

Christine M. Garrard

Programmer/Analyst

Department of Wildland Resources, Quinney College of Natural Resources

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AREAS OF SPECIALIZATION

Web application development; web mapping; GIS programming; database design

EDUCATION

M.S. Biology, Utah State University, Logan Utah. 2002. Thesis title: *STATMOD: A tool for interfacing ArcView GIS with statistical software to facilitate predictive ecological modeling.*

B.S. Statistics, emphasis on Computer Science, minor in Mathematics, Brigham Young University, Provo, Utah. 1993.

RECENT PROFESSIONAL EXPERIENCE

2012 to Present – Programmer/Analyst

Remote Sensing/GIS Laboratory, Utah State University, Logan, Utah

2002 to 2012 – Researcher II

Remote Sensing/GIS Laboratory, Utah State University, Logan, Utah

RESEARCH AND PROJECT TOPICS

- Managing Linux and Windows servers with diverse software, such as ArcGIS for Server and Portal, PostgreSQL databases, Apache, IIS, and nginx web servers
- Creating web mapping applications using both Esri software and open source tools
- Modifying and expanding on existing Django applications designed for crowd-sourcing data
- Developing online interfaces for sophisticated modeling tools
- Converting software to a distributed application and configuring it to run in parallel using Amazon Web Services
- Writing extensions for ArcGIS to process data and to add missing features to the graphical interface

TECHNOLOGY SUMMARY

- **Application development:** ArcObjects, ArcPy, ASP .NET MVC and Web API, AWS SDK, Bootstrap, C#, CSS, Django, GDAL, HTML, JavaScript, MapScript, PHP, Python
- **Databases:** Access, MySQL, PostGIS, PostgreSQL, SQL Server
- **Web servers:** Apache, IIS, nginx

RECENT PUBLICATIONS

- Healey, S.P., C.L. Raymond, B. Lockman, A.J. Hernandez, **C. Garrard**, and C. Huang. 2016. Root disease can rival fire and harvest in reducing forest carbon storage. *Ecosphere*, 7: e01569. <http://dx.doi.org/10.1002/ecs2.1569>
- **Garrard, C.** 2016. *Geoprocessing with Python*. Manning Publications Co.
- Healey, S.P., S.P. Urbanski, P.L. Patterson, and **C. Garrard**. 2014. *A framework for simulating map error in ecosystem models*. *Remote Sensing of Environment* 150: 207-217. <http://dx.doi.org/10.1016/j.rse.2014.04.028>
- Wheaton, J.M., **C. Garrard**, K. Whitehead, and C.J. Volk. 2012. *A simple, interactive GIS tool for transforming assumed total station surveys to real world coordinates – the CHaMP transformation tool*. *Computers & Geosciences* 42: 28-36. <http://dx.doi.org/10.1016/j.cageo.2012.02.003>.