

CATHLIN LORD

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RESEARCH INTERESTS

Geographic Information System (GIS), Sustainability

EDUCATION

Bachelor of Science in Environmental Science (emphasis on GIS)

May 2020

Minor in Computer Science & Global Health Studies

GPA: 3.506/4.00

Allegheny College, Meadville, PA

RELEVANT COURSE WORK

Introduction to Environmental Science

Environmental Science Research Methods, Problem Analysis

Environmental GIS I, Applied Conservation GIS, ESRI Course

Organismal Physiology/Ecology

Computational Expression

U.S Government & Environment

Physical Geology

Quantitative Sustainability

Chemical Concepts

Stream Ecology

Wildlife Ecology and Conservation

Web Development

RESEARCH & PROJECTS

A Multi-criteria Decision-making Suitability Analysis for European Bison (*Bison bonasus*) Reintroduction in Central-Eastern Europe: Integrating Weighted Linear Combination (WLC) and Analytical Hierarchy Process (AHP).

- A raster-based analysis that developed a Boolean, weighted linear combination, and corridor analysis to determine suitability for reintroduction of European Bison in Eastern-Central Europe

Commercial Compost Siting Suitability Analysis. (GIS)

- Suitability analysis with the use of AHP and WLC to determine appropriate locations for a compost facility according to PA DEP and the client's needs

Watershed Analysis. (GIS)

- Delineate, digitize, and calculate characteristics of multiple watersheds throughout north western Pennsylvania for a research report published by an Allegheny College professor and alumni

Wind Turbine Suitability Analysis in Lake Erie. (GIS)

- Developed and presented a Boolean, vector-based wind turbine suitability analysis for waters in Lake Erie, USA

Bail Family Forest, Detecting Changes in Land Use Land Cover. (GIS)

- Georeferenced several time series of aerial photographs and created a geodatabase for a local forest, to be digitized to detect changes in land use land cover (LULC)

Embraced Hand Drying Methods by Students in Relation to Paper Towels and a Sustainable College Campus.

- Collection of population data and collection of previously published scientific papers to determine the most favorable and sustainable hand drying method for Allegheny College campus

Impacts of Round Gobies (*Neogobius melanostomus*) on the Diversity and Abundance of Fish and Macroinvertebrates in the French Creek Watershed

- Collection of data and analysis of fish and macroinvertebrate diversity and abundance within French Creek, PA

Everyday Sustainability

- Website created to communicate everyday sustainable life habits created through HTML and CSS.

PUBLICATIONS

Reintroduction of the European bison (*Bison bonasus*) in central-eastern Europe: a case study

- Published September 23, 2019 to International Journal of GIS, First Author

Shepp's Glacial Deposits of Northwestern Pennsylvania Map

- Assisted in the digitization of a glacial deposit map under professors from the Environmental and Geology Departments.

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EXPERIENCE

- GIS Research Assistant**, Allegheny College 01/2017-Current
- Complete assigned GIS projects. Assist in faculty and student research projects
- Sustainability Assistant**, Allegheny College 05/2019-08/2019
- Developed plans and implementation materials for multi-faceted programming in the areas of waste minimization, climate sensitive diets and annual sustainability education cycle
 - Researched and proposed plans for collaborative urban reforestation and carbon offset project
 - Assessed current status and developed proposed next steps to support Bike Share program
 - Developed communications plan for institutional sustainability, including achievement of climate neutrality
- Forest Technician Intern**, Hubbard Brook Experimental Forest, NH 05/2018-08/2018
- Maintained and collected data for watershed and weirs
 - Archived water samples, constructed and disassembled experiment plots, and earned a chainsaw certification
 - Shadowed scientists on current projects
- Park Guide**, Week's State Park, Lancaster, New Hampshire (Seasonal) 06/2017-10/2017
- Give museum tours and maintain park cleanliness
- Lifeguard and Water Safety Instructor**, Lisbon Town Pool, Lisbon, NH (Seasonal) 6/2014-8/2017
- Insured the safety of all recreational swimmers and taught swimming lessons
 - Cleaned and maintained the swimming pool
- Intern**, Stonecipher & Clark Environmental Solutions, LLC, Littleton, NH 01/2016-06/2016
- Took water samples, made field kits, and performed various office duties

CONFERENCE PRESENTATIONS

2018. A Multi-criteria Decision-making Suitability Analysis for European Bison (*Bison bonasus*) Reintroduction in Central-Eastern Europe: Integrating Weighted Linear Combination (WLC) and Analytical Hierarchy Process (AHP). Esri User Conference, San Diego, CA.

2018. A Multi-criteria Decision-making Suitability Analysis for European Bison (*Bison bonasus*) Reintroduction in Central-Eastern Europe: Integrating Weighted Linear Combination (WLC) and Analytical Hierarchy Process (AHP). Northwestern PA GIS Conference, Clarion University, Clarion, PA.

2018. Commercial Compost Siting Suitability Analysis. Pennsylvania Environmental Resource Consortium, Penn State University, State College, PA.

SKILLS & CERTIFICATIONS

GIS Software: ArcGIS Desktop 10.5, ArcGIS Pro

Technical: AHP, WLC, fuzzy analysis, supervised and unsupervised classification, data querying, map registration/georeferencing, standardizing coordinate systems, developing geodatabases, digitizing, map overlay analysis, raster map algebra, map interpretation, data entry and editing.

Computer Science: Python. Java. HTML. CSS. JavaScript.

Certification: S-212 Wildland Fire Chain Saws Certification (2018)

CAMPUS INVOLVEMENT

- Director of Sustainability and Environmental Affairs**, Allegheny Student Government 2018-Current
- Co-President**, Relay for Life, Allegheny College 2018-Current
- Member**, Students for Environmental Action, Allegheny College 2016-Current

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REFERENCES

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