



## About

Gaia Spatial, LLC is registered in the state of Maryland as a woman owned small business. At present, the company is owned, operated and staffed by Nadine Trahan, but in the process of pulling together a 2 to 4 person team of highly skilled and passionate members dedicated to supporting the Gaia Spatial mission.

## Vision and Mission Statement

Gaia Spatial's ultimate vision is to employ well-established and cutting-edge geospatial technology to advance integrative perspectives in socio-environmental awareness, research, conservation, restoration, and sustainability. In this view, interconnected elements of social and ecological systems manifested across landscapes are understood and managed in a manner fostering all aspects of socio-environmental wellbeing. Our mission is to convey our expertise in geospatial analysis and socio-environmental science to a collaborative community working toward similar and related goals. In promoting an adaptive approach, we strive for mutual sharing of knowledge and skills in working side by side with scientists, managers, students, and other stakeholders toward the realization of socio-environmental integrity.

## Expertise

Gaia Spatial's expertise is built upon a strong interdisciplinary background and more than 15 years of socio-environmental GIS and remote sensing practice while working with government, private, non-profit and educational institutions in several ecoregions. Through this experience we have gained multifaceted insight into complex biodiversity, conservation, environmental management and sustainable development issues. Collaboration with diverse, knowledgeable experts has qualified us in the iterative process of bidirectional translation between complex real-world phenomena and simplified GIS based representations. Herein lies our key expertise: the experience, ability and dedication to translate a client's real world questions into meaningful geospatial analysis projects comprising clear objectives, coherent workflows, articulate documentation, informative visualization and tangible results.

## Niche

Amidst the myriad social and environmental GIS and remote sensing consulting firms, Gaia Spatial occupies a particular niche characterized by our specialization in integrative socio-biophysical analysis. We conduct geospatial analysis by framing integrative social, biological, and physical applications within theoretically informed, interdisciplinary, multi-scalar, site-specific landscape context. Whether biotic or abiotic elements are the principal focus of questions at hand, the landscape is where relationships are manifested across space and time, requiring spatio-temporally explicit description, explanation, and prediction to inform integrative perspective.

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## **Services Offered**

Geospatial analysis is an iterative process involving conceptually informed techniques to examine static and dynamic forms, processes, patterns and relationships manifested across landscapes in space and time. Gaiaspatial services may include one, several or all phases of a project. While each is unique, a typical project may include project planning, digital data acquisition and geo-processing, geospatial and geo-statistical analysis, presentation of results, distribution of results and geospatial technology transfer. Examples of such projects include:

### **Geospatial Information Management**

- geospatial data collection, management, analyses, and publishing planning
- mobile and GPS solutions for field data collection and geoprocessing
- DEM based watershed and stream network delineation
- remote sensing solutions for direct and indirect geospatial data extraction and development

### **Geospatial Data Analysis**

- landcover mapping to support all socio-environmental research and management
- geomorphic classification, condition assessment, prioritization and change detection in river restoration
- wetland dynamics and restoration response
- habitat fragmentation and species network analysis
- forest carbon sequestration, energy and climate studies
- geospatial statistics and watershed modeling to assess contaminant sources and distribution
- aquatic and terrestrial species distributions and habitat modeling
- land conservation, stewardship, greenways and trails mapping
- conservation area ecological inventory
- site selection for terrestrial and aquatic monitoring and assessment
- ecological corridor delineation
- bioregional community planning
- urban build out analysis and planning
- brownfields inventory
- spatially explicit environmental life cycle analysis
- agricultural best management practices inventory and analysis

### **Geospatial Visualization and Decision Support**

- static statistical and map products for coherent communication of questions and results
- digital maps, tools, geo-databases, metadata and manuals to support in-house analysis and mapping
- online mapping and data distribution

### **Geospatial Technology Transfer**

- geoprocessing tools research and development
- capacity building and training workshops
- technical support

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