Nicholas Manning

*Curriculum Vitae*

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| Department of Fisheries & Wildlife  Center for Systems Integration & Sustainability  1405 S Harrison Rd  East Lansing, MI, 48823 | Phone: 440-822-6174  Email: manni175@msu.edu |

# 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

*Completed 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

*Completed 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 Chair2018-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

Center for Systems Integration & Sustainability

Michigan State University

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**Dr. Timothy Assal**, Assistant Professor

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**Dr. Joseph Ortiz**, Professor

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**Dr. Hui Xu**, Environmental Scientist

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