



Travis Zalesky
Graduate Research
Assistant

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- ORCID
- Project Portfolio
- GitHub
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About me
Experienced ecologist, mycologist, and data scientist. I have a broad earth sciences background with professional experience surveying plant, animal, and fungal species. Experience in both the field and the lab. Specializing in data analysis and data science.

- Technical Skills
- Programming & Data Science:** R, Python, SQL, JavaScript, LaTeX
- GIS & Remote Sensing:** ArcGIS Pro, arcpy, QGIS, Google Earth Engine, GDAL, R for Geospatial (sf, terra, tmap)
- Web Development:** R Shiny, Experience Builder, ArcGIS SDK for JavaScript
- Field and Lab:** Water quality sampling/testing, biologic culture maintenance, ecological survey methods
- Statistics:** Multi-parameter modeling, frequentist and Bayesian methods, Monte-Carlo sampling, random forest, ecological niche modeling, machine learning classification

Research Interests

Glacier morphology, Arctic lake limnology, and cryosphere science. Applications of remote sensing and machine learning for ecosystem management and change detection. Ecohydrology, and freshwater ecology. Climate change research. Spatial statistics, applications of GIS, and science communication through cartography.

Education

- 2025 – 2030 **PhD, Ocean Futures** Arizona State University
Dissertation: Greenland Lake Ice Phenology and Peripheral Glacier Change.
Research arctic glacial hydrology and proglacial lake limnology under climate change.
- 2023 – 2025 **MS, Geographic Information Systems Technology** University of Arizona
Capstone Project: Modeling the Geographic Distribution of Cantharellus formosus (chanterelle) Under Climate Change.
Modern techniques in *Geographic Information Systems Technology* (GIST). Remote sensing, geospatial statistics, raster and vector analysis, cartography.
- 2009 – 2013 **BS, Environmental Science** Western Washington University
Undergraduate Thesis: Waste Audit and Geospatial Optimization of Outdoor Recycling Receptacles.
Emphasis in freshwater ecology. Broad earth science education, including chemistry, biology, geology, limnology, wetlands ecology, ecological data collection, environmental ethics and policy.

Publications

- Peer-Reviewed Articles:**
Zalesky, T., Bradshaw, A. J., Bair, Z., Meyer, K., & Stamets, P. (2024). Fungal cryopreservation across 61 genera: Practical application and method evaluation. *Mycologia*. DOI: [10.1080/00275514.2024.2363135](https://doi.org/10.1080/00275514.2024.2363135)
- Technical Reports:**
Shevtsov, J., Bair, Z., Longman, A., Peterson, C., Tuominen, L. K., Zalesky, T., Davis, R., Sercel, J., & Stamets, P. (2022). Making Soil for Space Habitats by Seeding Asteroids with Fungi. NIAC 2021 Phase 1 Final Report. NASA.

Work Experience

- 2024 – 2025 **Data Specialist** University of Arizona
- Provide GIST and cartographic expertise for state wide aquifer recharge project (AZ tri-university collaboration).
 - Generate suitability analysis and other GIS data layers.
 - Compile and analyze remote sensing data in Google Earth Engine.
 - Conduct random forest, and AHP classifications for aquifer suitability.
 - Developed web application in R Shiny and automated geospatial workflows in R, Python, and JavaScript.
 - Managed AGOL database.
 - Promoted from Research Assistant, May, 2025.
- 2024 **Research Assistant** University of Arizona
- Modeled climate change effects on municipal water demand (Salt River Project partnership).
 - Process global climate change model data (NEX-GDDP-CIMP6).
 - Write R scripts to compute and visualize ET model estimates (~4M records).

Work Experience Continued		
2023	Scientific Technician 3 <ul style="list-style-type: none">• Creel survey local anglers.• Identify common freshwater fish species (emph. <i>Oncorhynchus sp.</i>).	WA Department of Fish and Wildlife
2018 – 2023	Research Assistant <ul style="list-style-type: none">• Conducted R&D on fungal biotechnology for ecological health, biodegradation, and immune support.• Coauthored NASA NIAC Phase 1 technical report (see Publications).• Built automated data pipelines for HPLC, MS, cytokine assays, and product QA/QC analysis, reducing analysis time and cost across departments.• Lead multi-year initiative to modernize culture-collection storage procedures, insuring long term safety and security of critical company assets. Results published in Mycologia (2024; see Publications).• Field collection and on boarding of novel biologic specimens, requiring cooperation with local governments and compliance with relevant bio-prospecting laws.• Promoted from Production Technician, Mar., 2018.	Fungi Perfecti
2016 – 2018	Production Technician <ul style="list-style-type: none">• Grow mushrooms and mushroom mycelium for a suite of mushroom related products, including natural nutritional supplements.• Practice aseptic technique.• Maintain sterile microbiological lab practices.• Operate an autoclave, and other large machinery.	Fungi Perfecti
2010 – 2016	Early Career Research and Field Experience <ul style="list-style-type: none">• Details available upon request.	

TAships		
Fall 2025	ASU SEA 101: Ocean Futures	Professor of Record: Dr. Leocadio Blanco-Bercial
Spring 2025	ASU SEA 430: Cloud Based Remote Sensing	Dr. Jiwei Li

Awards		
Aug. 2024	Tony Gonzales Scholarship	Arizona Geographic Information Council
Mar. 2024	First Place - Graduate Students Data Visualization Challenge.	U. of Arizona

Presentations		
Lightning Talks:		
Aug. 2024	Modeling Evapotranspiration Under Climate Change	AGIC '24
Posters:		
Jul. 2025	Modeling the Geographic Distribution of Cantharellus formosus (chanterelle) Under Climate Change using MaxEnt Ecological Niche Modeling	MSA '25

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Certifications and Professional Development	
2023 – 2024	30+ ESRI Labs/Web Courses (transcript available)
2023	Free Code Camp: Databases , Data Visualization , Front End Development , Python , JavaScript , Web Design
Aug. 2022	Drexel U., Rohan U., U. of Chicago: Biological Data Science Training Workshop
2019	Code Academy: Learn R, Command Line Tutorial.
Other Certifications:	
Defensive Driver (2014), Open Water Diver (2008)	