NICHOLAS MANNING

CURRICULUM VITAE

Department of Fisheries & Wildlife
Center for Systems Integration & Sustainability
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EDUCATION

Michigan State University | East Lansing, MI — 2021-Present
M.S. Fisheries & Wildlife

Kent State University | Kent, OH — 2015-2019
Summa cum laude (GPA: 3.93), Phi Beta Kappa
B.S. Geology (Environmental Geology Concentration)
B.A. Environmental Studies
Senior Capstone Title: *What's in the Water? An Analysis Off the Shore of Villa-Angela Beach Using the KSU Spectral Decomposition Method*

HONORS & AWARDS

Graduate Research Fellowship Honorable Mention, National Sci. Foundation	2021
Geography Honors Award, Kent State Department of Geography	2019
Outstanding Geology Major, Kent State Department of Geology	2019
John F. Hall Senior Award, Northern Ohio Geological Society	2019
Bauer Experiential Learning Grant, Kent State Department of Geology	2019
Glenn W. Frank Scholarship, Kent State Department of Geology	2018
Phi Beta Kappa, Kent State University	2018

RESEARCH EXPERIENCE

Graduate Research Assistant, Michigan State University — 2021-Present
Department of Fisheries & Wildlife
Advisor: Jianguo Liu

- Analyze and process geospatial drought and land cover/change data
- Lead two projects related to metacoupling, sustainability, and natural disasters
- Synthesize current literature on geospatial technology, drought, land change, and metacoupling to produce novel insights

This position is funded through NSF Award 2118329, "*Geospatial Understanding through an Integrative Discovery Environment."*

Biogeography Research Technician, Kent State University 2019-2021
Department of Geography
Advisor/Mentor: Timothy Assal

- Conducted geospatial analysis and image processing by independently producing efficient R and Google Earth Engine scripts
- Created publication-quality graphics summarizing various geospatial data
- Organized digital code repositories using GitHub and GitHub Desktop
- Produced accessible resources to assist lab mates in Google Earth Engine & GitHub

This work resulted in multiple published manuscripts and acknowledgements in scientific publications, and was funded through multiple United States Geological Survey grants.

Student Undergraduate Laboratory Intern, Argonne National Lab 2020
Energy Systems Division
Advisor: Hui Xu

- Identified major trends in forest species distribution and management practices by aggregating and re-sampling state-level forest inventory data
- Modelled greenhouse gas reduction potential from the adoption of precision agriculture technologies and green ammonia

This work resulted in an oral presentation at Argonne National Lab and was funded through the U.S. Department of Energy's SULI program.

Undergraduate Research Assistant, Kent State University 2018-2019
Department of Geology
Advisor: Joseph Ortiz

- Identified primary contaminants flowing into Euclid Creek and determined potential impacts through novel remote sensing statistical methods
- Supported multi-disciplinary research in collaboration with Environment Canada

This work resulted in an oral presentation at a NASA facility and a poster presentation at Kent State University and was funded by the Ohio Space Grant Consortium Scholarship.

PUBLICATIONS

Peer-Reviewed Publications

1. Assal, T. J., Steen, V. A., Caltrider, T., Cundy, T., Stewart, C., **Manning, N.,** & Anderson, P. J. (2021). Monitoring long-term riparian vegetation trends to inform local habitat management in a mountainous environment. *Ecological Indicators*, *127*, 107807.

Government Publications

1. Assal, T.J., Germaine S.S., & **Manning N**. 2021. Assessing Treatment Effectiveness of Mule Deer (*Odocoileus hemionus*) Enhancement Projects within the Rio Grande del Norte National Monument, NM; prep. for the U.S. Bureau of Land Management

PRESENTATIONS

Oral Presentations

1. **Manning, N.** "Our World in Images: Using Satellite Data in Science" *MSU Science Festival,* 2022
2. **Manning, N.**, Liu, J. "Disentangling Distant Impacts of US Midwestern Drought on Land Change in the Brazilian Cerrado" *MSU Fisheries & Wildlife Graduate Student Organization Research Symposium, 2021*
3. **Manning, N.,** Xu, H. "Woody Biomass Analysis and Greenhouse Gas Reduction Potential Using Precision Agriculture" *Argonne Nat. Lab Learning Off the Lawn, 2020*
4. **Manning, N.,** Ortiz, J., "Water Quality Assessment of Euclid Creek Using Remote Sensing and VPCA Analysis" *Ohio Space Grant Consortium Conference, 2019*

Poster Presentations

1. **Manning, N.,** Ortiz, J., "Using VPCA to Determine Main Constituents in Euclid Creek", *Environmental Science Design and Research Initiative, 2019*
2. **Manning, N.,** Singer, D. "Separation of Acid Mine Drainage Colloids by Centrifugation", *Undergraduate Research Symposium, 2019*

PROFESSIONAL TRAINING

Data Science: Wrangling, HarvardX, May 2020
Awarded for completing the HarvardX online course covering importing data, using the tidyverse and dplyr, and web scraping and string processing basics in the R coding language

Spatial Data Science: The New Frontier in Analytics, ESRI, December 2020
Awarded for completing ESRI's massive open online course on a variety of geospatial data topics (data engineering, pattern detection, etc.) hosted through ESRI's ArcGIS Pro platform

PROFESSIONAL AFFILIATIONS

Inst. for Geospatial Understanding through an Integrative Discovery Env.,
Convergence Science Catalysts Team Member 2021-Present
Connects with team members and fosters collaboration on projects uncovering the cascading global impacts of local natural disasters

MSU Graduate Student Organization, Research Symposium Co-Chair 2022-Present
Organizes and plans the 2023 Fisheries & Wildlife Research Symposium

MSU Graduate Student Organization, Research Symposium Committee 2021
Effectively communicated symposium information and co-moderated presentations

Future Environmental Consultants of America, Former Vice-President 2019
Led weekly meetings, worked with president to grow a new organization, communicated with industry leaders to foster collaborations.

Phi Beta Kappa, Member 2018-Present

Phi Sigma Pi National Honor Fraternity, Former Fundraising Chair 2018-Present
Created and organized interactive events to raise funds for the chapter and for scholarships. Presented weekly updates and attended board meetings.

VOLUNTEER EXPERIENCE / COMMUNITY SERVICE

Green Energy Ohio, Grant Writing Intern 2019
Proyecto Raices, Language Tutor 2018

COMPUTER / TECHNICAL SKILLS

Languages: R (competent), JavaScript for GEE (competent), Python (beginner)
Software: Google Earth Engine, R, GitHub, GitHub Desktop, Slack, Microsoft Office Suite, ESRI ArcGIS Suite, TerrSet, Google Office Suite, EarthExplorer, ENVI/IDL

REFERENCES

Dr. Jianguo Liu, Director, Rachel Carson Chair in Sustainability
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Michigan State University
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