, J. H.**, MacKenzie, D., Lyall, K., Schmidt, R. J., O'Connor, T. G., Barrett, E., Switkowski, K. M., Comstock, S. S., Kerver, J. M., Trasande, L., Tylavsky, F. A., Wright, R. J., Kannan, S., Mueller, N. T., Catellier, D. J., Glueck, D. H., Dabelea. (Accepted). Sociodemographic- and weight-related disparities in risks of inadequate and excessive intake of micronutrients during pregnancy: Synthesis of national data from

the United States Environmental influences on Child Health Outcomes (ECHO) research consortium. *The American Journal of Clinical Nutrition*.

4. **Hoover, J. H.**, Erdei, E., Begay, D., Gonzales, M., NBCS Study Team, Jarrett, J. M., Cheng, P.-Y., and Lewis, J. (2020). Exposure to uranium and co-occurring metals among pregnant Navajo women. *Environmental Research*, 109943. <https://doi.org/10.1016/j.envres.2020.109943>
5. Lin, Y., **Hoover, J.**, Beene, D., Erdei, E., Liu, Z. (2020). Environmental risk mapping potential for abandoned uranium mine contamination on the Navajo Nation, USA, using a GIS-based multi-criteria decision analysis approach. *Environmental Science and Pollution Research*.
6. De La Rosa, V. Y., **Hoover, J. H.**, Du, R., Jimenez, E. Y., MacKenzie, D., N. S. T., Lewis, J. (2020). Diet quality among pregnant women in the Navajo Birth Cohort Study. *Maternal and Child Nutrition*.
7. Pease, M., Chaney, P. L., **Hoover, J.** (2019). A review of water resources education in Geography Departments in the United States. *Journal of Contemporary Water Research & Education*, 168(1), 93-105.
8. **Hoover, J. H.**, Coker, E., Barney, Y., Shuey, C., & Lewis, J. 2018. Spatial clustering of metal and metalloid mixtures in unregulated water sources on the Navajo Nation—Arizona, New Mexico, and Utah, USA. *Science of The Total Environment*, 633, 1667-1678.
9. Gonzales, M., Erdei, E., **Hoover, J.**, & Nash, J. 2018. A Review of Environmental Epidemiology Studies in Southwestern and Mountain West Rural Minority Populations. *Current Epidemiology Reports*, 1-13.
10. Lin, Y., Wimberly, M. C., Da Rosa, P., **Hoover, J.**, & Athas, W. F. 2018. Geographic access to radiation therapy facilities and disparities of early-stage breast cancer treatment. *Geospatial health*, 13(1).
11. Dashner-Titus, E. J., **J. Hoover***, L. Li, J.-H. Lee, R. Du, K. J. Liu, M. G. Traber, E. Ho, J. Lewis and L. G. Hudson (2018). "Metal exposure and oxidative stress markers in pregnant Navajo Birth Cohort Study participants." *Free radical biology & medicine*, 124 (20): 484-492. *Co-first author publication
12. Harmon ME, Lewis J, Miller C, **Hoover JH**, Ali AMS, Shuey C, Cajero M, Lucas S, Pacheco B, Erdei E, Ramone S, Nez T, Campen MJ, Gonzales M. 2018. Arsenic association with circulating oxidized low-density lipoprotein in a Native American community. *Journal of Toxicology and Environmental Health, Part A*. Pg 1-14.
13. Lewis J, **Hoover J**, MacKenzie D. 2017. Mining and Environmental Health Disparities in Native American Communities. *Current Environmental Health Reviews*.
14. **Hoover, J. H.**, Gonzales, M., Shuey, C., Barney, Y., and Lewis, J. Elevated Arsenic and Uranium Concentrations in Unregulated Water Sources on the Navajo Nation, USA. *J of Exposure and Health* (2017): 1-12, DOI: 10.1007/s12403-016-0226-6
15. Harmon, M.E., Lewis, J. Miller, C., **Hoover, J.H.**, Ali, A-M. S., Shuey, C., Cajero, M., Lucas, S., Pacheco, B., Erdei, E., Ramone, S., Nez, T., Gonzales, M., and Campen, M. (2017). Residential proximity to abandoned uranium mines and serum inflammatory potential in chronically exposed Navajo communities. *Journal of Exposure Analysis and Environmental Epidemiology*.
16. Rodriguez-Freire, L., Avasarala, S., Ali, A-M S., Agnew, D., **Hoover, J.H.**, Artyushkova, K., Latta, D.E., Peterson, E.J., Lewis, J.L. Crossey, L.J., Brearley, A.J. and Cerrto, J.M. (2016). Post Gold King Mine Spill Investigation of Metal Stability in Water and Sediments of the Animas River Watershed. *Environmental Science & Technology* Article ASAP, DOI:10.1021/acs.est.6b03092
17. **Hoover, J.H.**, Sutton, PC, Anderson, SJ, and Keller, AA. Designing and evaluating a groundwater quality Internet GIS. *Applied Geography* (2014): 55-65.
18. Hale, R.L., **Hoover, J.H.**, Wollheim, W.M., Vorosmarty, C.J., (2013). History of Nutrient Inputs to the Northeastern United States, 1930-2000. *Global Biogeochemical Cycles* 27(2): 578-591.
19. Scott, C.A., Pierce, S.A., Pasqualetti, M.J., Jones, A.L., Montz, B.E., **Hoover, J.H.** (2011). Policy and institutional dimensions of the water-energy nexus. *Energy Policy* (39): 6622-6630.

BOOK CHAPTERS

20. **Hoover, J. H.**, Bolt, A. M., Burchiel, S. W., Cerrato, J. M., Dashner-Titus, E. J., Erdei, E., Gonzalez-Estrella, J., El Hayek, E., Hudson, L. G., Luo, L., MacKenzie, D., Medina, S., Schilz, J. R., Velasco, C. A., Zychowski, K., Lewis, J. L. (2021). A transdisciplinary approach for studying uranium mobility,

exposure, and human health impacts on tribal lands in the southwest, United States. *Practical Applications of Medical Geology* (3rd ed.). Springer.

21. Hoover, J. H., Lin, Y., Beene, D., Liu, Z. (2020). A geography-centered transdisciplinary approach to evaluate potential human exposure to abandoned uranium mine waste in an Indigenous community in the western United States. *2020 American Association of Geographers Conference Book*. Washington D.C.: Association of American Geographers.
22. Hoover, J.H. (2012). The vital role of electrical energy for Arizona water services. In D. Kenney and R. Wilkinson (Eds.), *The Water Energy Nexus in the American West*. Northampton, MA: Edward Elgar Publishing.

OTHER PUBLICATIONS (NOT PEER REVIEWED)

23. Hoover JH, Beene D, Chief K. (Accepted) A team-science approach to address water quality and security challenges and COVID-19 on the Navajo Nation. *Water Resources IMPACT*.
24. Chief, K., Arnold, R., Curley, A., Hoover, J. H., Kacira, M., Karankiola, V., Simmons-Potter, K., & Tellman, E. (2021, January). Addressing food-energy-water insecurities of the Navajo Nation through university-community collaboration. *Water Resources IMPACT*, 23(1), 31–36.
<https://online.flippingbook.com/view/167753/32/>
25. Hoover, J.H. & Scott, C.A. (2008). *Water, Electric Power and Growth in Southern Arizona*. Proceedings of the Arizona Hydrological Society Symposium. September 22-23, 2008, Flagstaff, AZ.

IN PREPARATION OR UNDER REVIEW

26. Liu Z, Lin Y. Hoover JH, Beene D. (In Review). Individual level spatial-temporal modeling of exposure potential of livestock in the Cove Wash Watershed, Arizona. *Annals of GIS*.
27. Hoover JH, Coker E, Erdei E, Begay D, MacKenzie D, NBCS Study Team, Lewis J. (In Review) Preterm birth associated with metal mixture exposure among pregnant Navajo women. *Environment Health Perspectives*.
28. Hoover JH, Ingram J, Akee R, Beene D, Tulley N, Gray B, Chee R, Shuey C, Carroll S, Lewis J, and Chief K. (In preparation). Mapping Navajo community resilience and COVID-19 risk factors.
29. Yazzie S, Hoover JH, Vigil M, Lopez M. (In preparation). Radon Knowledge and Testing Among Pueblo Communities in Northern New Mexico
30. Yazzie S, Hoover JH, Davis S, Seixas N, Shuey C, Yost M. (In preparation). Predicting Indoor Radon on the Navajo Nation Improves by Combining House Type with Geographic Covariates

MEDIA COVERAGE OF RESEARCH

- Environmental health and water quality research highlighted in a Washington Post article, written by Senator Elizabeth Warren and Representative Deb Haaland.
 - Article cites Lewis J, Hoover J, MacKenzie D. 2017. Mining and Environmental Health Disparities in Native American Communities. *Current Environmental Health Reviews*.
 - <https://www.washingtonpost.com/opinions/2020/05/26/federal-government-fiddles-covid-19-ravages-native-americans>
- Huffington Post article referenced my water quality research on the Navajo Nation.
 - Article cites Hoover, J. H., Gonzales, M., Shuey, C., Barney, Y., and Lewis, J. Elevated Arsenic and Uranium Concentrations in Unregulated Water Sources on the Navajo Nation, USA. *J of Exposure and Health* (2017): 1-12, DOI: 10.1007/s12403-016-0226-6
 - https://www.huffpost.com/entry/water-coronavirus_n_5e7bede4c5b6256a7a243b73
- Media Request – Kaitlyn Nicholas, Tribal Affairs Reporter, Yellowstone Public Radio, December 29, 2020
- MSU Billings Press Release - Western water woes focus of MSUB research. Fall 2020
<http://www.msubillings.edu/news/article.asp?id=20715#western-water-woes-focus-of-msub-research>

GRANTS

Active

P50 Specialized Center of Excellence on Environmental Health Disparities Research, 2020-2025
Sponsored by University of New Mexico (MPI Hoover, Lewis and MacKenzie),

National Institutes of Health, National Institute of Environmental Health Science and National Institute of Minority Health and Health Disparities, \$6,798,537.00. (July 17, 2020 - March 31, 2025). **Responsibilities.** Administrative lead for research and community engagement activities that occur with Crow and Cheyenne River Sioux partners; Co-lead research project 2, responsible for collecting GPS tracking data of livestock and leading analysis and interpretation of health and geospatial data.

Hoover JH (PI). Establishing an academic-community partnership to build geospatial infrastructure needed to determine baseline water quality measurements in the Stillwater River Watershed of south-central Montana. Montana State University Billings Pre-tenure Scholarship Enhancement Grant. Requested amount - \$7,000 (renewable for up to 3 years). 2020-2021

Livestock Movement and Exposure to Abandoned Uranium Mine Waste in Cove Wash Watershed (**Hoover Subaward PI**), Federal, \$76,936. **Responsibilities.** Collecting GPS data of livestock through use of GPS collars; supervising UNM and MSUB students conducting spatial analysis of GPS data; community presentations; and collaborating with project partners to use GPS data to inform understanding of biological results. 2019-2022

Submitted (Under Review)

Hoover JH (PI), Lin Y, Doyle J, Egger M. Improving geospatial environmental health research with Tribal communities in Montana and New Mexico. Collaborative FOA with University of New Mexico and Little Big Horn College (Crow Tribal College). Regional Alliance of INBRE Networks (RAIN) Collaborative Research, invited for full proposal. \$40,000.

Lin Y (PI) et al., **Hoover JH** (consultant). Integrating Big Data with Individual-Level Data to Improve Modeling and Prediction of Rocky Mountain Spotted Fever Dynamics in Native American Communities. Submitted to National Science Foundation EPSCOR Program – Supplemental Support for Minority Serving Institutions in EPSCoR states. Project Period 2021-2023. **Responsibilities.** Wrote research design for GPS collection of domesticated dog activity patterns in a Navajo communities; will work with PI to collect and analyze GPS data. *Note – MSI were the only eligible entities for this supplemental funding so a subaward to my current institution was not allowable. As a result I was listed as a consultant. I will participate in team meetings and support all research and dissemination activities. Requested amount ~\$400,000. ***Recommended for funding*

In Preparation

Hoover (PI) et al. Proposal development underway for the National Science Foundation Human-Environment and Geographical Sciences Program, 21-623. \$400,000

Completed Awards

Navajo COVID-19 Water Needs Mapping, Sponsored by Agnese Nelms Haury Program in Environment and Social Justice, Private, \$6,157.00. (**Hoover Subaward PI** August 15, 2020 - August 14, 2021). **Responsibilities.** lead on data compilation including creation of spatial, relational database; supervise student analyzing project data at MSUB, UNM and UA; present results to partner organizations as requested by the PI or Navajo leadership 2020-2021

"MSUB Subaward for the Center for Native American Environmental Health Equity Research – National Institutes of Health and US Environmental Protection Agency". (**Hoover Subaward PI**) Sponsored by University of New Mexico, Federal, \$29,311 2019-2020

Queen, M. S., Willems, D. L., Comer, J. R., Friedman, S. A., **Hoover, J. H. (Co I)**, "CREWS' Montana State University Billings Water Quality and Environmental Impact Undergraduate Research Internship Program," Sponsored by NSF EPSCoR, \$9,996 2019-2020

Radon Knowledge and Testing in Pueblo Communities in Northern New Mexico (Co-PI Hoover and Yazzie); Pilot award from the UNM Native Environmental Health Equity Research Center, \$17,000	2018-2019
Measuring GPS Satellite Telemetry Bias In The Cove Wash Watershed; Pilot Award from the UNM Environmental Health Signatures Program, (PI Hoover) \$6,000	2017
P50 Specialized Center of Excellence on Environmental Health Disparities Research," Sponsored by University of New Mexico (MPI Lewis and Gonzales; Hoover Key Personnel and Career Development Investigator, Community Engagement Core Co-Lead), National Institutes of Health, National Institute of Environmental Health Science US Environmental Protection Agency, (2015 - 2020).	2015-2020
US Environmental Protection Agency, Science To Achieve Results (STAR) Fellowship (PI Hoover), \$114,246	2011-2014
Scholarship from the Rocky Mountain Region of the American Society of Photogrammetry and Remote Sensing, Denver, CO, \$1,000	2009
Travel grant awarded by the AAG Water Resources Specialty Group, \$400	2009

CONFERENCE ACTIVITY

Presented Papers

1. **Hoover JH**, Ingram J, Akee R, Beene D, Tulley N, Gray B, Chee R, Shuey C, Carroll S, Lewis J, and Chief K. Assessing COVID-19 risk factors on the Navajo Nation. US Centers for Disease Control and Prevention Joint Community Of Practice Monthly Meeting. Window Rock, AZ, December 15, 2021.
2. **Hoover JH** (Presenter), Coker E, Erdei E, Begay D, MacKenzie D, NBCS Study Team, Lewis J. Preterm birth and metals exposure in NBCS women. 2021 Navajo Research Conference. Window Rock, AZ, October 20-21, 2021.
3. **Hoover JH**, Ingram J, Akee R, Beene D, Tulley N, Gray B, Chee R, Shuey C, Carroll S, Lewis J, and Chief K. Assessing COVID-19 risk factors on the Navajo Nation. 2021 Navajo Research Conference. Window Rock, AZ, October 20-21, 2021.
4. Lewis, J. (Co-Presenter), MacKenzie, D. (Co-Presenter), **Hoover, JH** (Co-Presenter), Radiation Exposure Screening and Education Program (RESEP) Virtual Partnership Meeting, "Contemporary Uranium Exposures on Navajo Nation: Update on findings from Environmental, Experimental and Population Studies," US Department of Health and Human Services - Health Resources and Services Administration Federal Office of Rural Health Policy, Virtual. (October 18, 2021).
5. MacKenzie D (Co Presenter), and **Hoover JH (Co Presenter)**. "Environmental Exposures and Health Disparities: Lessons Learned from the Centers of Excellence on Environmental Health Disparities Research". Webinar series organized by National Institute of Environmental Health Science and US Environmental Protection Agency. (June 28, 2021)
6. Yazzie S (Co Presenter) and **Hoover JH (Co Presenter)**. "Radon knowledge and testing among Pueblo communities in northern New Mexico" Presented at webinar titled Radon and Citizen Science: Public Engagement to Increase Education and Outreach. Sponsored by American Association of Radon Scientists and Technologists (AARST) and Conference of Radiation Control Program Directors (CRCPD). (June 22, 2021)
7. **Hoover, J. H. (Co-Presenter)**, Lin, Y. (Co-Presenter), 2021 Dine College NSF TCUP Summer Internship Kickoff Symposium, "Results of Animal Collaring and Spatial Analysis of the Cove Livestock Study," Dine College, Shiprock. (May 26, 2021).
8. Yazzie, S. (Co-Presenter), **Hoover, J. H. (Co-Presenter)**, NIH-EPA Environmental Health Disparities Research Webinar Series - Fostering Community Engaged Research in Environmental Health Disparities, "Radon Knowledge and Testing Among Pueblo Communities in Northern New Mexico," National Institutes of Health and US Environmental Protection Agency, Webinar. (March 2021).
9. Yazzie, S. (Co-Presenter), **Hoover, J. H. (Co-Presenter)**, Albuquerque Area Southwest Tribal Epidemiology Center Monthly Webinar, "Tribal Environmental Public Health Tracking: Examining the Relationship Between Environmental Exposures and Community Heal," AASTEC, Digital, zoom, Albuquerque. (January 20, 2021).
10. Lewis, J. (Presenter and Center MPI), **Hoover, J. H.** (Co-author and Center MPI), MacKenzie, D. (Co-author and Center MPI), National Institutes of Minority and Health Disparities Centers of Excellence

- Annual Meeting, "Center for Native Environmental Health Equity Research - Center Overview," National Institutes of Minority and Health Disparities, Virtual. (October 26, 2020).
11. **Hoover, J.** (Presenter), Lin, Y., Beene, D., Liu, Z., Lewis, J. (Co-author), 2020 Annual Meeting Geological Society of America, "GPS tracking livestock to inform potential human exposure to abandoned uranium mine waste in an Indigenous community in the southwestern United States," Geological Society of America, Montreal, Canada. (October 26, 2020).
 12. **Hoover, J. H.** (Presenter), Chief, K., Ingram, J., Akee, R., Beene, D., Tulley, N., Chee, R., Shuey, C., Carroll, S., Lewis, J., Navajo Nation COVID-19 WACG Sub-Group Communication and Drinking Water Research, "Navajo COVID-19 and Water Needs Mapping," Indian Health Service, Virtual. (October 8, 2020).
 13. **Hoover, J.**, POSTPONED - 2020 Tribal Environmental Health Summit, Great Lakes NARCH and National Institute of Environmental Health Science, WI, United States. (June 10, 2020).
 14. **Hoover, J.**, Lin, Y, Beene, D., Liu, Z., Lewis, J., American Association of Geographers 2020 Annual Meeting, "POSTPONED - GPS tracking livestock to inform potential human exposure to abandoned uranium mine waste in an Indigenous community in the southwestern United States," American Association of Geographers, Denver, CO, United States. (April 2020).
 15. **Hoover, J. H.** (Presenter), 2020 February Meeting of the Centers of Excellence for Environmental Health Disparities, "Update On the Cove Livestock Study," National Institutes of Environmental Health Sciences & US Environmental Protection Agency, Conference Call. (February 24, 2020).
 16. Hernandez, D. (Panelist), **Hoover, J. H.** (Panelist), Lebow-Skelley, E. (Panelist), Min, E. (Panelist), Rock, T. (Panelist), Partnerships for Environmental Public Health, "Partnerships for Environmental Public Health - Evaluation Panel Discussion," National Institute of Environmental Health Science, Durham Convention Center, Durham, NC. (February 12, 2020).
 17. **Hoover, J.** (Presenter), Yazzie, S., Zychowski, K., Gonzales, M., Partnerships for Environmental and Public Health, "Community-engaged research and translation with Tribal communities in the western United States," National Institutes of Environmental Health Science, Durham Convention Center, Durham, United States. (February 11, 2020).
 18. Charley, P. H. (Presenter), Ingram, J., **Hoover, J.** (Co-author), Singer, N., Lopez, M., Lewis, J., Lin, Y., Robinson, D. (Co-author), Jameson, R. (Co-author), TCUP Research Symposium 2019, "Cove Livestock Study," National Science Foundation, Alexandria, VA, United States. (December 17, 2019).
 19. Roman, C. W. (Presenter), Shuey, C., Robinson, P., **Hoover, J.**, Gonzales, M., Superfund Annual Meeting 2019, "Assessing Exposures to Uranium Mine Wastes on Native American Lands in the Southwestern U.S.," National Institutes of Environmental Health Science, Seattle, WA, United States. (November 18, 2019).
 20. Yazzie, S. (Co-organizer and presenter), **Hoover, J.** (Co-organizer and presenter), Tribal Environmental Public Health Tracking Workshop, "Tribal Healthy Homes Project," Albuquerque Area Southwest Tribal Epidemiology Center, Sheraton Albuquerque Airport Uptown, Albuquerque, NM, United States. (November 15, 2019).
 21. Beene, D. (Presenter), Lin, Y., **Hoover, J.** (Co author), Liu, Z., APCG Annual Meeting 2020, "GPS tracking livestock to inform potential human exposure to abandoned uranium mine waste in an Indigenous community in the southwestern United States," Association of Pacific Coast Geographers, Flagstaff, AZ, United States. (October 18, 2019).
 22. Liu, Z. (Presenter), Lin, Y., **Hoover, J.** (Co author), Beene, D., SWAAG 2019 Annual Meeting, "Classifying livestock grazing behavior and GIS-modeling potential for exposure to Abandoned Uranium Mine Waste in the Cove Wash Watershed, Arizona, USAC lassifying livestock grazing behavior and GIS-modeling potential for exposure to Abandoned Uranium Mine Waste in the Cove Wash Watershed, Arizona, USA," Southwest Division of the American Association of Geographers, Fort Worth, TX, United States. (October 10, 2019).
 23. Doyle, J.T., Eggers, M.J., Lefthand, M.J., Young, S.L., Moore-Nall, A.L., Kindness, L., Other Medicine, R., Ford, T.E., Dietrich, E., Parker, A.E., **Hoover, J.H.** (Co author), Camper, A.K. 2018. Poster: Community engaged cumulative risk assessment of exposure to inorganic well water contaminants, Crow Reservation, Montana. 10th Conference on Metal Toxicity and Carcinogenesis. October 28-31, 2018. Albuquerque, NM.
 24. Eggers, M.J., Doyle, J.T., Lefthand, M.J., Young, S.L., Moore-Nall, A.L., Kindness, L., Other Medicine,

- R., Ford, T.E., Dietrich, E., Parker, A.E., **Hoover, J.H.** (Co author), Camper, A.K. 2018. Poster: Community engaged cumulative risk assessment of exposure to inorganic well water contaminants, Crow Reservation, Montana. Sept. 18-19, 2018. Montana Environmental Health Association/Montana Public Health Association Conference, Helena, MT.
25. Eggers, M.J., Doyle, J.T., Lefthand, M.J., Young, S.L., Moore-Nall, A.L., Kindness, L., Other Medicine, R., Ford, T.E., Dietrich, E., Parker, A.E., **Hoover, J.H.** (Co author), Camper, A.K. Poster: Community engaged cumulative risk assessment of exposure to inorganic well water contaminants, Crow Reservation, Montana. Sept. 6, 2018. Community Centered and Compassionate Scholarship Symposium. Montana State University, Bozeman, MT.
 26. **Hoover JH** (Presenter). How chronic disaster research can inform acute disaster response for environmental health research. Presented at NIEHS IRB Review of Disaster Research: Tribal Listening Session Best Practices Working Group. Phoenix, AZ. October 16-17, 2018.
 27. **Hoover JH** (Presenter), Gonzales M, Campen M, Lewis JL. Investigating metals exposure and human health impacts on tribal lands. Presented at the 3rd Tribal Environmental Health Summit. Corvallis, OR. June 25-26, 2018
 28. **Hoover JH** (Presenter). Drinking water and water quality. Presented at weekly seminar for the CURE summer program at the University of New Mexico. Albuquerque, NM, July 20, 2018
 29. Goh R, Yazzie SA, Vigil M, Gonzales M, Dineen L, **Hoover JH** (Co author). Radon Awareness and Assessment in Northern New Mexico. Poster presentation at 2018 NM-INBRE Symposium, Albuquerque, NM, August 1-2, 2018.
 30. Goh R, Yazzie SA, Vigil M, Gonzales M, Dineen L, **Hoover JH** (Co author). Radon Awareness and Assessment in Northern New Mexico. Poster presentation at 2018 NM-UPN Research Symposium, Albuquerque, NM, August 3, 2018.
 31. Yazzie SA, Goh R, **Hoover JH** (Co author). Radon Knowledge and Testing Among Pueblo Communities in Northern New Mexico. Presented at the 10th Conference on Metals Toxicity and Carcinogenesis, Albuquerque, NM, October 28-31, 2018.
 32. **Hoover JH** (Presenter), Lin Y, Gonzales M, Lewis JL. Using Geospatial Technology to Inform Risk Assessment of Human Exposure to Metals via Consumption of Animal Meat and Organs. Presented at the 10th Conference on Metals Toxicity and Carcinogenesis, Albuquerque, NM, October 28-31, 2018.
 33. **Hoover JH** (Presenter). Evaluating spatial clustering of metal mixtures in unregulated water sources on the Navajo Nation. Presented at the Northern Arizona University Chemistry Department Seminar. Flagstaff, AZ. October 19, 2018.
 34. **Hoover JH** (Presenter). Geospatial Technology and Analysis Methods for Environmental Health Research. Presented at the University of New Mexico GIS Day. Albuquerque, NM, November 14, 2018.
 35. **Hoover JH** (Presenter), "How chronic disaster research can inform acute disaster response for environmental health research" (2018). Presented at NIEHS IRB Review of Disaster Research: Tribal Listening Session Best Practices Working Group. Phoenix, AZ. October 16-17, 2018.
 36. **Hoover JH** (Presenter), "Investigating metals exposure and human health impacts on tribal lands" (2018). Presented at the 3rd Tribal Environmental Health Summit. Corvallis, OR.
 37. **Hoover JH** (Presenter), "Cove Livestock Study Overview" (2018). Presented at the University of New Mexico Metals Exposure on Tribal Lands in the Southwest (METALS) Superfund Basic Science and Training Center Navajo Trustee Meeting.
 38. **Hoover JH** (Presenter), "Drinking water and water quality" (2018). Presented at weekly seminar for the CURE summer program at the University of New Mexico. Focus on underrepresented minority students interested in biomedical and cancer research.
 39. **Hoover JH** (Presenter), "Career Development Investigator – Joseph Hoover". (2018). Presented at monthly Centers of Excellence in Environmental Health Disparities Research Directors conference call.
 40. **Hoover JH** (Presenter), "Working to understand the role of social determinants of health for minority and vulnerable communities in the United States" (2017). Presented at the International Society of Exposure Science 27th Annual meeting. Research Triangle Park, NC.
 41. **Hoover JH** (Presenter), "Metals exposure and environmental health research on the Navajo Nation" (2017). Presented at the 2017 Mountain West Society of Toxicology Annual Meeting. Albuquerque, NM.

42. **Hoover JH** (Presenter), “Metals exposure and environmental health research on the Navajo Nation” (2017). Presented at the Community Outreach and Patient Empowerment Cancer Survivorship Meeting. Window Rock, AZ
43. **Hoover JH** (Presenter), “Identification and spatial clustering of metal mixtures in unregulated water sources” (2017). Presented at the 2017 Annual Meeting of the American Association of Geographers. Boston, MA
44. **Hoover JH** (Presenter) Environmental and Academic Professionals' Perspectives Regarding Water Quality. Dissemination Using Internet GIS” (2016). Presented at the 2016 Annual Meeting of the Association of American Geographers. San Francisco, CA
45. **Hoover JH** (Presenter), “Understanding the Gold King Mine spill: Center for Native American Environmental Health Equity Research Investigations to inform risk.” (2015). Presented at the Tribal Ecological Workshop. Washington D.C.
46. **Hoover JH** (Presenter), “Understanding the Gold King Mine spill: Center for Native American Environmental Health Equity Research Investigations to inform risk.” (2015). Presented at the Navajo Nation Human Research Review Board Conference. Window Rock, AZ.
47. **Hoover JH** (Presenter), “Maternal and neonatal exposure to uranium and other heavy metals: A prospective birth cohort study.” (2015). Presented at the Navajo Nation Human Research Review Board Conference. Window Rock, AZ.
48. **Hoover JH** (Presenter), “The Occurrence Of Drinking Water Contaminants In Unregulated Water Sources On The Navajo Nation.” (2015). Presented at the 2015 Annual Meeting of the Association of American Geographers. Chicago, IL.
49. **Hoover JH** (Presenter), “Geographic tools in health risk research.” (2014). Presented at the Bi-National Health Risk Seminar Series. Albuquerque, NM.
50. **Hoover JH** (Presenter), “Assessing And Reducing Drinking Water Metal Exposure On The Navajo Nation Using Geospatial Technology.” (2014). Presented at the 8th Conference on Metal Toxicity & Carcinogenesis. Albuquerque, NM.
51. **Hoover JH** (Presenter), “Communicating water quality information using Internet GIS.” (2014). Presented at the 2014 Association of American Geographers Annual Meeting. Tampa Bay, FL.
52. **Hoover JH** (Presenter), “Evaluating the capacity of Internet GIS to communicate groundwater quality information.” (2013). Presented at the 2013 American Water Resources Association Annual Meeting. Portland, OR.
53. **Hoover JH** (Presenter), “Development of a Groundwater Quality webGIS Application Employing Usability Testing.” (2013). Presented at the 2013 Association of American Geographers Annual Meeting. Los Angeles, CA.
54. **Hoover JH** (Presenter), “Application of WebGIS to Water Resources Environmental Decision Making.” (2011). Presented at UMI 8504, Geographie-Cites Paris, France.
55. **Hoover JH** (Presenter), “Using spatial statistics in the development of an historical narrative for water resources in the Northeast United States.” (2011). Presented at the 2011 Association of American Geographers Annual Meeting, Seattle, WA.
56. **Hoover JH** (Presenter), “Leveraging spatial statistics in the development of an historical narrative for water resources in the Northeast United States.” (2010). Presented at the 2010 American Geophysical Union Fall Meeting, San Francisco, CA.
57. **Hoover JH** (Presenter), “Drinking Water Contamination and Uranium Mines on the Navajo Indian Reservation.” (2010). Presented at the 2010 American Water Resources Association Annual Meeting, Philadelphia, PA.
58. **Hoover JH** (Presenter), “An Arizona statewide energy for water assessment.” (2010). Presented at the 2010 Association of American Geographers Annual Meeting, Washington, DC.
59. **Hoover JH** (Presenter), “The Arizona water-energy nexus.” (2009). Presented at the 2009 Annual meeting of the American Water Resources Association, Seattle, WA.
60. **Hoover JH** (Presenter), “Electricity requirement for Arizona water services.” (2009). Presented at the 2009 meeting of the Great Plains/Rocky Mountains Division of the Association of American Geographers, Logan, UT.
61. **Hoover JH** (Presenter), “Electricity for water and wastewater service in Arizona.” (2009). Advanced water education workshop for valley educators, Phoenix, AZ.

62. **Hoover JH** (Presenter), "Electricity for Water and Wastewater Service in Arizona." (2009). University of Colorado Natural Resources Law Center Summer Conference, Boulder, CO.
63. **Hoover JH** (Presenter), "Water and Energy Sustainability in the Arizona-Sonora Border Region." (2009). Presented at an Arizona Water Institute grant workshop, Tucson, AZ.
64. **Hoover JH** (Presenter), "Water and Energy Sustainability in the Arizona-Sonora Border Region." (2009). Presented at the Second Forum on Water and Energy Sustainability, Santa Barbara, CA.
65. **Hoover JH** (Presenter), "Water-Energy Nexus in Southern and Central Arizona." (2009). Presented at the 2009 American Association of Geographers Meeting, Las Vegas, NV.
66. **Hoover JH** (Presenter), "Water and Energy Sustainability in the Arizona-Sonora Border Region." (2008). 15th Border Energy Forum XV and 2nd Watergy Border Forum, Monterrey, Nuevo Leon, Mexico.
67. **Hoover JH** (Presenter), "Water, Electric Power and Growth in Southern Arizona." (2008). Presented at the 21st Annual Symposium for the Arizona Hydrological Society, Flagstaff, AZ.
68. **Hoover JH** (Presenter), "Analysis of the US EPA's Arsenic Drinking Water Rule-Making Process." (2008). Presented at the 2008 American Association of Geographers Annual Meeting, Boston, MA.
69. **Hoover JH** (Presenter), "Environmental Quality Analysis of the Red Valley Chapter Drinking Water on the Navajo Indian Reservation." (2007). Presented at the Association of Pacific Coast Geographers Conference, Long Beach, CA.
70. **Hoover JH** (Presenter), "Enzymatic survey of mycorrhizal fungi in the Alaskan boreal forest." (2006). Research presented at the University of California – Irvine NSF REU summer poster session.
71. **Hoover JH** (Presenter), "Uranium and Arsenic Filtration on the Navajo Indian Reservation: Effects of Commercial Filters on Artesian Well Drinking Water." (2005). Presented at the 16th Annual Argonne Symposium for Undergraduates in Science, Engineering and Mathematics, Argonne National Laboratory-Argonne, IL.
72. **Hoover JH** (Presenter), "Uranium and Arsenic Filtration on the Navajo Indian Reservation: Effects of Commercial Filters on Artesian Well Drinking Water." (2005). Presented at the Chicago Area Undergraduate Research Symposium, Chicago, IL.
73. **Hoover JH** (Presenter), "A Spectroscopic Analysis of Bromine Activity in Snow." (2005). Presented at the University of Alaska, Fairbanks, NSF REU summer presentation seminar.
74. **Hoover JH** (Presenter), "Pollutant Analysis and Water Quality Improvement Project on the Navajo Indian Reservation." (2004). Research presented at the American Chemical Society, Great Lakes Regional Conference, Peoria, IL.

INVITED PRESENTATIONS

75. **Hoover JH** (Presenter), "Spatial clustering of metal mixtures in unregulated water sources on the Navajo Nation" (2018). Fall Seminar for Chemistry Department, Northern Arizona University.
76. **Hoover JH** (Presenter), "How chronic disaster research can inform acute disaster response for environmental and health research" (2018). NIEHS Tribal Listening Session – Best Practices Working Group. Phoenix, AZ.
77. **Hoover JH** (Presenter), "Evaluating spatial clustering of metal mixtures in unregulated water sources on the Navajo Nation" (2017), Spring Seminar Land Resources and Environmental Science Department, Montana State University.
78. **Hoover JH** (Presenter), "Occurrence and spatial analysis of chemicals and chemical mixtures in unregulated water sources." (2016), Colloquium Talk, Department of Geography and Environmental Studies, University of New Mexico
79. **Hoover JH** (Presenter), "Geospatial analysis of metals exposure among Navajo Birth Cohort participants." (2016) Colloquium Talk, Department of Pharmaceutical Sciences, College of Pharmacy, University of New Mexico

Organized Sessions

1. Association of American Geographers Annual Meeting. (2016). Session co-organizer. "Application of Q Methodology in Geography." San Francisco, CA.
2. Association of American Geographers Annual Meeting. (2014). Session co-organizer. "Use of Geospatial Techniques and Technology in Water Resource Research." Tampa Bay, Florida.

- Association of American Geographers Annual Meeting. (2011). Session co-organizer. "The Water-Energy Nexus." Seattle, WA.

TEACHING STATEMENT

As a teacher, I aim to provide students the knowledge, skills, and experience to be lifelong learners, to seek out and embrace opportunities to be productive members of society, and to be prepared to pursue graduate school or employment following graduation. I look forward to engaging students in and out the classroom to learn about geospatial science and water resources challenges. At the University of Denver I taught an introductory GIS and Environmental Systems courses for undergraduates (including majors and non-majors). The DU Department of Geography awarded me the Dr. Laurance C. Herold Award for Outstanding Graduate Teaching Assistant. Following my graduate degree program I completed a three year ASERT post-doctoral fellowship (funded by the National Institute of General Medical Sciences) at the University of New Mexico. This fellowship provided me with training in modern teaching pedagogy in active learning, design of an inclusive learning environment (in and out of the classroom), and use of evidence-based evaluation tools. As a visiting fellow at the Southwestern Indian Polytechnic Institute (SIPI), a National Indian Community College in Albuquerque, NM, I used these tools and redesigns the Environmental Sciences curriculum and taught Environmental Sciences courses emphasizing water quality, and environmental policy. At Montana State University Billings I redesigned three GIS courses uses active learning and lab-based exercises that provide students opportunity to learn new software and skills in a collaborative and supportive learning environment. I also incorporate examples of my own research, indigenous scholars, and other underrepresented groups in science as one tool to develop an open and inclusive learning environment.

COURSES TAUGHT

Institution	Course	Dates
MSU Billings	GPHY 262-600, Spatial Sciences Tech and Appl (Physical Science general education) (F & S Semesters)	2019-Present
	GPHY 263, Lab Spatial Sciences Tech and Appl (Physical Science general education) (F & S Semesters)	2020-Present
	GPHY 282-600, Mapping Techniques (F Semester)	2019-Present
	GPHY 380-600, Intro to GIS (S Semester)	2020-Present
	GPHY 484-600, Applied GIS/Spatial Analysis (F Semester)	2020-Present
	GPHY 492, Independent Study (F & S Semesters)	2020-Present
Southwest Indian Polytechnic Institute	Temporary Instructor, ENVS 121 (Environmental Sciences I with Lab), Environmental Sciences Program	2016
	Temporary Instructor, ENVS 125 (Environmental Regulations), Environmental Sciences Program	2016
	Temporary Instructor, ENVS 201 (Contemporary Environmental Issues), Environmental Sciences Program	2016
University of Denver	Co-Instructor, ENVS 121 (Environmental Sciences I with Lab), Environmental Sciences Program	2015
	Adjunct Professor, GEOG 2100 (Summer Quarter, Introduction to Geographic Information Science), Department of Geography	2014
	Adjunct Professor, GEOG 1202 (Summer Quarter, Environmental Systems: Hydrology), Department of Geography	2011, 2012

SERVICE

Department	Environmental Studies Scholarship Committee Member	2020-Present
College	Teaching Peer Reviewer	2020-Present
University	University Assessment and Accreditation Committee Member	2019-Present
	Strategic Planning - Faculty Development Committee Member	2020-Present

PROFESSIONAL SERVICE

Manuscript Reviewer for *International Journal of Environment and Public Health*, *Environment International*, *Water*, *Water International*, *Hydrogeology Journal*, *Applied* On going

Geography, Environment International, Journal of Great Lakes Research, Environmental Health Perspectives, Environmental Research

Guest Editor for a Special Issue for International Journal of Environmental Research and Public Health.	2020-Present
Chair – AAG Water Resources Specialty Group	2016-2018
Secretary/Treasurer – AAG Water Resources Specialty Group	2014-2016
Newsletter Editor – AAG Water Resources Specialty Group	2012-2014
Student Director – AAG Water Resources Specialty Group	2011-2013
Graduate student department representative to the Geography faculty, University of Denver	2011-2012

UNIVERSITY, COLLEGE AND DEPARTMENT AND PUBLIC SERVICE

University	Member, University Assessment and Accreditation Committee (University)	2020-2022
Department	Committee Member, Environmental Studies Scholarship Committee	2019-Present
Public	Member, Navajo Nation Water Access Coordination Group, Window Rock, AZ.	2020-Present
Public	Organizer, New Mexico Native Environmental Public Health Tracking, Albuquerque.	2019-Present
Public	Volunteer GIS Analyst/Cartographer, Southwest Research and Information Center, Albuquerque, NM	2019-Present

PROFESSIONAL ORGANIZATION MEMBERSHIP

Association of American Geographers
 Montana Association of Geography Information Professionals
 American Water Resources Association
 American Association for the Advancement of Science

PROFESSIONAL REFERENCES

John Doyle, Community Researcher working with Little Big Horn College, Founding member, Crow Environmental Health Steering Committee, Chairman, Apsaalooke [Crow] Water and Wastewater Authority, Member of EPA National Environmental Justice Advisory Council. Tel.+1 (406) 638 3155; Email – doylej@lbhc.edu

Melissa Gonzales, PhD. Professor, Division of Epidemiology, Biostatistics, and Preventive Medicine , Department of Internal Medicine, Associate Vice Chancellor for Research and Evaluation, HSC Office for Equity, Diversity and Inclusion, University of New Mexico, Albuquerque, NM el. +1 (505) 272-9598; email mgonzales@salud.unm.edu.

Marcus Lopez. Roads & Transportation Manager/GIS Technician, Nambe Pueblo. Tel. +1 (505) 455-4424, email mlopez@nambepueblo.org

Jani Ingram, PhD. Professor, Analytical and Environmental Chemistry, Northern Arizona University. Tel. +1 (928) 523-7877; email - jani.ingram@nau.edu

Emery Three Irons, MA. GIS manager for Crow Water Quality Project. email - threeironse@lbhc.edu

Sheldwin Yazzie, PhD. Deputy Director Southwest Tribal Epidemiology Center, Albuquerque, NM. Tel. +1 (505) 764-0036; email – shyazzie@aaihb.org