










Travis Zalesky

Ecologist, Researcher

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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. Experienced in both the field and lab. Specializing in data analysis and data science.

Writing Ability —————
An experienced technical writer. Lead author on peer-reviewed manuscript "Fungal cryopreservation across 61 genera: Practical application and method evaluation", Mycologia, 2024. See Publications.

Coding and Programing —————
Expert in R (programing language) for data management and analysis. Familiar with many frequently used R packages, including the tidyverse, datatable, shiny, etc. Proficient with Python, SQL, \LaTeX , JavaScript and more. Have professionally developed several specialized apps. Please see my GitHub page for additional project details.

Research Objective

I am an experienced research scientist focused on the intersection of ecology and computer science. I am passionate about using big data to inform environmental policy and sustainable natural resources management. I have an extensive background in the fields of freshwater ecology and mycology, and am also interested in hydrology and atmospheric sciences. I am an expert in use of R (programing language) for data analysis and visualizaiton, and am also proficient using a wide variety of other programing languages necessary for modern scientific computing. My research interests included natural resource management, species distributions, and impacts of climate change.

I am a lifelong learner, and am continuing my education through the [MS GIST](#) program at University of Arizona (online).

Education

- 2023-2025 MS, GIST student** University of Arizona
Research modern techniques in *Geographic Information Systems Technology*, primarily using ESRI ArcGIS software. Remote sensing techniques and geospatial data management. Raster and vector data analysis. Programming and task automation. Cartography. Open source GIS. Requires Masters Project/Thesis, with defense.
- 2009-2013 BS, Environmental Science** Western Washington University
Emphasis in Freshwater Ecology. Broad earth science education, including courses in Chemistry, Biology, Geology, Limnology, and Wetlands Ecology. Ecological data collection methods. Environmental ethics and policy. Improved campus recycling waste streams in cooperation with the Associated Students Recycling Center for Undergraduate Thesis.

Publications

Shevtsov, J., Bair, Z., Longman, A., Peterson, C., Tuominen, L. K., Zalesky, T., Davis, R., Sercel, J., & Stamets, P. "Making Soil for Space Habitats by Seeding Asteroids with Fungi." NIAC 2021 Phase 1 Final Report. NASA, January 11, 2022.

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)

Work Experience

- 2024 Research Assistant** University of Arizona
Research the effects of climate change on municipal water demand in Phoenix and surrounding areas. Develop custom R scripts for processing and analysis of geospatial data. Data management. Literature review and technical writing.
- 2023 Scientific Technician 3** WA Department of Fish and Wildlife
Creel survey local anglers in Okanogan County. Identify common freshwater fish species, including trout and salmon species (*Oncorhynchus*). Work independently while completing department objectives. Data collection and data entry. Operate government vehicles. Work independently in remote locations.

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Outdoors Experience

Field research experience in three US States, WA, OR, and ID. Professional experience camping and backpacking in remote locations, up to 8 consecutive days in the field. Experienced in navigation and orienteering. Comfortable with unpaved and off-road driving. Experienced boater on the Columbia River, and other PNW waterways in crafts up to 18'. Fisheries surveys, including wading and snorkeling.

Professional Skills

Data Collection and Analysis

Data Visualization

Ecology

Experimental Design

GIS

JavaScript

LaTeX

Mycology

Python

R

Species IDs

SQL

Technical Writing

Scale: 0 (basic skills) - 6 (expert).

Work Experience Continued

2018 - 2023	Research Assistant	Fungi Perfecti	Perform experiments and support research scientists in a variety of Research & Development projects for a mycological biotech lab. Survey and bio-prospect for novel, endemic, and understudied mushroom species found in the Pacific North West. Research and develop mycological biotech strategies for ecological health, including biodegradation of pollutants and biologically assisted wastewater treatment. Collaborate with external researchers on various projects, including a Phase 1 NASA Innovative and Advanced Concepts (NIAC) research grant (see publications). Analyze complex data sets from internal and external sources representing highly specialized biotech and chemical analysis of experimental samples, including; high pressure liquid chromatography, mass spectroscopy, in vitro cell assays, multi-plex cytokine assays, etc. Conduct molecular biology assays, including DNA extractions, PCR reactions, and basic bio-informatics queries. Perform advanced data management, statistical analysis, visualization, and reporting as part of a highly collaborative team. Work simultaneously on multiple projects in a highly dynamic research lab environment.
2016 - 2018	Production Technician	Fungi Perfecti	Grow mushrooms and mushroom mycelium for a suite of mushroom related products, including natural nutritional supplements. Practice aseptic technique. Maintain sterile microbiological lab practices and cleanings. Prepare and inoculate bulk substrate. Operate and maintain large equipment and scientific instrumentation. Operate an autoclave. Improved chemical storage inventory and cleaning records.
2014 - 2016	Scientific Technician	WA Department of Fish and Wildlife	Conduct monitoring and evaluation at the largest salmon hatchery in WA. Identify salmon (Oncorhynchus) species and report instances of non-target species capture. Juvenile fish trapping and population surveys. Habitat and breeding ground surveys. Carcass surveys and in field dissections. Snorkeling surveys. Extensive in field data and sample collection. Data entry. Operation and maintenance of government vehicles, including; trucks, trailers, RVs, and boats up to 18'.
2014	Research Technician	University of Idaho	Collect field data from very remote locations regarding forest regrowth after fire. Plant species IDs, with an emphasis on Rocky Mountain conifers and range-land grasses. Assisted in research used for a doctoral dissertation in Fire Ecology by my direct supervisor. Data entry and statistical analysis using Excel. Position required extensive travel to remote locations, up to 8 consecutive days.
2012 - 2013	Operations Manager	Associated Students Recycling Center	Collect and sort campus recyclables. Coordinate with local waste management services. Sell bulk recyclables for the first profitable student run university recycling center in the US. Lead a team of 10 to 15 student-employees. Drive large vehicles, including; pallet jacks, box trucks, dump trucks, and forklifts. Conducted a campus wide waste audit using spatial analysis data to identify target locations for additional waste receptacles. Promoted from laborer (Mar. 2012 to Sep. 2012).
2010	Biological Technician Aid	Bureau of Reclamation	Collaborate with the Grande Ronde Model Watershed in surveying Catherine Creek. Coordinate work with local landowners. Assist an interdisciplinary group of Earth Scientists in biological, geological, hydrological, and habitat surveys. Assist with Geographic Information Systems (GIS) model creation and cartography. Earned Star Award for an exceptional job performance.

Awards		
Mar. 2024	First Place - Graduate Students Data Visualization Challenge.	U. of Arizona

Other Education and Certifications		
2023 - 2024	Over 20 ESRI Labs/Web Courses Completed	Esri
Apr. 2023	Relational Databases.	freeCodeCamp
Mar. 2023	Data Visualization.	freeCodeCamp
Mar. 2023	Front End Development Libraries.	freeCodeCamp
Jan. 2023	Scientific Computing with Python.	freeCodeCamp
Jan. 2023	JavaScript Algorithms and Data Structures.	freeCodeCamp
Jan. 2023	Responsive Web Design.	freeCodeCamp
Aug. 2022	Biological Data Science Training Workshop.	Drexel U., Rohan U., U. of Chicago
Oct. 2019	Learn R.	Code Academy
Oct. 2019	Command Line Tutorial.	Code Academy
May 2014	Defensive Driver.	U. of Idaho
Dec. 2008	Open Water Diver.	SSI