Lorena Abad

Researcher | Environmental Engineer | MSc. Geospatial Technologies

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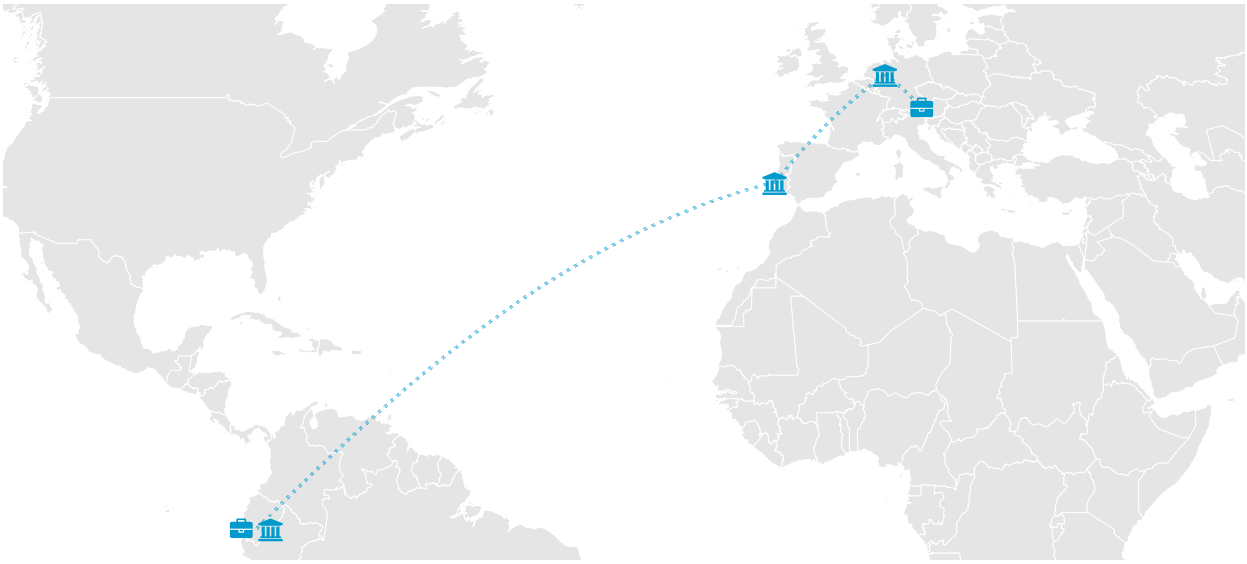
My journey



Professional Experience

Researcher - Department of Geoinformatics - Z_GIS — *Salzburg, AT*

University of Salzburg — *04, 2019 - Present*

- Researcher for the MORPH, RiCoLa, STEC, citizenMORPH, MontEO projects in the Landslide division of the OBIA group.

Research Assistant - Grupo de Investigación de Ciudades Sustentables Llactalab - Departamento Interdisciplinario de Espacio y Población — *Cuenca, EC*

Universidad de Cuenca — *05, 2017 - 08, 2017*

- Spatio-temporal data analyst for the project: "Study of Cyclists and Pedestrian Mobility Patterns in Cuenca for a Sustainable Mobility".

Technical Assistant - Carrera de Ingeniería Ambiental - Facultad de Ciencias Químicas — *Cuenca, EC*

Universidad de Cuenca — *09, 2016 - 08, 2017*

- CEDIA project "Geo-statistical Inference of Meteorological Data for Azuay and Chimborazo provinces".

Researcher - Carrera de Ingeniería Ambiental - Facultad de Ciencias Químicas — *Cuenca, EC*

Universidad de Cuenca — *10, 2016 - 01, 2017*

- Project "Water Quality and Environmental Variables Monitoring in Artificial Habitats for Endangered Species in Cuenca".

Research Assistant - Carrera de Ingeniería Ambiental - Facultad de ciencias Químicas — *Cuenca, EC*

Universidad de Cuenca — *03, 2016 - 07, 2016*

- Project "Determination of Particulate Matter PM10, PM2.5, and noise in Cuenca canton".

Teaching Experience

Teaching Assistant - Carrera de Ingeniería Ambiental - Facultad de Ciencias Químicas — *Cuenca, EC*

Universidad de Cuenca — *03, 2015 - 07, 2015*

- Remote Sensing course for the Environmental Engineering Career from the University of Cuenca.

Teaching Assistant - Carrera de Ingeniería Ambiental - Facultad de Ciencias Químicas — *Cuenca, EC*

Universidad de Cuenca — *03, 2012 - 01, 2015*

- Introduction to Physics course for the Environmental Engineering Career from the University of Cuenca.

Education

Westfälische Wilhelms-Universität Münster
Münster, DE

Erasmus Mundus Msc. Geospatial Technologies — *2018 - 2019*

- S2 2018: covering Cartography, Reference Systems, Spatial Data Science with R, Unmanned Aerial Systems
- S3 2018: Masters Thesis: Validating a bike network analysis score based on open data as a connectivity measure of urban cycling infrastructure adapted for European cities. Supervised by Prof. Dr. Edzer Pebesma. URL: *http://hdl.handle.net/10362/67511*

Universidade Nova de Lisboa
Lisbon, PT

Erasmus Mundus Msc. Geospatial Technologies — *2017 - 2019*

- S1, 2017: covering Geospatial Data Mining, Geostatistics, Remote Sensing, Geographic Information Science, Python programming.
- More info: *https://mastergeotech.info/*

Universidad de Cuenca
Cuenca, EC

Environmental Engineer BSc. — *2011 - 2016*

- Covering Cartography, Remote Sensing, Ecology, Hydrology, Meteorology and Climatology, Environmental Studies, Natural Resources Management, among 66 subjects during 10 semesters.
- Bachelor Thesis (in spanish): Particulate Matter less than 10 microns concentration estimation through Remote Sensing in the Urban Area of Cuenca city. Supervised by Danilo Mejía Coronel. URL: *http://dspace.ucuenca.edu.ec/handle/123456789/25484*

Selected Publications

Assessment of Landslide-Induced Geomorphological Changes in Hítardalur Valley, Iceland, Using Sentinel-1 and Sentinel-2 Data
Journal Article

Applied Sciences — *08, 2020*

- Dabiri, Z., Hölbling, D., **Abad, L.**, Helgason, J. K., Sæmundsson, Þ., Tiede, D. (2020). Assessment of Landslide-Induced Geomorphological Changes in Hítardalur Valley, Iceland, Using Sentinel-1 and Sentinel-2 Data. Applied Sciences, 10(17), 5848. *https://doi.org/10.3390/app10175848*

Implementing Geo Citizen Science Solutions: Experiences from the citizenMorph Project
Journal Article

Journal for Geographic Information Science — *06, 2020*

- Hennig, S., **Abad, L.**, Hölbling, D., Tiede, D. (2020). Implementing Geo Citizen Science Solutions : Experiences from the citizenMorph Project. Journal for Geographic Information Science, 7(2), 3–14. *https://doi.org/10.1553/giscience2020*

Mapping and monitoring of landslide-dammed lakes using Sentinel-2 time series -a case study after the 2016 Kaikoura Earthquake in New Zealand
Conference Proceedings

EGU General Assembly 2020 — *03, 2020*

- **Abad, L.**, Hölbling, D., Spiekermann, R., Dabiri, Z., Prasicek, G., Argentin, A.-L. (2020). Mapping and monitoring of landslide-dammed lakes using Sentinel-2 time series -a case study after the 2016 Kaikoura Earthquake in New Zealand. EGU General Assembly 2020. *https://doi.org/10.5194/egusphere-egu2020-572*

Assessing the impact of mass movements on alpine trails and huts using EO data.
Conference Proceedings

EGU General Assembly 2020 — *03, 2020*

- Albrecht, F., Hölbling, D., **Abad, L.**, Dabiri, Z., Reischenböck, G., Hipp, T., Resch, H., Resch, G. (2020). Assessing the impact of mass movements on alpine trails and huts using EO data. EGU General Assembly 2020. *https://doi.org/10.5194/egusphere-egu2020-21325*

Mapping and Analyzing the Evolution of the Butangbunasi Landslide Using Landsat Time Series with Respect to Heavy Rainfall Events during Typhoons
Journal Article

Applied Sciences, MDPI — *01, 2020*

- Hölbling, D., **Abad, L.**, Dabiri, Z., Prasicek, G., Tsai, T.-T., Argentin, A.-L. Mapping and Analyzing the Evolution of the Butangbunasi Landslide Using Landsat Time Series with Respect to Heavy Rainfall Events during Typhoons. Applied Sciences. 2020, 10, 630. *https://doi.org/10.3390/app10020630*

Quantifying Bicycle Network Connectivity in Lisbon Using Open Data
Journal Article

Information, MDPI — *11, 2018*

- **Abad, L**., van der Meer, L. (2018). Quantifying Bicycle Network Connectivity in Lisbon Using Open Data. Information, 9(11), 14. *https://doi.org/10.3390/info9110287*

Exploratory analysis of volunteer cyclists behavior through spatio-temporal patterns mining in Cuenca, Ecuador
Journal Article

Maskana — *06, 2018*

- **Abad, L.**, Orellana, D. (2018). Análisis exploratorio de comportamientos de ciclistas voluntarios mediante minería de patrones espacio-temporales en Cuenca, Ecuador. Maskana, 9(1), 141-151.

Particulate Matter less than 10 microns concentration estimation through Remote Sensing in the Urban Area of Cuenca city
Conference Proceedings

XVI Conferencia de Sistemas de Información Geográfica — *09, 2017*

- **Abad, L.**, Mejía-Coronel, D. (2017). Estimación De La Concentración De Material Particulado Menor a 10 Micras a Través De Sensores Remotos En El Área Urbana De La Ciudad De Cuenca. In XVI Conferencia de Sistemas de Información Geográfica (pp. 381-390). Cuenca, Ecuador. Universidad del Azuay.

Projects

Research projects

STEC — *NZ*
Smarter Targeting of Erosion Control — *2018 - 2023*

MontEO — *AT*
The impact of mass movements on alpine trails and huts assessed by EO data — *2020 - 2021*

RiCoLa — *AT, NZ, TW*
Detection and Analysis of Landslide-induced River Course Changes and Lake Formation — *2017 - 2020*

citizenMorph — *AT, DE, IS*
Observation and Reporting of Landscape Dynamics by Citizens — *2018 - 2020*

MORPH — *IS*
Mapping, Monitoring and Modelling the Spatio-Temporal Dynamics of Land Surface Morphology — *2016 - 2020*

Programming projects

Kaikoura landslide dammed-lakes — *GEE project*
Landslide dammed-lakes detection and monitoring after the Kaikoura earthquake in New Zealand

sfnetworks — *R Package*
Tidy Geospatial Networks in R

BNA-EU — *RMarkdown Reporting*
Bicycle Network Analysis Score for UK and NL

Presentations, blogs, courses

Mapping and monitoring landslide-dammed lakes in Kaikoura, New Zealand, using the Google Earth Engine — *Geo for Good 2020*
Lightning Talk at the Geo For Good 2020 Summit Public Sector Meetup — *10, 2020*

El rol de las tecnologías geoespaciales para el mapeo y monitoreo de peligros naturales — *Voces Ambiental 2020*
Invited talk at the event 'Voces de la Ingeniería Ambiental' — *09, 2020*

Bicycle Network Analysis for assessing cyclability — *U-Shift event*
Presentation during Cycling Potential Hackathon: Lisbon — *09, 2020*

Implementing geo citizen science solutions: experiences from the citizenMorph project — *Gi-Forum 2020*
Full paper presentation in session C43: Spatial Citizens Science — *07, 2020*

Tidy Geospatial Networks in R: Introducing the sfnetworks package — *e-Rum 2020 satellite event*
Webinar & Hackathon — *06, 2020*

Mapping and monitoring of landslide-dammed lakes using Sentinel-2 time series — *EGU 2020*
Display in session Natural Hazards NH6.1 — *05, 2020*

Intro to spatial vector data analysis with R — *Maptime Salzburg*
R spatial crash course — *02, 2020*

Spatial networks in R with sf and tidygraph — *r-spatial blog*
Blogpost — *09, 2019*

Bicycle Network Analysis for Lisbon — *AGILE Workshop: OD4OC*
Short Paper Presentation in the 2nd Open Data for Open Cities Workshop — *06, 2018*

Exploring Space-Time Patterns Of Volunteered Cycling Data In An Intermediate City — *GeoMundus 2017*
Abstract Presentation — *11, 2017*

Distinctions

2018	Benigno Malo Prize - University Honors Award	*Universidad de Cuenca*
2018	AGILE 2018 conference - travel grant	*AGILE & ESRI*
2017	Erasmus Mundus Scholarship	*European Commission*
2015	Best Scientific Poster - 2nd International Summer School "The Biodiversity of Genes, Species and Ecosystems"	*Universität Osnabrück*
2014 - 2016	Vanguardia Honors Program	*Universidad de Cuenca*

Memberships

since 2020	R-Ladies Global
since 2020	Women in Geospatial
2020	European Geosciences Union
since 2020	Erasmus Mundus Association

Skills

Technical skills

Coding Languages

R – SQL – Python – JavaScript

Software

QGIS – ArcGIS – SAGA – eCognition – PostgreSQL – PostGIS – RStudio – Earth Engine – GIMP – Mendeley

Other

Git – Markdown – LaTex – OpenStreetMap

Organizational skills

06, 2020	e-Rum 2020 satellite event: *sfnetworks* Webinar and Hackathon	*Online Event*
09, 2019	citizenMorph App Testing Workshop	*Höfn, IS*
12, 2018	GeoMundus 2018	*Lisbon, PT*
06, 2016	I University Simposium of Environmental Science Research	*Cuenca, EC*
2013 - 2014	Vicepresident of the Student Association of Environmental Engineers	*Cuenca, EC*

Languages

Skill	Spanish	English	French	Portuguese	German	Dutch
Reading	Native	C2	B2	B1	A2	A2
Writing	Native	C1	B2	B1	A1	A1
Listening	Native	C2	B2	B1	B1	A2
Speaking	Native	C2	B2	B1	B1	A2

Common European Framework of Reference for Languages: A1/A2: Basic User. B1/B2: Independent User. C1/C2: Proficient User