Travis Zalesky

Ecologist, Researcher

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in LinkedIn

○ GitHub

🌐 Project Portfolio

iD 0009-0006-0181-309

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. Co-author on numerous white papers and project reports. Published lead author on peer-reviewed manuscript. See Publications.

Programing and Automation
Expert in R (programing language) for data management statistical analysis, and figure generation. Proficient with Python, SQL, LaTeX, Javascript and more. Specialize in open source software including GIS. Task automation and report generation. Database and big data management. 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. My background is in the fields of freswater ecology, mycology, and GIST. My specialty is programing, automation, and open source solutions. I am an expert in use of R (programing language) and also highly proficient using Python, Javascript, SQL, and several other programing languages necessary for modern scientific computing. My resrach interests inclued 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.

Education

2023-2025   **MS, GIST student**   University of Arizona
Research modern techniques in *Geographic Information Systems Technology*. Remote sensing techniques and geospatial data management. Raster and vector data analysis. Programming and task automation. Cartography. Open source GIS. Esri suite of software products. 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

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. Aquire and analyze climate model data from NEX-GDDP-CIMP6 global climate models. Compute evapotranspiration model estimates. Summarize and vissualize datasets with upwards of 4M observations. 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. Travel to and work in remote locations.

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Work Experience Continued

2018 - 2023 **Research Assistant** <div align="right">Fungi Perfecti</div>
Perform experiments and support research scientists in a variety of Research & Development projects for a mycological biotech lab. Onboard new cultures of novel, endemic, and understudied mushroom species found in the Pacific North West. Develop mycological biotech strategies for ecological health, such as biodegredation 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). Improved and automated complex data analysis protocalls for both internal and external data 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. Substantially reduced departmental opperating costs by bringing data science techniques in house. Increased companies ability to perform advanced data management, statistical analysis, visualization, and automated reporting across departments. Work simultaneously on multiple projects in a dynamic research lab environment as part of a highly colaborative team.

2016 - 2018 **Production Technician** <div align="right">Fungi Perfecti</div>
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** <div align="right">WA Department of Fish and Wildlife</div>
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** <div align="right">University of Idaho</div>
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** <div align="right">Associated Students Recycling Center</div>
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** <div align="right">Bureau of Reclamation</div>
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

Aug. 2024 **Tony Gonzales Scholarship** <div align="right">Arizona Geographic Information Council</div>

Mar. 2024 **First Place - Graduate Students Data Vissualization Challenge.** <div align="right">U. of Arizona</div>

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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