

Renaë Gizzo

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EDUCATION

Michigan State University | East Lansing, MI 2025-Present
M.Sc. Department of Plant Biology

Kent State University | Kent, OH 2020-2023
Cumulative GPA: 3.7
B.S. Environmental & Conservation Biology (Conservation Bio Concentration)
Minor: Geographic Information Science

AWARDS

First place in poster division –
AAG East Lakes Division Meeting 2023

Fellows Research Grant –
Environmental Design and Research Institute 2022, 2023

PROFESSIONAL EXPERIENCE

CTL Engineering Inc. | GIS Analyst February 2024-January 2025

- Administered company GIS database by geocoding legacy project data and leveraging pipelines between ArcGIS Servers and internal network servers for automated data preprocessing and maintenance
- Scripted web mapping applications using the JavaScript API for ArcGIS to provide end users with live field data tracking
- Collaborated with stakeholders and various departments to create high-quality map and data products from environmental surveys
- Aided in species and soil identification, and site mapping using a submeter GPS system during wetland delineation and endangered species assessments

RESEARCH EXPERIENCE

Biogeography & Landscape Dynamics Lab | Research Assistant 2022-2024
Kent State Department of Geography
Advisor: Timothy Assal

- Performed dendroecological analysis by crossdating dead tree cores and building master chronologies using standard dendro statistical methods in R and CDendro
- Crosswalked diverse ecological indices with recorded hurricane occurrences to conduct a superposed epoch analysis using derived tree core data
- Contributing author on prospective scientific manuscript and created publication-quality graphics from large remote sensing data in Google Earth Engine and R

This research was funded by the Environmental Design and Research Institute, and was presented at their annual symposium and at the Kent State University Undergraduate Research Symposium.

Summer Undergraduate Research Experience | Research Assistant 2023
 Kent State Department of Geography
 Advisor: Andrew Scholl

- Programmatically and manually operated a drone to capture aerial photographs of the 19 natural lands owned by Kent State University
- Utilized drone image processing software Pix4D to create orthomosaic, digital elevation, and digital terrain models for research use by students and faculty
- Converted orthomosaics into land cover datasets by using machine-learning algorithms in Google Earth Engine to perform random forest classification

This research was funded by the Environmental Design and Research Institute at Kent State University.

Administrative Report | Research Assistant 2021
 Kent State Department of Geography
 Advisor: Timothy Assal

- Identified extent and severity of an unanalyzed wildfire in Colorado using the differenced Normalized Burn Ratio and zonal analysis in QGIS
- Drafted an administrative report that presented our data for use by land managers in the region

This research resulted in a report, which was submitted to the Bureau of Land Management in the study region to fill an immediate data gap in the Monitoring Trends in Burn Severity system.

COMPUTER / TECHNICAL SKILLS

Software: ESRI ArcGIS Suite, RStudio, R, EarthExplorer, Google Earth Engine, Slack, GitHub, Microsoft Office Suite, Google Office Suite, QGIS, Pix4D Suite

Languages: R (proficient), Python: GeoPandas & rasterio (competent), JavaScript: JS ArcGIS API & GEE (competent), Arcade (competent)

PRESENTATIONS

1. **T. Renae Gizzo**, Ana Murray & Grace Michael, “Applications of Dendrochronology: When did a living forest become a ghost forest?” *Environmental Design and Research Institute Symposium, 2023*
2. **T. Renae Gizzo**, Ana Murray, Andrew Scholl & Timothy J. Assal, “Deciphering Atlantic White Cedar Mortality in Southern New Jersey using Dendrochronology” *AAG East Lakes Division Meeting, 2023*
3. Ana Murray, **T. Renae Gizzo** & Andrew Scholl, “Using Drones for High Resolution Mapping of Kent State University Natural Areas” *AAG East Lakes Division Meeting, 2023*
4. Timothy J. Assal, **T. Renae Gizzo**, Bryanna Norlin, Jennifer Walker “A look back on Hurricane Sandy: measuring the storms effect on a salt water intolerant species at the forest-marsh ecotone” *Ecological Society of America, 2024*

PROFESSIONAL TRAINING

Wetland Delineation Training Course – Swamp School

Completed March, 2024

Federal Aviation Administration (FAA) Part 107 Remote Pilot Certification

Awarded July, 2023

PROFESSIONAL AFFILIATIONS

Environmental Design & Research Institute, Fellow

2021-Present

Coordinator: Michelle Escalambre

Attended monthly meetings, participated in annual events and presented at the institutions research symposium