# Carlos Giménez Larrosa

**Based:** Freiburg im Breisgau - Germany

**Mail:** carlos.gimenez@showmewhere.com /

**Nationality:** Paraguayan

**GitHub:** github.com/carlosgl91

**Portfolio:** https://showmewhere.com/carlos_gimenez/

| I-Academic training | |
|---|---|
| 2023-2025 | German Course Level B1. Bildungszentrum Freiburg. Germany. |
| 2021-2022 | Diploma in Python for Data Science. Comunera University, Asunción, Paraguay. |
| 2019-2020 | Specialization in Geographic Information Systems and Remote Sensing, Universidad del Pacífico, Paraguay. Final project titled "Automated Mapping of COVID-19 Incidence and Population Mobility Variation in Paraguay." https://epi-gis-py.shinyapps.io/covid19py/ <br><br> Degree obtained: GIS and Remote Sensing Specialist |
| 2012-2019 | Environmental Engineering Degree, Faculty of Agricultural Sciences, <br> National University of Asunción. Thesis title: "Analysis of the relationship between total forest biomass and NDVI values in the forest formations of the Cerrado, Concepción, Paraguay" – Summa cum laude <br> Degree obtained: Environmental Engineer |
| 2015-2017 | Advanced English Course, Higher Institute of Languages <br> Qualification obtained: English Language Technician |

**III- Language**

|  | Understand | Speaks | Read | Writes |
|---|---|---|---|---|
| **Spanish** | Very good | Very good | Very good | Very good |
| **English** | Very good | Very good | Very good | Very good |
| **German** | Good | Good | Good | Good |
| **Guarani** | Good | Good | Good | Good |
| **Portuguese** | Very good | Good | Good | No |

## IV – Computer Science

1. Advanced knowledge of the Google Earth platform Engine ( Remote Sensing ) with its JavaScript and Python APIs . Experience developing applications based on JavaScript, Python, and R.

2. Advanced knowledge of the R programming and statistical language for both spatial and non-spatial data. Excellent command of the tidy and Shiny packages for developing both spatial and non-spatial applications.

3. Advanced knowledge of the Python programming language and tools such as Conda , JupyterNotebook , PyQGIS , Geopandas , Rasterio , Geemap

4. Knowledge of the SQL language and PostgreSQL database engine with its POSTGIS extension

5. Knowledge Linux Server

6. Knowledge Docker

7. Knowledge of Git and the Github platform

8. Advanced knowledge of the xlsforms language and platforms such as Kobotoolbox

9. Advanced knowledge of the Geoserver platform (installation and administration)

10. Advanced knowledge of the Geonode (installation and administration)

11. Advanced knowledge PyQGIS software

12. Advanced knowledge of ArcGIS 10.8 programs

13. Advanced knowledge of Google Earth Pro

14. Advanced knowledge of RStudio software

15. Advanced knowledge of the Microsoft Office kit

16. Knowledge of the ArcGis Online platform

17. Knowledge of ArcGis Pro

18. Knowledge of Visual Studio Code

## V – Recent professional performance

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|---|---|
| March - April 2025 | International Consulting. GIS & Remote Sensing Specialist. Landcover and landuse mapping for 2023-2024. Indonesia . project framework . *West Sulawesi Forest Conservation Project.* Climate Investment Partners LLC. |
| January 2025 – February 2025 | International Consulting. GIS & Remote Sensing Specialist. Mangrove cover mapping between 2014 and 2022. Indonesia. he framework of the projects *Pesisir Biru Nusantara: An Indonesian Mangrove Restoration Project* and *Central Kalimantan Peatland Rewetting Project..* Climate Investment Partners LLC. |
| November 2024 | International Consulting. GIS & Remote Sensing Specialist. Land use and land cover mapping of Narok County in 2023. Kenya. In it project framework *Entooma Sidai: A Maasai Mara Rangeland Restoration and Conservation Project* an *Improved Agricultural Land Management Project* - VCS standard. https://climateinvestmentpartners.com/projects/. Climate Investment Partners LLC. |
| September 2024 - Present | Consulting. Associate Researcher. Project: Artificial intelligence applied to the prediction of the spatio-temporal distribution of medically important vectors with a "One Health" approach - PINV01-528. Generation of data derived from satellite images and other auxiliary data for the implementation of habitat suitability models, programming of geostatistical applications in Python, R and JavaScript (GEE). Polytechnic Faculty of the National University of Asunción https://code.earthengine.google.com/e7f29c99aa685e55cf7f2e89129c7bd2 |
| October 2024 - Present | International Consulting. Associate Researcher. Project: Soundscapes: Applications of Artificial Intelligence for the Conservation and Use of Ecosystems – PINV01-530. Generation of data derived from satellite images and other auxiliary data for the implementation of habitat suitability models, programming of geostatistical applications in Python, R, and JavaScript (GEE). Moisés Bertoni Foundation |
| January 2024 – April 2024 | International Consulting. GIS & Remote Sensing Specialist. Land use and land cover mapping of the ENVIRA Project for the 2023 monitoring period. Brazil . In it project framework *Entooma Sidai: A Maasai Mara Rangeland Restoration and Conservation Project* an *Improved Agricultural Land Management Project* - VCS standard. Climate Investment Partners LLC. |

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| October 2023- March 2024 | Consulting. GIS and Landscape Specialist. Critical habitat analysis and proposed net biodiversity balance. SilviPar (Paraguay). Annual mapping of land cover and use in 1,000,000 hectares in southern Paraguay (Ñeembucú, Itapúa, and Caazapá) with an emphasis on savanna formations and wetlands, from 2013 to 2023. Fragmentation and connectivity analysis. Biological corridors and fire incidence. |
| July 2023 | Professor. Instructor of the PyQgis Introduction Course . Faculty of Agricultural Sciences , National University of Asunción. |
| August 2022 - February 2023 | Professor. Diploma in Statistical Computing and Data Analysis. Geostatistics. National University of Asunción, Paraguay - Polytechnic Faculty of the National University of Asunción |
| February 2021 – December 2022 | Consulting. GIS and Database Specialist. Design of questionnaires, survey system, processing, storage, analysis, and display of data from 17,100 families for the project's baseline and impact assessment. Generation of land use and change data according to the 2006 IPCC categories for monitoring forest plots. PROEZA Project – FAO Paraguay. |
| January 2021 – April 2021 | International Consulting. GIS and Remote Sensing Specialist for land cover and land use change data generation, accuracy assessment and area estimation in the state of Acre (318,000 km2 ) – Purus REDD Project, Brazil . Methodology under VCS standard VM0007 -REDDMF_v1.6, including the following modules: VMD0006 BL-PL_v1.3, VMD0007-BL-UP_v3.3 and VMD0015 M- REDD-v2.2. Ostrya Conservation Inc. https://charlieswall.users.earthengine.app/view/purusproject |
| January 2021 – September 2021 | Consulting. GIS and Remote Sensing specialist for the generation of land cover and land use change data in the Paraguayan Chaco period 2014-2019, accuracy assessment and area estimation, according to VCS standard VM0007 - REDDMF_v1.6, including the following modules: VMD0006 BL-PL_v1.3, VMD0007-BL-UP_v3.3 and VMD0015 M-REDD-v2.2. Investancia SA- Quadriz - Ostrya Conservation Inc. https://charlieswall.users.earthengine.app/view/chacoproject |
| February to November 2020 | Technical collaboration. Automation of the processing and display of spatial information related to the SARS-CoV-2 pandemic in Paraguay. https://epi-gis-py.shinyapps.io/covid19py/ |

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| January 2019 to June 2020 | Consulting. Geographic Information Systems (GIS) Assistant, providing technical support to the Geomatics Directorate of the Ministry of Environment and Sustainable Development (MADES). Project: Forests for Sustainable Growth. United Nations Development Programme (UNDP). |
| 2019 | Consulting. Information Systems Component Geographic and Remote Sensing. *TopaDengue Data Consulting Science '*. CONACYT Project 'PINV15-188 Topa Dengue. Catholic University "Our Lady of the Assumption." |
| 2017-2018 | Consulting. Field Technician & GIS Assistant. Management of Research and Conservation. Research and Conservation Project Development. Moisés Bertoni Foundation. CONACYT Project 'Aquatic communities associated with native forests and eucalyptus forest plantations ( *Eucalyptus spp* )'. |
| 2017-2018 | Consulting. Remote sensing assistant for support to the Terrestrial Satellite Monitoring System. World Wildlife Fund (WWF) – National Forestry Institute (INFONA). 'Collaboration for Forests and Agriculture' project. |
| 2016-2017 | Consulting. GIS Assistant. Research and Development Management *Aspidosperma* species' *tomentosum Mart ., Terminalia glabrescens Mart . Qualea grandiflora Mart . And Vochysia tucanorum* of the Cerrado de Aguará Ñú in the Mbaracayú Forest Nature Reserve . |

## VI – Technical Production

- ### VI-I Outstanding technical works

1- *SilviPar . 2024. Critical habitat analysis and proposed net biodiversity balance. SilviPar Properties (Paraguay) (Unpublished.). 243 pp .*
2- *Giménez, C. 2024. Paraguay deep assessment tool – An automated tool for baseline, potential carbon stocks and GHG credits for issuance estimation. Tool developed for Climate Investment Partners LLC*
3- *Giménez, C. 2024. Geonode instance implementation ( Dockerized ). Tool adapted and implemented for Climate Investment Partners LLC*
4- *Giménez, C. 2023. Climate Investment Partners geospatial databased – Design and implementation of a POSTGRESQL based database for project developing and monitoring. Tool implemented for Climate Investment Partners LLC*

5- *Giménez, C. 2023. Rapid Assessment Tool, a GEE-Python and R-based application for global-scale project analysis. Tool developed for Climate Investment Partners LLC*

6- *Giménez, C. 2023. Carbon stocks estimation tool – An automated tool based in R for estimating carbon stocks of properties in the Tropics. Tool developed for Climate Investment Partners LLC*

7- *Technical report: Supervised classification report of Landsat Images for the Acre State, Brazil – Period 2020 ( Inéd .).* 2021

8- Giménez, C. *Technical Report: Supervised Classification of Landsat Images for Paraguayan Chaco period 2014 - 2019 ( Inéd .). 2021*

9- Giménez, C. UGP - PROEZA Design and implementation of the Participant Form – PROEZA Project – FAO Paraguay *( Inéd .).* 2021. Data Sciences, Data Engineering

10- Giménez, C. Installation and operation manual for the KoBoToolbox platform within the Participant Form framework. 2021. PROEZA Project – FAO Paraguay *(Unpublished).*

11- Giménez, C. Design and implementation of the Geographic Information System for the PROEZA Project. 2021

12- Giménez, C. Design and database dictionary for the PROEZA project. 2021.

13- Giménez, C. *Classification of Landsat scenes (REDD+ Methodology) – Monitoring report on GIS files acquisition for Paraguay.* ( Ined .), 2020.

14- Automation of the processing and display of spatial information related to the SARS-CoV-2 pandemic in Paraguay. https://epi-gis-py.shinyapps.io/covid19py/

15- Giménez, C. Methodology for downloading, processing, and storing satellite images used for the evaluation of productive projects submitted to the Ministry of Environment and Sustainable Development (MADES). (Unpublished), 2019.

16- Giménez, C. Methodology used for the evaluation of productive projects submitted to the Ministry of Environment and Sustainable Development (MADES). (Unpublished), 2019.

17- Giménez, C. Description of processes and methods used for the reclassification of "Farmland" to "Land for livestock use" and "Land for agricultural use" throughout the national territory, periods 2000-2005-2011-2013-2015-2016. (published), 2018. WWF-Paraguay.

- **VI-III Teaching material**

1- Giménez Larrosa C. 2022. Introduction to Geostatistics using R and QGIS. Classes developed (including presentations) within the framework of the Geostatistics Module of the Diploma in Data Science taught by the Polytechnic Faculty of Asunción.

2- Giménez Larrosa C. 2023. Introduction to PyQGIS . Course taught by the Faculty of Agricultural Sciences. https://colab.research.google.com/drive/1PDayQOXGJLxtyDunPSgeMEDbRrs10Btu#scrollTo=d8e34305

## VII – Professional and personal references

James Eaton
CEO – Ostrya Conservation Inc. / Climate Investment Partners LLC.
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Dr. Pastor Pérez Estigarribia
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Specialist in Monitoring the PROEZA Project – FAO Paraguay
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Department of Geoprocessing of Water Resources - MADES
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Eng. For . Laura Rodríguez
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Researcher – Moisés Bertoni Foundation - Paraguay
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Eng . Tatiana Gallupi
Biodiversity Specialist – UNDP - Paraguay
+595 994 882 238

**Consulting. GIS and Remote Sensing Specialist – Climate Investment Partners - USA**
- Generation of land use and land cover data for monitoring REDD projects under the VCS standard
- Thematic accuracy assessments
- Data acquisition and generation for projects in tropical countries
- Modeling deforestation patterns
- Reporting in line with established best practices and carbon accounting standards.
- Design and implementation of platforms for the deployment of spatial data
- Development of geostatistical applications
- Design and implementation of spatial databases (POSTGRESQL-POSTGIS, R, QGIS, Python)
- Development of applications based on GEE, Python and R within the framework of the development of nature-based solutions projects
- Interpretation of VERRA standard methodologies

**Research. Associate Researcher – PINV. 01-530 and INV. 01-528. Artificial Intelligence applied to the prediction of the spatiotemporal distribution of medically important vectors with a "Unique Health" approach. Founded by CONACYT Paraguay.**
- sensing applications in the bioaquatic framework
- Development of the baseline and geospatial and temporal database within the framework of the project
- Generation of applications for the automated processing of satellite images within the framework of habitat suitability modeling
- Scientific article published on results related to the application of remote sensing for the modeling and geostatistical analysis of project data
- sensing applications in the framework of medically important vector data modeling
- Scientific article published on results related to the application of remote sensing for the modeling and geostatistical analysis of project data

**Consulting. Landscape Ecology Specialist – SilviPar SA**
- Generation of land use and land cover data in an area of approximately 1 million hectares located in southeastern Paraguay, annually during the period 2013-2023, with an emphasis on savanna discrimination and degradation.
- Landscape connectivity and fragmentation analysis
- Proposal for biological corridors
- Fire Incidence Analysis 2013-2023
- Net balance proposal based on the results of the consultancy
- Development of an application for field data collection

**Consulting. GIS and Database Specialist, PROEZA Project - FAO Paraguay.**
- Tekoporã program databases , the STP social record (2013-2018), and the MAG DEAG database, using R language.
- Development of the Participant Form questionnaire with approximately 14 modules and 150 questions for the characterization and geolocalized collection of data from 17,100 families in the Eastern Region using mobile devices.
- Implementation of the participant form through XLSforms , developing an interactive, dynamic, and cross-platform form for surveying rural and indigenous families.
- Design and implementation of the extraction, transformation, and loading (ETL) process for participant record data, with the goal of creating databases by family and population, among other generated modules.
- Design and implementation of the PROEZA project databases
- Design, development and implementation of the monitoring system for field survey activities.
- Design, development, and implementation of a data collection system for verifying forestry planting activities.
- Processing, analysis, and display of project data through a Geographic Information System developed in R language for the interactive visualization of project-generated data.
- Technical training for the use of the various tools that make up the data collection system and its results.
- Presentation of results and methodologies to authorities and technicians from the nine project governance institutions.
- Generation of land use and land cover change data according to IPCC categories for 2021 throughout the project area through GEE.
- Map creation, geoprocessing and geomatics tools
- Consulting in GIS and remote sensing for the impact assessment of the PROEZA project, led by the STP with support from the University of Mannheim.

**Collaboration. Data processing and display of spatial information related to the SARS-CoV-2 pandemic.**

- Development of scripts for processing and mapping COVID-19 data at the national level using the R language
- Analysis of COVID-19 incidence data and population mobility variations using R language
- Creation of a web application called "COVID-19 in Paraguay" using the R language, which allows. Available at https://epi-gis-py.shinyapps.io/covid19py/
- Development of scripts for the automatic composition of interactive maps, GIFs, and static maps about COVID-19 at different analysis scales.

**Consulting. Ministry of Environment and Sustainable Development – UNDP (Forests for Sustainable Growth Project):**

- Evaluation and development of thematic maps within the framework of Law 294/93 for the Directorate of Geomatics (DGEO)
- Project evaluation under Law 294/93 for the General Directorate of Environmental Quality Control and Natural Resources (DGCCARN)
- Analysis and monitoring of change of use for the DGEO
- Preparation of proposals for the creation of departments within the DGEO
- Evaluation and development of maps for the Environmental Services Directorate (DSA)
- Preparation of technical reports

**CONACYT research project 'PINV15-188 Topa Dengue, Catholic University "Our Lady of the Assumption"**

- Development of scripts for the massive processing of satellite image data from 2018-2019 using Google Earth Engine in the framework of the investigation
- Generating scripts for data geoprocessing using the R language
- Generation of cartographic database for the project implementation area (GDB)-
- Writing a scientific manuscript using GIS and remote sensing applied to the field of health and epidemiology focused on dengue.

**INFONA – WWF 'Collaboration for Forests and Agriculture' Project:**

- Analysis of land use and land cover change according to IPCC categories for the periods 2000-2005, 2005-2011, 2011-2013, 2013-2015, 2015-2016 throughout Paraguay.
- Preparation of technical reports
- Generation of spatial database from the consultant's products