Lloyd Weber

Geospatial Data Engineer & Analyst

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SUMMARY

Geospatial data engineer and analyst with 30+ years in the geospatial industry, including 17 years at the National Geospatial-Intelligence Agency (NGA) and a final role as Division Chief leading 130+ people. Since retiring in 2025, I have returned to hands-on work: seven AWS certifications, GIS programming coursework, and an open-source Python ETL package with a public dashboard built on it.

Seeking long-term, part-time, remote work as a geospatial analyst or data engineer with one team, covering projects, data backlogs, and absences as needs arise. Also open to contract engagements and occasional strategy or advisory sessions on geospatial work and AI governance.

CORE SKILLS

- **Data engineering:** Python, ETL pipelines, geospatial data quality, GeoJSON, GeoPackage, CSV
- **GIS and spatial analysis:** QGIS (advanced), Esri enterprise GIS, spatial analysis, cartographic design
- **Cloud:** AWS (S3, Lambda, DynamoDB)
- **AI and strategy:** agentic, AI-assisted development workflows; AI strategy and governance
- **Domain:** GEOINT, foundation data, land and maritime boundaries, geospatial OSINT

SELECTED PROJECTS

geocrime-stl: open-source Python ETL package (published on PyPI)

- Automates the monthly pipeline for St. Louis Metropolitan Police Department (SLMPD) crime data: fetch, clean and standardize, clip to city boundaries.
- Exports analysis-ready GeoJSON, GeoPackage, and CSV.
- Documented with a methodology page, API reference, and demo notebooks.
- Built with agentic, AI-assisted development workflows.

St. Louis Crime Data Explorer: interactive dashboard

- Visualizes reported offenses at multiple spatial scales, from ward and neighborhood down to an address radius, so users see the data at the point of need.
- Powered by the geocrime-stl package.

PROFESSIONAL EXPERIENCE

Independent professional development: AI, cloud, and geospatial upskilling

October 2025 – Present · St. Louis, Missouri

- Earned AWS certifications in solutions architecture, data engineering, machine learning, and development, and completed Introduction to GIS Programming, Geographic Software Design (University of Tennessee, Knoxville), and Advanced QGIS (Spatial Thoughts).
- Designed and published geocrime-stl (PyPI) and built the St. Louis Crime Data Explorer on top of it (see Selected projects).

National Geospatial-Intelligence Agency (NGA) · St. Louis, Missouri

17 years, 2008 – 2025. Deferred Resignation Program leave status, May – September 2025.

Division Chief, Global Geography Division · April 2022 – May 2025

- Led a geographically dispersed division of 130+ personnel across CONUS and OCONUS sites, directing production and enterprise GIS implementation for global foundation GEOINT programs.
- Managed a Deputy Division Chief and three Senior GEOINT Officers; set divisional mission priorities aligned to agency goals.
- Led the transition to a new professional services contract and contributed to division- and agency-level talent acquisition.
- Ran the division's hybrid-work model, which outpaced agency modernization expectations.

Deputy Division Chief, Global Geography Division · July 2020 – April 2022

- Managed five Branch Chiefs and turned agency strategy into daily production targets for geonames, boundaries, and co-production programs.
- Served as the division's clearance authority for high-priority agency taskers; sat on selection panels for division hiring.

Branch Chief, Geographic Boundaries Branch · July 2016 – July 2020

- Directed 13 GEOINT analysts across separate sites creating and maintaining foundational land and maritime boundary datasets.

- Oversaw implementation of an Esri enterprise GIS for the branch, modernizing data management and production workflows.
- Documented branch operations, put repeatable production processes in place, and wrote a 5-year strategic plan.
- Strengthened NGA's partnership with the Department of State on boundary and sovereignty issues.
- Moved the branch to 100% telework during COVID-19 and reached full mission capability within one month.

Branch Chief, Geospatial Open Source Intelligence (OSINT) Branch · December 2011 – July 2016

- Established and directed a multi-site branch of geospatial OSINT researchers and collectors.
- Moved geospatial OSINT from a post-analysis function to the front end of NGA's analytic workflow.
- Directed embedded teams delivering open-source Indications and Warnings to NGA directors and Intelligence Community partners.

Geospatial OSINT Training Lead · March – December 2011

- Led an ODNI-funded effort to modernize geospatial OSINT training, reaching more than 1,000 NGA officers; built a network of trainers and a parallel online offering.

Geospatial Intelligence Analyst · May 2008 – March 2011

- Fused all-source intelligence into products for DoD and government customers, applying NGA data standards to geospatial data.
- Created spatially referenced data from textual sources; delivered visualizations and briefings.

Earlier career

- **Graduate Student, Graduate Instructor, and GIS Technician**, University of Missouri-Columbia, 2003 – 2008. Produced draft Digital Flood Insurance Rate Maps for FEMA's map modernization project; taught undergraduate GIS, cartography, and geography courses; digitized Government Land Office survey notes for the Historic Vegetation Map of Missouri.
- **Adjunct Instructor, Java Programming**, Johnson County Community College, 2002 – 2003. Designed the curriculum and exams; course pass rate above 97%.
- **Data Network Engineer**, Sprint, 1999 – 2002. Deployed 40+ UNIX workstations for Y2K mitigation; helped open a training lab two weeks ahead of schedule.
- **Data Network Engineer**, U.S. Department of Veterans Affairs, 1997 – 1999. Supported a LAN upgrade and high-speed internet rollout that more than doubled data distribution rates.
- **Weather Observer and Forecaster**, U.S. Air Force, 1991 – 1997. Issued 200+ forecasts, watches, and warnings at a 95% verification rate.

CERTIFICATIONS AND TRAINING

Amazon Web Services (7 certifications)

- AWS Certified AI Business Strategist, 2026
- AWS Certified Developer – Associate, 2026
- AWS Certified Machine Learning Engineer – Associate, 2025
- AWS Certified Data Engineer – Associate, 2025
- AWS Certified Solutions Architect – Associate, 2025
- AWS Certified AI Practitioner, 2024
- AWS Certified Cloud Practitioner, 2024

Federal and professional

- FAA Remote Pilot Certificate (Part 107, small UAS), 2025
- GEOINT Professional Certifications (NGA): Fundamentals (GPC-F), Cartography (GPC CA-II), Geospatial Data Management (GPC GDM-II), Human Geography (GPC HG-II)

Continuing education

- Advanced QGIS, Spatial Thoughts, 2026
- Geographic Software Design, University of Tennessee, Knoxville, 2026
- Introduction to GIS Programming, University of Tennessee, Knoxville, 2026

EDUCATION AND HONORS

- **MA, Geography**, University of Missouri-Columbia, 2006. Thesis: *The illicit methamphetamine landscape of Franklin County, Missouri: application and analysis of a GIS-based risk assessment model*.
- **Graduate Certificate, Geographic Information Science**, University of Missouri-Columbia, 2006
- **BA, Geography**, University of Missouri-Columbia, 1999
- **AAS, Meteorology**, Community College of the Air Force, 1996

Honors: Geography Outstanding Graduate Instructor · NGA Supervisory Role Model Award · National Intelligence Meritorious Unit Citation · NGA Meritorious Unit Citation

Clearance: DoD/IC cleared.