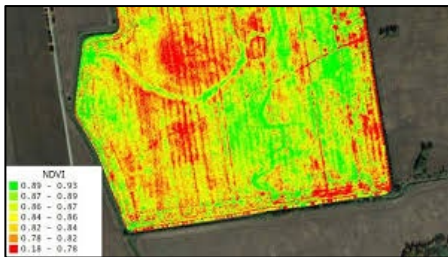


Environmental Geospatial Analysis is the discipline focused on using geographic information systems (GIS), remote sensing, spatial statistics, mapping technologies, and geospatial data science to understand environmental patterns, processes, and change. Environmental geospatial analysts combine environmental knowledge with advanced spatial technologies to analyze landscapes, monitor environmental conditions, support decision-making, and solve complex environmental challenges. Geospatial technologies have become essential tools for addressing issues ranging from climate change and biodiversity conservation to disaster response, environmental justice, natural resource management, public health, urban planning, and sustainability. Some of the critical questions that might be addressed with a career in these fields include:

- Which communities are most vulnerable to environmental hazards and climate change?
- How can remote sensing be used to monitor ecosystems, wetlands, forests, and water resources?
- What spatial patterns exist in environmental health, pollution, biodiversity, or sustainability indicators?
- How can GIS support environmental planning, conservation, and resource management?
- How can geospatial technologies improve environmental decision-making and public policy?



Careers

Careers in **Environmental Geospatial Analysis** involve applying GIS, remote sensing, spatial modeling, and environmental data science to support environmental management, planning, consulting, conservation, public health, and scientific research.

Career	Potential Employers
GIS and Spatial Analysis	
Geospatial/GIS Analyst	Federal Agencies, State Agencies, Private Industry, Local Governments, Consulting Firms, Utilities
Environmental GIS Specialist	Environmental Consulting Firms, NGOs
GIS Technician	Municipal Governments, Utilities, Engineering Firms
Remote Sensing and Earth Observation	
Remote Sensing Analyst	NASA, NOAA, USGS, Private Industry
Environmental Monitoring Analyst	Conservation Organizations, Consulting Firms
Geospatial Intelligence Analyst	Federal Agencies, Contractors
Environmental Management and Consulting	
Environmental Consultant	Consulting Firms, Engineering Firms
Conservation GIS Specialist	NGOs, Land Trusts, Conservation Organizations
Natural Resources Analyst	State Agencies, Federal Agencies
Watershed GIS Analyst	Watershed Organizations, Consulting Firms
Climate Data Analyst	Government Agencies, Research Institutes
Hazards and Resilience	
Hazard Mapping Specialist	FEMA, Emergency Management Agencies
Climate Resilience Analyst	Consulting Firms, NGOs, Municipal Governments
Risk Assessment Analyst	Insurance Firms, Government Agencies
Research and Data Science	
Environmental Data Scientist	Research Institutes, Government Agencies
Spatial Modeler	Universities, Consulting Firms
Geospatial Research Scientist	NASA, NOAA, USGS, Universities

Coursework & Degree Options

The **Environmental Geospatial Analysis** pathway is appropriate for Geography, Environmental Science, and Environmental Studies majors and is particularly well suited for students interested in spatial technologies, environmental data science, environmental consulting, planning, conservation, climate science, or resource management. Students interested in careers in environmental geospatial analysis may wish to consider the following courses to fill elective requirements within the Environmental majors:



4-cr. Science & Technology laboratory courses:

- GEV 4323 – Watershed Biogeochemistry
- GEV 4363 – GIS for Conservation Management

3-cr. Science & Technology elective courses:

- GEV 3521 – GIS for Urban Sustainability
- GEV 3750 – Remote Sensing
- GEV 3760 – Geospatial Applications in Environmental Science
- GEV 4301 – QGIS, Story Maps, Dashboarding, Drones, Google Earth Engine (1 credits)



3-credit elective Environmental Policy & Management courses:

- GEV 3570 – Land Use Planning and Management
- GEV 3580 – Natural Resources and Conservation



3-credit elective Environmental Social Science and Humanities courses:

- GEV 3004 – Geographies of Environmental Justice

Degree Options

- Students should consider double majoring in **Geography** and an **Environmental** major.
- Students may wish to consider the **Undergraduate Geospatial Information Sciences Specialization**.

Notes:

- Students should seek internships that provide hands-on experience with GIS software, spatial databases, remote sensing, drone technologies, and environmental data analysis.
- Many study abroad programs have courses that are relevant to this pathway and may count towards major requirements. Your academic advisor and the Chair of the Department can provide guidance, along with the Office of Education Abroad, about programs and courses that would be a good fit with this pathway.
- There are additional thematic courses offered every semester that can count toward elective requirements that may be relevant to this pathway.

Alumni Spotlight

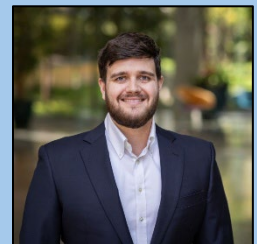
Sean Frangos

B.S. Environmental Science, Class of 2019

Environment and Geodesign, ESRI

After a year in Taiwan and a one-year entry level consulting position with NIRAS, Sean secured a position as an associate consultant with ESRI and has since been promoted to consultant where he designs and implements GIS solutions that strengthen climate resilience, support endangered species management, and inform geospatial planning.

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To learn more about this and other career pathways, use the QR code, contact your academic advisor, or contact the Chair of the Department of Geography and the Environment for guidance.

The GEV Career Pathways Page:

