

ELENA HIGHTOWER

GIS SPECIALIST

PROFESSIONAL SUMMARY

GIS Specialist with 10+ years of experience supporting environmental, energy, and telecom projects. Skilled in ArcGIS Pro, geospatial analysis, and data management with a strong track record of improving data quality and delivering actionable mapping products for cross-functional teams.

RELEVANT EXPERIENCE

DTS TECHNICAL WRITER (GIS SUPPORT)- SUBCOM (VIA INDICOMM)

March 2023 – October 2025 | Remote | Katy, Texas

- Supported GIS hazard mapping and submarine cable routing projects through comprehensive spatial data review and documentation.
- Prepared and maintained geospatial datasets and metadata, enhancing data integrity and compliance across 15+ engineering projects.
- Collaborated with engineers and project managers to align GIS deliverables with technical specifications and regulatory requirements.
- Developed and maintained workflow documentation and implemented QA/QC procedures to improve environmental assessment accuracy and project efficiency.

PETROPHYSICAL PETROLEUM TECHNOLOGIST — BP AMERICA

June 2012 - Jul 2015 | Houston, Texas

- Provided technical GIS support to geologists, engineers, and petrophysicists across multiple teams.
- Produced maps, cross sections, montages, and reports for senior staff presentations using ArcGIS and PowerPoint.
- Digitized well logs and legacy data sets to optimize workflows and reduce project costs.
- Served as chief loader and project manager for the core legacy repository migration, collaborating with IT to develop a centralized database.
- Conducted geospatial research for major oil and gas fields, including salinity and temperature mapping and resistivity time series.
- Led “Lunch and Learn” sessions to train staff in GIS workflows; presented at the Houston Hispanic Forum to promote STEM careers.

CONTACT

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Katy, Texas

LinkedIn:

www.linkedin.com/in/elena-hightower

GIS Professional Portfolio:

www.MapWithElena.com

EDUCATION

UNIVERSITY OF HOUSTON, 2012

B.S. in Geology

TEXAS TEACHERS ALTERNATIVE CERTIFICATION, 2016

Science Composite 4th – 8th Grade

LINKED IN LEARNING GIS COURSEWORK – IN PROGRESS

Intro to Python, Remote Sensing

CORE COMPETENCIES

GIS TECHNICAL SKILLS

- ❖ ArcGIS Pro, ArcMap, QGIS, ArcGIS Online/Enterprise
- ❖ Spatial analysis, cartography, and geospatial visualization
- ❖ Python (ArcPy, GeoPandas), C++, basic scripting & automation
- ❖ SQL/PostGIS, Oracle, geodatabases, metadata & quality control
- ❖ Raster/vector analysis, remote sensing workflows
- ❖ Web mapping and cloud-based geospatial platforms

ADDITIONAL EXPERIENCE & SKILLS DEVELOPMENT

STEM INTEGRATION & GIS OUTREACH

2015 – 2023 | Greater Houston Area, Texas

- Integrated geospatial concepts and mapping activities into K–12 STEM instruction.
 - Designed GIS-inspired projects focusing on spatial reasoning, data organization, and visualization.
 - Delivered technical training and presentations to students and educators, simplifying complex geospatial workflows.
 - Led robotics-based STEM programs emphasizing spatial problem solving and coordinate systems.
 - Promoted GIS and geoscience literacy through community engagement initiatives.
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FIELD & PROJECT EXPERIENCE

- Geospatial Hazard Mapping – Submarine Cable Routing (DTS / SubCom): Conducted spatial hazard analysis, corridor mapping, and data QA/QC in ArcGIS Pro to support cable routing decisions.
- Structural Geology & Field Methods – Big Bend, Dog Canyon, Dagger Mountain: Collected and georeferenced field data, created structural mapping layers, and integrated results into GIS workflows.
- Greater Green River Basin – Research & Mapping (Jonah, Pinedale, Wamsutter, Stagecoach Draw): Performed basin-scale mapping and spatial analysis using ArcGIS to support reservoir characterization and exploration.

PROFESSIONAL SKILLS

- ❖ Data visualization & communication of insights to stakeholders
 - ❖ Technical writing & clear workflow documentation
 - ❖ Cross-functional collaboration with engineers, analysts, and planners
 - ❖ Project coordination, task prioritization & deadline management
 - ❖ Problem-solving and critical spatial thinking
 - ❖ Training and user support for GIS tools and platforms
 - ❖ Stakeholder engagement and requirements gathering
 - ❖ Adaptability to evolving GIS technologies and workflows
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AWARDS AND PROFESSIONAL AFFILIATIONS

AWARDS

- ❖ Shell Geology Field Camp Scholarship — Recognized for academic excellence in geoscience fieldwork.
- ❖ American Geosciences Institute Minority Participation Scholar — Honored for leadership and contributions to geoscience diversity initiatives.

PROFESSIONAL AFFILIATIONS

- ❖ Houston Geological Society — Member
- ❖ American Association of Petroleum Geologists — Member
- ❖ Society of Petrophysicists and Well Log Analysts — Member
- ❖ Association for Women Geoscientists — Member
- ❖ Girl Scouts of the USA — Troop Leader