# Peter Whitman

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# Education

**University of British Columbia** **Vancouver, BC**

M.Sc. Geography 08/2019

Supervisor: Dr. Brian Klinkenberg

Thesis: An exploration of computational methods for classifying sediment patches within archived aerial photographs of gravel-bed rivers

**Carthage College** **Kenosha, WI**

B.A. Geoscience, Geographic Information Science, Environmental Science 05/2017

# Research Experience

**U.S. Environmental Protection Agency** **Raleigh, NC**

ORISE Post-Master’s Research Fellow 09/2019 – 09/2022

**University of British Columbia** **Vancouver, BC**

Graduate Research Assistant 05/2018 – 08/2019

**Carthage College** **Kenosha, WI**

Undergraduate Research Assistant 01/2017 – 05/2017

**Round River Conservation** **Salt Lake City, UT**

Student Researcher 09/2015 – 12/2015

# Professional Experience

**Carthage College** **Kenosha, WI**

Student Manager 09/2016 – 05/2017

**City of Edina** **Edina, MN**

Geographic Information Systems Intern 06/2016 – 08/2016

**Minnesota Department of Natural Resources** **Saint Paul, MN**

Invasive Species Program Intern 06/2015 – 09/2015

**City of Saint Paul** **Saint Paul, MN**

Urban Forestry Intern 06/2014 – 08/2014

# Teaching Experience

**University of British Columbia** **Vancouver, BC**

Graduate Teaching Assistant 09/2017 – 08/2019

Introduction to Remote Sensing (GEOB 373)

Advanced Geographic Information Science (GEOB 370)

Introduction to Geographic Information Science (GEOB 270)

**Carthage College** **Kenosha, WI**

Undergraduate Teaching Assistant 09/2016 – 05/2017

Introduction to Geographic Information Science (GEO 1610)

# Honors & Awards

**U.S. Environmental Protection Agency** **Raleigh, NC**

Rising Star Award 2022

**University of British Columbia** **Vancouver, BC**

Outstanding Teaching Assistant Award 2019

Faculty of Arts Graduate Student Award 2017 – 2019

International Tuition Award 2017 – 2019

**Government of Canada, Social Sciences and Humanities Research Council** **Ottawa, ON**

Explore Grant 2018

**Carthage College** **Kenosha, WI**

Carthage College Distinguished Senior, Nominee 2017

Environmental Science Department Distinguished Senior 2017

Geospatial Science Department Distinguished Senior 2017

Dean’s List 2013 – 2017

Robert Todd Scholarship 2013 – 2017

# Service

**University of British Columbia** **Vancouver, BC**

Curriculum Development 09/2018 – 05/2019

GIS & Geographical Computation Minor

Peer Mentor 09/2018 – 05/2019

**Carthage College** **Kenosha, WI**

Environmental Science Department Student Ambassador 09/2016 – 05/2017

# Publications

**Coffer, M.**, Schaeffer, B., Zimmerman, R., Hill, V., Li, J., Islam, K., & **Whitman, P.** (2020). Performance across WorldView-2 and RapidEye for reproducible seagrass mapping. Remote Sensing of Environment. DOI: 10.1016/j.rse.2020.112036.

**Coffer, M.**, **Whitman, P.**, Schaeffer, Hill, V., Zimmerman, R., Salls, W., Lebrasse, M., & Graybill, D. (2022). Vertical artifacts in high-resolution WorldView-2 and WorldView-3 satellite imagery of aquatic systems. International Journal of Remote Sensing. DOI: 10.1080/01431161.2022.2030069.

Lebrasse, M., Schaeffer, B., **Coffer, M.**, **Whitman, P.**, Zimmerman, R., Hill, V., Islam, K., Li, J., & Osburn, C. (2022). Temporal Stability of Seagrass Extent, Leaf Area, and Carbon Storage in St. Joseph Bay, Florida: a Semi-automated Remote Sensing Analysis. Estuaries and Coasts. DOI: 10.1007/s12237-022-01050-4.

Lebrasse, M., Schaeffer, B., Zimmerman, R., Hill, V., **Coffer, M.**, **Whitman, P.**, Salls, W., Graybill, D., & Osburn, C. (2022). Simulated response of St. Joseph Bay, FL seagrass meadows and blue carbon to anthropogenic and climate impacts. Marine Environmental Research. DOI: 10.1016/j.marenvres.2022.105694

Schaeffer, B., **Whitman, P.**, Conmy, R., Salls, W., **Coffer, M.**, Graybill, D. & Lebrasse, M., (2022). Potential for commercial PlanetScope satellites in oil response monitoring. Marine Pollution Bulletin. DOI: 10.1016/j.marpolbul.2022.114077

**Whitman, P.**, Schaeffer, B., Salls, W., **Coffer, M.**, Mishra, S., Seegers, B., Loftin, K., Stumpf, R., & Werdell, J. (2022). A validation of satellite derived cyanobacteria detections with state reported events and recreation advisories across U.S. lakes. Harmful Alage. DOI: 10.1016/j.hal.2022.102191.

**Coffer, M.**, Graybill, D., **Whitman, P.**, Schaeffer, B., Salls, W., Zimmerman, R., Hill, V., Lebrasse, M., Li, J., Islam, K., & Keith, D. (In review). Providing a management framework for seagrass mapping in United States coastal ecosystems using high spatial resolution satellite imagery. Journal of Environmental Management.

Lebrasse, M. Schaeffer, B., Bohnenstiehl, D., Osburn, C., He, R., **Coffer, M.**, **Whitman, P.**, Salls, W., & Graybill, D. (In review). Assessment of dissolved organic carbon flux in a North Carolina tidal marsh. Earth Science Reviews.

Salls, W., Schaeffer, B., Pahlevan, N., Keith, D., Binding, C., Stumpf, R., Seegers, B., Werdell, P., **Coffer, M.,** & **Whitman, P.** (In preparation). Satellite monitoring of chlorophyll in U.S. lakes: a national-scale validation of the Sentinel-2 Maximum Chlorophyll Index. Environmental Monitoring and Assessment.

Schaeffer, B., **Whitman, P.**, Conmy, R., Vandermeulen, R., Chuanmin, H., Mannino, A., & Salisbury, J. (In preperation). GLIMR potential in oil spill and water quality monitoring. Journal of Geophysical Research.

# Technical Reports

Landry, B., Tango, P., Bisland, C., Coffer, M., Dennison, B., Hill, V., Lebrasse, C., Li., J., Orth, R., Patrick, C., Schaeffer, B., **Whitman, P.**, Wilcox, D., & Zimmerman, R. (2021). Exploring Satellite Image Integration for the Chesapeake Bay SAV Monitoring Program – A STAC Workshop. STAC Publication Number 21-001. Edgewater, MD.

# Selected Presentations

Cyanobacteria assessment network (July 2021). *U.S. Environmental Protection Agency –* *Region 8.* Remote. **Invited Speaker.**

Oil spill detection with commercial satellite imagery (February 2021). *U.S. Environmental Protection Agency –* *Board of Scientific Advisors.* Remote.

Expanding nutrient indicator monitoring with satellites (November 2020). *U.S. Environmental Protection Agency – Nutrient Scientific Technical Exchange Partnership & Support Program.* Remote.

Green stuff from space (May 2020). *NASA HQ Applied Sciences Program.* Remote.

Building a bridge between aerial photographs and digital aerial imagery to retrospectively analyze sediment in the Fraser River (May 2019). *University of British Columbia Graduate Symposium.* Vancouver, BC.

Understanding the spread of Buckthorn in Minnesota using a habitat suitability model (April 2017). *National Council on Undergraduate Research Conference.* Memphis, TN.

# Skills

**Methods:** frequentist and Bayesian statistics, machine learning, digital image processing, spatiotemporal statistics, object-based image analysis, image classification, photogrammetry, atmospheric correction, satellite validation, data visualization, signal processing

**Software:** ENVI/IDL, ESRI ArcGIS products, Agisoft Photoscan, QGIS, GeoDa, FUSION/LDV, Adobe Photoshop, Adobe Illustrator, Microsoft Office Suite, Google Workspace

**Programming & Computing:** Python, R, MATLAB, JavaScript, Google Earth Engine, SQL, Unix, high performance computing, parallel processing, version control

**Packages:** *Python* – GDAL/OGR, TensorFlow, OpenCV, NumPy, ArcPy, Matplotlib, netCDF4, Pandas, GeoPandas; *R* – ggplot2, raster, ncdf4, stats, caret, sp, sf, rgdal, spatstat, maxent, boot, glcm

**Scientific Instrumentation & Field Work:** field & lab spectroscopy, imaging systems, GPS, forest inventory, water sampling, land surveying, plant and wildlife surveys

**Communication:** peer-reviewed publications, technical reports, research proposals, lectures, presentations, technical demonstrations, stakeholder engagement, mentorship, team collaboration