

# Cashe C. Rasmussen - Curriculum Vitae

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## EDUCATION

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**Utah State University** Jan. 2018 - May 2021  
*B.S. in Forest Ecology & Management*  
*Minor in Geographic Information Sciences (GIS)*  
Logan, UT

**Utah State University** Aug. 2012 - May 2014  
*Associates of Science*  
Logan, UT

## RESEARCH INTERESTS

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- Interactions between beaver (*Castor spp.*), their environment, and their influence on disturbances such as drought, wildfire, and post-fire flooding
- Low-tech process-based restoration (LTPBR) of riparian ecosystems
- Restoration effectiveness monitoring through the combination of remotely sensed and field-based techniques
- Biotic and abiotic interactions and their impact on fluvial processes
- Facilitating ecosystem resistance and/or resilience to climate change

## PROFESSIONAL EXPERIENCE

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**Senior GIS Technician** April 2019 – Present  
[Ecogeomorphology & Topographical Analysis Lab](#)  
Utah State University  
Logan, UT

**Research Technician** May 2018 – May 2020  
[Department of Wildland Resources](#) (Interdisciplinary)  
Utah State University  
Logan, UT

**GIS Analyst** Sept. 2018 – May 2019  
[Utah Forest Institute](#) (UFI)  
Utah State University  
Logan, UT

**Whitewater Raft Guide** Mar. 2017 – Oct. 2017  
Red River Adventures  
Moab, UT

**Backcountry Ski Guide** Oct. 2016 – Mar. 2017  
Whisper Ridge Backcountry Resort  
Paradise, UT

## RESEARCH EXPERIENCE

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**Utah State University/US Geologic Survey (USGS) 2022**

*GIS Research Technician*

Evaluating the status of riparian and instream habitat across the Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*) range in order to identify if and how habitat is potentially limiting populations, and to help identify areas with the greatest potential for restoration. Responsibilities include unmanned aerial vehicle (UAV) operation to capture high-resolution orthoimagery, field data collection, use of remote sensing techniques to delineate geomorphic features, and using geoprocessing techniques for data analysis.

**Utah State University/ US Forest Service (USFS) 2021**

*Research Technician*

Assessing the current status of whitebark pine (*Pinus albicaulis*) mortality within the Greater Yellowstone Ecosystem (GYE) post mountain pine beetle (*Dendroctonus ponderosae*) and blister rust (*Cronartium ribicola*) outbreak. Identifying mortality patterns with important restoration and conservation implications. Responsibilities included setting up randomly selected fixed radius plots and collecting relevant field data.

**Utah State University/ Bureau of Land Management (BLM) 2020**

*Research Technician*

This is an ongoing restoration project along the lower portion of the Price river located in South Central Utah. The goal of this project is to improve the channel and riparian habitat to increase/maintain native fish populations. Field responsibilities include the installation of post-assisted log structures and capturing high-resolution orthoimagery. Lab responsibilities include geomorphic feature delineations.

**Utah State University/ Utah Division of Wildlife (UDWR) 2019**

*Research Technician*

This is an ongoing restoration project involving the design, installation, and monitoring of instream structures within the Grouse Creek watershed located in Northwestern Utah. Field responsibilities include the installation of a variety of instream structures including beaver dam analogs (BDAs) and post-assisted log structures (PALS), as well as assisting with beaver translocations. Lab responsibilities include geomorphic feature delineation and assistance in developing/implementing a remotely sensed effectiveness monitoring protocol.

**Utah State University 2018**

*Research Technician*

This was an interdisciplinary position where I had the opportunity to work with multiple graduate students and their advisors as a research technician. Projects included genetic conservation of aspen (*Populus tremuloides*) and post-fire regeneration monitoring. Responsibilities included using a wide array of forestry techniques to collect field data and observations.

## RELEVANT COURSEWORK

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- **WILD 1800** - Intro to GIS
- **WATS 4930** - Advanced GIS and Spatial Analysis
- **GEOG 4860** - Python Programming for GIS
- **GEOG 4870** - R Programming for GIS
- **WILD 5750** - Applied Remote Sensing
- **WILD 5700** - Forest Assessment and Management
- **WILD 4750** - Monitoring and Assessment in Natural Resources
- **WILD 5710** - Vegetation Disturbance
- **ENVS 3010** - Natural resources Policy and Economics

## HONORS, AWARDS AND RECOGNITION

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**USU QCNR Alumni Scholarship** 2019. S.J. & Jesse E. Quinney College of Natural Resources.

## RELEVANT SKILLS AND KNOWLEDGE

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### **Geoprocessing software**

I am proficient with ESRI and open source geoprocessing software including ArcGIS, ArcPro, and QGIS.

### **Field-based data collection techniques**

- Collecting streamflow readings
- Setting up and collecting data from fixed radius plots, variable radius plots, and transects
- Determining local burn severity using Composite Burn Index (CBI)
- Collecting diameter at breast height (DBH) using foresters/logger's tape
- Determining forest canopy cover using angular densiometer

### **Low-tech process-based restoration (LTPBR)**

I have a conceptual understanding as well as hands-on experience with LTPBR techniques. Familiar with the design and installation of BDAs and PALS.

### **UAV Operation | Part 107 Certified**

Experience operating UAVs for the purpose of collecting high-resolution orthomosaic imagery.

## REFERENCES

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**William (Wally) Macfarlane**

Ecogeomorphology and Topographical Analysis Lab (ETAL)  
Senior Researcher

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