Dr Ryan James Frazier • ryanfrazier@weber.edu

EDUCATION

Doctor of Philosophy, in Forestry, July 2016
University of British Columbia, Vancouver, British Columbia, Canada
Faculty of Forestry, Forest Resources Management Department
Thesis Title: *Remotely Sensed Image Time Series to Inform on Forest Structure and Post-Disturbance Recovery over Canadian Boreal Forests*
Supervisor: Dr Nicholas Coops

Master of Arts, Geographic Information Science, May 2007
Clark University, Worcester Massachusetts, USA
Graduate School of Geography
Supervisor: Dr John Rogan

Bachelor of Arts, Geography Major, May 2006
Clark University, Worcester Massachusetts, USA

ACADEMIC APPOINTMENTS

Assistant Professor of Geospatial Technology – July 2019 – Present
Northern Utah Geospatial Technology Education Program, Co-Director
Geography, Environment, & Sustainability Department
Earth and Environmental Sciences Department
Weber State University

Lecturer & Mentor – June 2018 – June 2019
Masters of Geomatics for Environmental Management – Faculty of Forestry
University of British Columbia

GIS Program Manager & Lecturer – August 2016 – Dec 2018
School of Geographical Sciences and Urban Planning
Arizona State University

PEER REVIEWED PUBLICATIONS

2024 **RJ Frazier**, E Balgord, S Herrmann. *Microlearning to interest students in the geosciences and mapping.* In prep.

2024 **RJ Frazier,** C Stern. *An Automated Method for Matching X-Ray Diffractive Analysis Results from Samples to Library Standards.* In Prep.

2023 J Navrátil, S Martinát, RJ Hewitt, **RJ Frazier**, P Klusáček, J Škrabal, Tomáš Krejčí, Robert Osman, Kamil Pícha. *Community Landscape Preferences for Reuse of Soviet-Era Post-Agricultural Brownfields—What's the Difference?* Rural Sociology. 88, 362-391

2022 J Navrátil, S Martinát, **RJ Frazier**, P Klusáček, D van der Horst, J Škrabal, Tomáš Krejčí, Robert Osman, Kamil Pícha, Petr Dvořák. *Preference and paradox: Local residents' perspectives on the reuse of post-agricultural brownfield sites.* Sociologia Ruralis. 63(3), 514-543

2021 J Navrátil, T Krejčí, S Martinát, **RJ Frazier**, P Klusáček, K Pícha, J Škrabal, R Osman. *Variation in brownfield reuse of derelict agricultural premises in diverse rural spaces.* Journal of Rural Studies *87, 124-136*

2021 T Krejčí, J Navrátil, S Martinát, **RJ Frazier**, P Klusáček, K Pícha, J Škrabal, R Osman. *Spatial unevenness of formation, remediation and persistence of post-agricultural brownfields.* Land *10 (3), 325*

2020 E Čížková, J Navrátilová, S Martinát, J Navrátil, **RJ Frazier** *Impact of water level on species quantity and composition grown from the soil seed bank of the inland salt marsh: an ex-situ experiment.* Land *9 (12), 533*

2020 J Rajchard, J Navrátil, **RJ Frazier**, E Ježková, K Marková

Comparison of spring and summer clutches of Great Crested Grebes (Podiceps cristatus). Acta Zoologica Academiae Scientiarum Hungaricae 66 (4), 393-401-393-401

2019 Navrátilová, J., Havlíček, M., Navrátil, J., **Frazier R. J.** *Land cover changes on temperate organic substrates over last 150 years: Evidence from the Czech Republic.* Biologia, 74, 361-373

2018 **Frazier, R. J.,** Coops, N. C., Wulder, M. A., Hermosilla, T., & White, J. C. *Analyzing spatial and temporal variability in short-term rates of post-fire vegetation return from Landsat time series.* Remote Sensing of Environment, 205, 32-45.

2017 Navrátilová, J., Hájek, M., Navrátil, J., Hájková, P., & **Frazier, R. J.** *Convergence and impoverishment of fen communities in a eutrophicated agricultural landscape of the Czech Republic.* Applied Vegetation Science, 20(2), 225-235.

2016 Pickell, P. D., Hermosilla, T., **Frazier, R. J.**, Coops, N. C., & Wulder, M. A. *Forest recovery trends derived from Landsat time series for North American boreal forests.* International Journal of Remote Sensing, 37(1), 138-149.

2015 **Frazier, R. J.**, Coops, N. C., & Wulder, M. A. *Boreal Shield forest disturbance and recovery trends using Landsat time series.* Remote Sensing of Environment, 170, 317-327.

2014 **Frazier, R. J.**, Coops, N. C., Wulder, M. A., & Kennedy, R. *Characterization of aboveground biomass in an unmanaged boreal forest using Landsat temporal segmentation metrics.* ISPRS Journal of Photogrammetry and Remote Sensing, 92, 137-146.

GRANTS

2023 **$36,500** Third Wave Utah Learn and Work Grant, Utah Cares Act
>95% of funding used for full scholarships for 15 students

2023 **$10,400** RSPG Hemingway Collaboration Award,
Used to double the impact of the Innovative Tech Grant impact & fund further research towards publication

2023 **$4,400** WSU Professional Development Student Success Grant,
Used to fund a TA Position to help students

2023 **$1,708** WSU Professional Development Student Success Grant
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2022 **$200** WSU Professional Development Travel Grant,
Used to travel to Geo for Good Conference at Google Campus

2022 **$42,000** Second Wave Learn and Work Grant Program, Utah CARES ACT
>90% of funding used for full scholarships for 13 students

2022 **$5,100** WSU Innovative Technology Grants Program
100% of funding used to fund microlearning platform

2021 **$186,000** Learn and Work Grant Program, Utah CARES ACT
~90% of funding used for full scholarships for 30 students

2020 **$139,000** Learn and Work Grant Program, Utah CARES ACT
>90% of funding used for full scholarships for 20 students

TEACHING EXPERIENCE

Weber State University:

- GEO1710/3710 Introduction to GIS (in person/online), 30 students/section
- GEOG 2400/4400Cartography and Map Design (in person/online), 40 students/section
- GEO 3840: Remote Sensing Principle and Application (in person/online), 20 students/section

- GEOG 4600: Spatial Programming & Online Methods (in person/online), 20 students/section
- GEO/G 4840: Geospatial Internship (in person/online), 10 students/section
- GEO/G 2850/4850: Geospatial Capstone (in person/online), 12 students/section

University of British Columbia:

- GEM530: Python Geospatial Data Analysis, 35 students/section
- GEM580: Geoinformatics Seminar Series, 35 students/section
- GEM599: Research Project Development & Science Writing, 35 students/section

Arizona State University

- GIS205: Geographic Info Science I (in person/online), 150 students/section
- GIS211: Geographic Info Science I (in person/online), 70 students/section
- GIS311: Geographic Info Science II (in person/online), 55 students/section
- GIS322: Spatial Data Structures/Python (in person), 6 students
- GIS341: Intro Cartography/Georepresentation (online) , 40 students/section
- GIS425: Advanced Applied GIS: The Rio Salado Project (in person), 10 students/section

CURRENT COMMITTEE ASSIGNMENTS

2023–2026 University Course Fees Committee
2022–2025 CSBS Professional Developments Grant Group
2022–2024 Northern Utah GIS Users Group, Boardsmember
2019–2024 GES Green Team
2021–2023 CSBS Land Acknowledgment Map
2022–2024 EES Recruitment Committee
2021–2024 EES Sigma Gamma Epsilon Geology Honors Society Advisor
2020–2023 CARES Geospatial Student Advisor

NON-PEER REVIEWED PUBLICATION

2012 *Burlington-Wray Electric Transmission Line Environmental Impact Statement*
2010 *TUCO – Woodward Electric Transmission Line Environmental Impact Statement*
2009 *Panhandle Electric Transmission Line Environmental Impact Statement*
2006 *Creation of a Historical Land Cover/Use Database to Assess Land Cover/Use Change Working Paper*

PROFESSIONAL EXPERIENCE

GIS Analyst & Linear Routing Specialist – February 2008 – May 2012
TRC Environmental Company, Lowell, Massachusetts, USA

- Collect, organize, and integrate data into production spatial databases
- Project specific database creation, maintenance, and distribution
- Electric transmission line and pipeline feasibility and routing
- Hold public open houses to gather input from communities about ongoing and proposed projects
- Produce maps & mapping products for client needs, deadlines, & budgets
- Effectively analyze project data to create spatial or tabular information for various county, state, and federal reporting purposes
- Remotely support Houston, Austin, Denver, Santa Fe, St. Louis, Maine, New Jersey, and West Virginia offices

Field Verification Technician – September 2007 – February 2008
National Grid, Westboro, Massachusetts, USA

- Electrical distribution spatial data accuracy verification carried out through daily on site field visits

- In situ examination, and correction of existing spatial data and map products, where errors occurred

Technical Support, Software Tester – January 2004– May 2007
The Idrisi Project & Clark Labs, Worcester, Massachusetts, USA

- On call and in person installation, licensing, and technical support
- Software testing of new versions and features
- Recruiting and training of new software testers and technical support personnel

PRESENTATIONS

2024 *Microlearning to Generate Interest in Geosciences and Mapping*
T4L Learning Conference . Ogden, Utah

2024 *Microlearning to Generate Interest in Geosciences and Mapping*
Teaching Elevated Conference. Rexburg, Idaho

2023 *Land Acknowledgment Map for Weber State University*
Ogden, Utah

2023 *Nutrient Loss Model from wildfires using ArcGIS Pro and Python modeling.*
Goldschmidt Geochemical Conference, Lyon France.

2022 *Czech Agricultural Brownfields Lightening Talk*
Geo For Good, Sunnyvale Ca

2021 *Navigating Sustainable Growth on the Wasatch Front.* **The Walker Institute, Davis Campus of Weber State**. Youtube link

2021 *Utah Redistricting*. **Association of American Geographers Redistricting Panel Series. Utah Redistricting with Geographers: Every Voice Represented**. Youtube Link

2016 *Boreal Forest Recovery Detected with Landsat Time Series*.
ESA Living Planet Symposium, Prague, Czech Republic

2013 *Recovery Focused Temporal Trajectories and Recovery Rates of Northern Boreal Forests*. **MultiTemp,** Banff, Alberta, Canada

2012 *Burlington-Wray Electric Transmission Line*
Tri-State Electric Open Houses, Burlington & Wray, Colorado, USA

2010 *TUCO – Woodward Electric Transmission Line.* **Xcel Energy Open Houses,** Shamrock, Quitaque, Memphis, & Floydada TX

2009 *Panhandle Electric Transmission Lines*
Wind Energy Texas Transmission Open Houses
Post, Spur, Midland, Big Spring, & Snyder Texas, USA

2006 *Creation of a Historical Land Cover/Use Database to Assess Land Cover/Use Change.* **Association of American Geographers.** Chicago, Illinois, USA

2005 The Massachusetts Forest Monitoring Program
New England/St.Lawrence Valley Division, AAG Keene, New Hampshire, USA

2005 *Application of Remote Sensing Data and Technology to Monitor Large-Area Forest Cover Change in Massachusetts.* **American Society for Photogrammetry & Remote Sensing,** Baltimore, Maryland, USA

GRADUATE AND UNDERGRADUATE HONORS & AWARDS

2016-2012 Four Year Fellowship, University of British Columbia
$16,000/year or $64,000 total

2016-2015 Hamish Kimmins Scholarship in Forest Ecosystem
$1500/year or $3000 total

2015 Mary and David Macaree Fellowship
$1500/year or $1500 total

2006	Association of American Geographers National Council for Geographic Education Award for Excellence in Scholarship
2007	Summa Cum Laude with High Honors Masters Award
2006	Magna Cum Laude with High Honors Bachelors Award
2006	The Idrisi Award for Excellence in GIS *$1000/year, or $1000 total*
2006-2004	John O' Connor Environmental Service Fellowship *$5000/year, or $15000 total*
2005	Illustrated Paper Competition Winner, The New England-St. Lawrence Valley Geographical Society

SERVICE

Periodic reviewer for:

- Remote Sensing of Environment
- International Journal of Remote Sensing
- Remote Sensing
- Canadian Journal of Forest Research
- Forests
- ISPRS Journal of Photogrammetry and Remote Sensing
- ISPRS International Journal of Geo-Information
- Forest Ecology and Management
- Regional Environmental Change
- Moravian Geographical Reports

Former Committee Memberships:

- GES Faculty Hiring Committee
- EES Faculty Hiring Committee
- EES Administrative Hiring Comittee
- MGEM Incoming Student Committee
- Spatial Pattern Analysis Research Center committee
- GIS curriculum committee
- Social Planning Committee
- Rio Salado 2.0 Project
- MGEM Curricular Planning Unit
- UBC Geospatial Hub

Scholarship Summary for Ryan Frazier:

Publications:

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2019	Navrátilová, J., Havlíček, M., Navrátil, J., **Frazier R. J.** *Land cover changes on temperate organic substrates over last 150 years: Evidence from the Czech Republic.* Biologia, 74, 361-373

Talks:

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Notes:

Double dipped on Microlearning, though have employed in the EES class to what I would say is great success – we've recruited MANY spatial minors and certificate students from this. Did I mention that I developed a whole damn course that takes place ovr 14 days and is delivered through the Arist software platform? Did I mention that after our initial payment with them brokered by IT I was subsequently able to finesse free licensing and use from them for an addition year and 300 users. In addition, It was also grant funded, and was used a research item as well with pre/post surveys indicating that exposing students to spatial studies early in their university career will indeed produce greater interest in taking spatial courses and completing certificates. The Goldschmidt conference – I've helped Dr Matyjasik out with python programming of his work. I updated it from Python V2.7 and reliant on ArcGis 10.1 to ArcGis Pro and Python 3.3 to then again upgraded to not needing ArcGis Pro and creating a standalone software with GUI. Very neat. I also went ahead and advised and showed every students to work that project since 2020 how to use the software and fixed bugs and such. It's been a long time effort that has required a lot of effort on my part with very little to show for it (three or four student talks at GSA, but does those even count?).

The Land Acknowledgement map started in 2021, and I want to say came to its natural end in November 2023. This has been a great work, I'm quite proud of the map we produced with consult from NASA on campus, and at least feedback from one first nation. This work is hanging in the library and will be placed in Lindquist Hall too.

Geo Good talk was a bit of surprise – I was mostly there to learn how to use Google Earth Engine, so when they asked all participants to give a 2 minute lightening talk, this was to say the least, a shock. I was able to talk about my work in Czech agricultural brownfields.

That work has also wrapped up – but it was a fun avenue to explore and bring spatial to help understand the issue more.

IN 2021 I was invited to two panels. The first was on redistricting – and it was great to be apart of and help spread information on Utah's new process and how maps and data help that along. I was on a panel of six other experts – three that were apart of the process and three that were subject experts. I'd do it again if offered the chance. It doesn't matter, because the legislature swept those plans away and enacted their own partisan districts. I'm salty about it if you cannot read the spirit of the text there. Next I was asked by the Walker Institute to give a talk on Spatial Data to their Sustainable Growth talk in front of mayors, planners, state and county officials. I did not so that, because surely these people all know maps exist and are useful. Instead I made a plea to stop adding "one more lane" and spoke about land use change and growth, and how it what is happening is not sustainable at all. I pitched density and transit, and I am hopeful that someone caught the idea. Hey – they are extending the TRAX to Farmington in the next ten years, so maybe it worked? My largest point is that there is only so much land and induced demand will eat up any amount of road that is paved. WE need density and the missing middle, and we need transit to make that a reality. 10/10 synergy here with Dr Ewert's two opinion pieces in the SL Tribue on growth around this time too.

One Missing Grant was an unfunded NSF ATE grant. Worked with Dr Ewert and Dr Hernandez on that – 420,000$ or so. Again not funded.