GRAEME TIMMENEY

I build geospatial AI systems that map marine ecosystems at national scale, turning drone and satellite imagery into habitat maps and carbon inventories.

graeme@agrageospatial.com linkedin.com/in/graeme-timmeney Denver area, Colorado

EXPERIENCE

GIS and Remote Sensing Director, Blue Carbon International

2024 to present

- Technical architect of the pipeline behind a national seagrass carbon inventory for the Government of The Bahamas, covering roughly 130,000 square kilometers of waters: drone and satellite imagery in, habitat maps, carbon stocks and uncertainty layers out.
- Built or directed a four-model segmentation ensemble for seagrass density, drone-to-satellite transfer, satellite-derived bathymetry trained on NASA ICESat-2 data and a learned sunglint removal model.
- Hire and manage a team of engineers, annotators and coordinators, and plan field campaigns with multi-vessel and drone operations.

Co-founder and CTO, CrateMap

Current

- Co-founded a DJ performance intelligence platform with Chris Comisar and lead the engineering. It soft launched in May 2026 and touring DJs use it.

Tour manager, Comisar

Current

- Festival advancing, artist relations, travel, lodging, border logistics and day-of-show coordination for the producer and DJ.

Web designer and VJ

Current

- Design and build websites, pitch decks and presentations for artists. The KiLO and burnsun sites are live.
- Render terrain, forests and cities as motion and cut them into loops for live sets.

Remote Sensing Team Lead, TCarta Marine, Denver

October 2023 to September 2024

- Principal Investigator on a NOAA SBIR Phase I award in 2024: developed models for hyperspectral satellite constellations to quantify human impacts on the ocean.
- Commercialized research methods that improved seafloor classification and its accuracy.
- Developed improved atmospheric correction for new satellite constellations.
- Worked with clients and satellite providers on satellite and SAR data fusion for end products.
- Production lead and project manager on benthic habitat mapping projects for coastal and marine clients: image acquisition, atmospheric correction, satellite-derived bathymetry and habitat classification.

Satellite Derived Bathymetrist, TCarta Marine, Denver

November 2022 to September 2023

- Produced satellite-derived bathymetry to industry standards.
- Made seafloor classification maps from training data of different origins.
- Ran imagery through atmospheric correction to derive remote sensing reflectance.

Director of Operations, Seven Point Supply, Kalamazoo

May 2021 to September 2022

- Led data collection and analysis on production cost, capabilities and output projections, and raised output by 25 percent in three months.
- Ran compliance, internal audits and quality control standards, and wrote standard operating procedures for safety, output and product quality.

Founder and Managing Principal, AgraGeospatial, Kalamazoo

April 2020 to July 2021

- Worked with agricultural stakeholders to apply geospatial technology and behavioral analysis to crop health.
- Developed methods to detect and tell apart biotic and abiotic stressors, and new vegetation indices to separate pests from mold.
- Flew drones with hyperspectral cameras over high-value crops and built 3D plant models across growth stages to estimate yield.

Graduate Teaching Assistant, Western Michigan University

November 2019 to May 2021

- Researched spectral data for plant vigor, water uptake, stress and nutrient status.
- Developed data collection methods that bring participatory mapping into remote sensing research.

Assistant Guide, The Montessori School, Kalamazoo

August 2017 to October 2018

EDUCATION

Master's in geography, Western Michigan University

May 2021

- Thesis: Spatiotemporal Distributions of Sargassum on Grand Cayman, published open access. It combines Sentinel-2 satellite imagery with participatory mapping by residents.
- Certifications in Geographic Information Science and in Geospatial Applications of Unmanned Aerial Vehicles.

Master's in education, Portland State University

Bachelor's degree in sociology, Western Michigan University

2017

Kalamazoo College

Heyl Scholarship

ACCOLADES AND TALKS

- **NOAA hyperspectral research award.** SBIR Phase I, 2024. Principal Investigator, at TCarta Marine, for "Non-Invasive Quantification of Littoral Blue Carbon Habitats with Space-Based Hyperspectral Imaging."
- **Lucia Harrison Colloquium Speaker.** AI for the Planet: Scaling Blue Carbon from Drones to Satellites. School of Environment, Geography, and Sustainability, Western Michigan University, November 14, 2025.
- **ReShore, hosted by Traverse Connect and MichAuto.** Ocean Innovation, Freshwater Opportunity: Building Tomorrow's Marine Technology in Michigan, August 18, 2025.
- **Ultramarine Ocean Action Summit, Necker Island.** Panel with Ralph Chami, Andy Ellwood and David Norris, with Jeremy McKane, April 2025.
- **West Michigan AI Lab, hosted by GRCC.** Featured speaker, AI for the Planet, March 19, 2025.
- **Midwest House / Start Midwest, 2025.** Profile by Philippe Vela, From Montessori Guide to Technical Lead: Engineering Climate Solutions.
- **Heyl Scholarship.** Kalamazoo College.

SKILLS

GEOSPATIAL AI	Semantic segmentation, model ensembles, pseudo-labeling, cross-resolution distillation, PyTorch.

REMOTE SENSING	Atmospheric and water column correction, sunglint removal, pansharpening, drone photogrammetry, satellite-derived bathymetry.
CARBON	Spatial machine learning, error propagation, IPCC Tier 2 methods, accuracy assessment.
DATA	GPU pipelines, DuckDB spatial, Cloud-Optimized GeoTIFF, GeoParquet, MLflow, Python, Rust.
SOFTWARE	ArcGIS Pro, QGIS, SNAP, Pix4D, DroneDeploy.
ENGINEERING	Directing coding agents with specs and handoff documents, building company knowledge bases.
FIELD	Field campaign planning, multi-vessel and drone operations, vendor coordination, tour management, festival advancing.
PEOPLE	Hiring and managing teams, grant writing, partnerships with startups, universities and governments, training design, public speaking, stakeholder briefings.
DESIGN	Websites, pitch decks and slide design.