

# GEOGRAPHY & ENVIRONMENTAL STUDIES

## Academic Programs

The Department of Geography & Environmental Studies offers several undergraduate, master's, and doctoral degrees as well as minors in Geography, Environmental Studies, and Geographic Information Science and Technology (GIS&T):

### Bachelor Degrees

- Bachelor of Science in Geography (Environmental Studies) (<https://catalogs.nmsu.edu/nmsu/arts-sciences/geography/geography-environmental-studies-bachelor-science/>)
- Bachelor of Science in Geography (Geographic Information Science and Technology) (<https://catalogs.nmsu.edu/nmsu/arts-sciences/geography/geography-gis-tech-bachelor-science/>)

### Master Degrees

- Master of Applied Geography (<https://catalogs.nmsu.edu/nmsu/graduate-school/geography-master-applied-geography/>)
- Master of Science in Geographic Information Science and Technology (Online) (<https://catalogs.nmsu.edu/global/nmsu-global/geographic-information-science-technology-ms-online/>)

### Doctoral Degree

- Doctor of Philosophy in Geography (<https://catalogs.nmsu.edu/nmsu/graduate-school/geography-doctor-philosophy/>)

### Undergraduate Minors

- Undergraduate Minor in Geography (<https://catalogs.nmsu.edu/nmsu/arts-sciences/geography/geography-undergraduate-minor/>)
- Undergraduate Minor in Geographic Information Science and Technology (<https://catalogs.nmsu.edu/nmsu/arts-sciences/geography/geographic-information-science-technology-undergraduate-minor/>)

### Graduate Minor

- Graduate Minor in Geographic Information Science and Technology (<https://catalogs.nmsu.edu/nmsu/graduate-school/geographic-information-science-technology-graduate-minor/>)

For more information about these degrees and minors, follow the links above or explore the Degrees and Minors tabs on this webpage.

## Interdisciplinary Learning & Career Pathways

Students in the Department of Geography and Environmental Studies have the flexibility to tailor their studies to their interests. While some specialize in one particular area, many integrate concepts and methods from Geography, Environmental Studies, and GIS&T to develop interdisciplinary solutions to complex challenges.

### Geography

As a broad and integrative field, geography examines how human activities, natural processes, and their interactions shape the world across space and time. Through critical and spatial thinking and qualitative, quantitative, and mixed-methods approaches, students develop the expertise to address pressing challenges such as environmental degradation, climate change, natural disasters, public health crises, and economic and social inequality. Graduates pursue

careers in government, academia, private industry, and non-profit organizations in fields related to Environmental Studies, GIS&T, and beyond.

### Environmental Studies

This concentration integrates insights from the natural sciences, social sciences, and humanities to address environmental challenges. Students develop expertise in critical, qualitative, and creative research methods, preparing for careers in fields such as environmental consulting, policy, education, outreach, advocacy, conservation, and sustainability.

### GIS&T

This concentration focuses on the collection, analysis, and visualization of geospatial data using cutting-edge technologies. Students learn to apply GIS, remote sensing, and spatial analysis and modeling to tackle human and environmental challenges, preparing for careers in fields such as urban and regional planning, cultural and natural resources management, emergency management, data and information management, and public health.

## Course Offerings Across Subfields

Students in the Department of Geography & Environmental Studies can choose from a wide range of courses in physical geography, human geography, regional geography, environmental studies, and GIS&T, tailoring their educational journey to align with their individual interests and career goals.

### Physical Geography

This field examines Earth's natural processes—such as plate tectonics, weather patterns, and ecological interactions—and how they shape landscapes and influence life on Earth. Students explore diverse topics through courses like Geomorphology, Weather & Climate, and Biogeography, which focus on landforms and surface processes, atmospheric dynamics, the distribution of plants and animals, and more.

### Human Geography

This field examines how people shape—and are shaped—by the world around them. Students explore diverse topics through courses like The City, Cultural Geography, and Challenges and Opportunities of Globalization, which focus on urban life and development, concepts of place and landscape, cultural exchange and regional disparities, and other key societal dynamics.

### Regional Geography

This field bridges human and physical geography by examining the unique characteristics of places and regions. It explores how landscapes, cultural identities, economies, and political systems interact across geographic areas, helping to understand human-environment relationships at multiple spatial and temporal scales. Students can engage with these concepts through courses focusing on regions such as Latin America, Europe, and New Mexico and the American West.

### Environmental Studies

This field focuses on the complex relationships between humans and the environment, emphasizing topics like environmental change, conservation, and sustainability. Students examine how natural and social systems interact, exploring issues such as land use, environmental policy, and ecosystem management. Courses like Planning a Sustainable World, Field Explorations, and U.S. National Parks provide applied learning opportunities to analyze real-world environmental challenges, study conservation strategies, and engage with landscapes ranging from urban green spaces to protected wilderness areas.

**GIS&T**

This field focuses on the collection, analysis, modeling, and visualization of spatial data to solve complex human and environmental challenges. Students gain expertise in geospatial data, methods, and technologies applicable across disciplines. In courses such as Cartography & GIS, Fundamentals of GIS, Remote Sensing, Programming, and Spatial Analysis and Modeling, students develop theoretical and technical proficiency through lab exercises and independent research projects tailored to their interests—whether in the natural sciences, social sciences, engineering, or beyond.

For more information about course offerings, visit the Courses tab on this webpage.

**Research & Applied Learning Resources**

To support students' educational and research needs, the Department of Geography & Environmental Studies maintains a computer teaching laboratory and the Spatial Applications Research Center (SpARC), a grants and contracts research lab. Both are equipped with state-of-the-art workstations running a wide array of specialized software packages. The Department also provides access to unoccupied aerial systems (drones), a field spectroradiometer, survey-grade GPS units, and other advanced equipment to support research and applied learning. Additionally, strong collaborations with campus units such as the Water Resources Research Institute and Jornada Experimental Range offer students valuable opportunities for inter-, multi-, and transdisciplinary research.

**A Supportive & Engaging Community**

The Department of Geography & Environmental Studies is more than just a place to learn—it's a community. Through student organizations, departmental events, and close faculty mentorship, we foster an environment where students feel supported both academically and personally. Whether participating in research symposiums, networking with professionals, or joining student groups, students have opportunities to connect, collaborate, and grow. We are committed to providing an inclusive and welcoming space where students from all backgrounds can find their place, pursue their passions, and thrive.

**Mission, Vision, & Core Values****Mission**

The Department of Geography & Environmental Studies applies holistic and integrative approaches in geography, environmental studies, and geographic information science and technology to advance human and environmental well-being in our local community, state, and beyond. We embrace student-centered, inclusive, collaborative, ethical, and positively impactful scholarship and creative activities, teaching and mentoring, service, and outreach.

**Vision**

We envision a future where human and environmental well-being thrives in our local community, state, and beyond.

**Core Values**

We are guided by a commitment to fostering an inclusive and impactful learning environment that supports both human and environmental well-being. Our core values are student-centered learning, human and environmental well-being, collaboration and teamwork, belonging and inclusion, and integrity and ethical practice.

**More Information**

For more information about programs, faculty, funding opportunities, scholarships, student organizations, and more in the Department of Geography and Environmental Studies, please visit the departmental website (<https://geography.nmsu.edu/>).