



RUBIERE RAMIREZ

Geospatial Developer | Spatial Data Engineer

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SUMMARY

A geospatial specialist and a spatial data engineer with over six years of experience in proprietary geographic information systems (GIS), free and open-source GIS, spatial data programming, spatial database management, remote sensing, earth observation, and spatial data engineering.

EXPERIENCE



Geographic Information Systems Assistant, Statistical Institute of Belize

 September 2022 – Present  Belmopan, Belize

Administer and maintain Enterprise GIS, spatial databases, services, Web GIS applications and perform earth observation on the built environment.

- Develop, administer and maintain spatial databases on PostgreSQL database with PostGIS extension.
- Develop, administer and maintain web applications on free and open-source software for geospatial (FOSS4G): GeoServer & Mapstore2; and on commercial off-the-shelf (COTS) software: Portal for ArcGIS & ArcGIS Server, Oracle Application Express.
- Create Sentinel-2 Geomedian of Belize with Google Earth Engine and classify urban areas with machine learning in Python.
- Develop tools to automate tasks and to standardize the extraction, transformation and loading of non-spatial data and spatial data into SIB's spatial data repositories with SQL, R, and Python.

Geographic Information Systems Technician, Statistical Institute of Belize

 July 2018 – September 2022  Belmopan, Belize

Create spatial data using front-end geospatial software and produce maps.

- Heads-up digitized building footprints for the entire country of Belize.
- Perform remote sensing techniques to detect changes in urban areas in QGIS.
- Process aerial photos from drone imagery in QGIS and ArcGIS Pro.

Geographic Information Systems Technician, Coastal Zone Management Authority and Institute of Belize

 May 2017 – June 2017  Belize City, Belize

Assist CZMAI with data creation and field data collection.

- Heads-up digitized and updated building footprints for Caye Caulker using Google Earth Pro and existing building footprints.
- Assisted with the collection of land use and building information in Caye Caulker using Open Data Kit for android devices.

EDUCATION

MSc in Geographical Information Science and Systems (In Progress) Paris Lodron University of Salzburg

 2026  Salzburg, Austria

BSc in Natural Resource Management University of Belize

 2014  Belmopan, Belize

SKILLS

R | R-Spatial | Python | GeoPython | SQL | Spatial SQL | QGIS | ArcGIS Pro | Geographic Data Science | Data Engineering | Remote Sensing | Earth Observation | PostgreSQL PostGIS | FOSS4G GeoServer | Geovisualization and Geocommunication | Web GIS

ACHIEVEMENTS

✓ **Enterprise GIS in FOSS4G**
Developed and implemented an Enterprise GIS infrastructure with free and open-source software for geospatial: QGIS and PostgreSQL Database with PostGIS extension.

✓ **Web GIS in FOSS4G**
Deployed and maintained Open-Source GeoServer and Mapstore2 with Apache Tomcat on Apache HTTP Server on SIB's GIS Servers.

✓ **GIS Web Application for Census Progress Tracking**
Geovisualized census progress coverage by creating a web application using open standards: Mapstore2 web app created using GeoServer, PostgreSQL database with PostGIS extension and ETL process automated with R programming.

✓ **Created {rvr2spatial}**
A package in R programming designed to facilitate the ETL process from MariaDB to PostgreSQL PostGIS.

✓ **Created MariaDB to QGIS**
QGIS Python Plugin that fetches longitude (x) and latitude (y) data from MariaDB and writes it to a shapefile or geopackage and adds it to map canvas.