

Valeria Cortes-Mora

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Research Interests

- Water and wastewater infrastructure planning and management
- Urbanization, sustainability, and forest degradation
- Geospatial artificial intelligence and big data analysis
- Conservation of water resources and natural habitat management
- Asset management and infrastructure planning for small and rural water utilities

Education

University of New Mexico

BS Geography

May 2025

Albuquerque, NM

Relevant Coursework: GEOG 381L: Intro Geographic Information Systems, GEOG 484L: Applications of Remote Sensing, GEOG: 483L: Remote Sensing Fundamentals, GEOG 427: GIS Programming, GEOG:485L: Interactive Web Mapping, GEOG 499: Advance GIScience seminar.

Skills

- **Programming languages:** Python (intermediate), JavaScript (intermediate)
- **GIS software:** ArcGIS Pro, ArcGIS Online, QGIS, ENVI
- **Web map development:** GitHub, HTML, CSS, JSON, and GeoJSON.
- Proficient in Microsoft Office Suite
- English (fluent), Spanish (fluent; native), and Portuguese (conversational)

Awards

- UNM Arts & Sciences Support for Undergraduate Research Experience (ASSURE) award (Spring 2024 fellow), \$1600
- Fogleman scholarship (Fall 2023), \$1500
- New Mexico Opportunity Scholarship (Fall 2023 – Spring 2025), covers up to 100% of tuition and required fees and up to \$50 per credit hour for course specific fees.

Research Experience

- Title of research project: Spatial-temporal analysis for rainforests driven by big earth observation data: An ArcGIS story map of the Amazon area in Colombia (October 2023 – December 2024)
- Mentored by [Dr. Liping Yang](#) ([GeoAIR Lab](#) Director)
- Leverage big earth observation data to conduct spatial analysis using Python

- Received UNM ASSURE award from this project in February 2024
- Presented the ASSURE award project at UROC (Undergraduate Research Opportunity Conference) at UNM
- Developed an interactive web map application in JavaScript, integrating time-series maps to visualize deforestation and socio-economic trends

Presentations and Conferences Attended

Undergraduate Research Opportunity Conference 2024, Albuquerque
Esri User Conference 2024, San Diego

April 12
July 14 to July 19

Work Experience

Professional/Technical Intern

Southwest Environmental Finance Center – Albuquerque, NM
June 2025 to present

- GIS mapping and digitization of drinking water and wastewater systems across New Mexico and other states, following SWEFC standards.
- Support webinars by working with trainers to facilitate discussions with participants, including moderation duties such as monitoring chat and launching polls.
- Conduct utility system GIS data collection (including supervised fieldwork) and spatial analysis to support multiple Southwest Environmental Finance Center projects using ArcGIS, Field Maps, and other data collection and analysis tools.
- Develop and produce digital water and wastewater infrastructure maps in multiple formats (GIS platforms, Google-based maps, and print-ready products).
- Processed and managed GIS data using Excel and ArcGIS Pro.
- Contribute to social media and website content creation, using Instagram, X (Twitter), and Facebook to share water-related news.

GIS Student Tech

Southwest Environmental Finance Center – Albuquerque, NM
September 2024 to May 2025

- Conduct geospatial analysis and mapping with ArcGIS Pro to support environmental decision-making and water management.
- Georeferenced and analyzed remote sensing data from Earth Explorer (Landsat satellite imagery) for the Lead Service Line Inventory project on the San Carlos Apache Reservation (Arizona), determining whether homes were built before or after 1970 to assess lead exposure risk.
- Implement geospatial techniques to improve community water management, integrating GIS-based analysis to support infrastructure planning.
- Processed and managed GIS data using Excel and ArcGIS Pro.
- Contribute to social media and website content creation, using Instagram, X (Twitter), and Facebook to share water-related news.

Assistantship

- Undergraduate faculty assistant at the UNM [GeoAIR lab](#) (Summer 2024)
- Conduct literature reviews to support geospatial research and data analysis.
- Analyze global datasets, identifying relevant environmental and geospatial data sources.
- Assist with geospatial data preprocessing, including cleaning, transforming, and organizing data for lab research.

Cashier/host**The Range Café - Bernalillo, NM
September 2022 to September 2025**

- Greet customers as they walk into the restaurant and when they leave
- Handle phone calls and scheduling reservations
- Assist customers with any questions they might have about menu items or retail products
- Ensure customers have a positive experience at the restaurant

Service Manager**Chipotle Mexican Grill - Denver, CO
July 2020 to June 2022**

- Oversee restaurant facilities and ensure all the equipment worked properly
- Foster a welcoming and hospitable environment for both clients and employers
- Strengthening communication between crew members and management

References available upon request