



# Lorena Abad

RESEARCHER | ENVIRONMENTAL ENGINEER | MSc. GEOSPATIAL TECHNOLOGIES

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## ✈ My journey



## 📁 Professional Experience

### Researcher - Department of Geoinformatics - Z\_GIS

UNIVERSITY OF SALZBURG

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

Salzburg, AT

04, 2019 - Present

### Research Assistant - Grupo de Investigación de Ciudades Sustentables Llaclalab - Departamento Interdisciplinario de Espacio y Población

UNIVERSIDAD DE CUENCA

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

Cuenca, EC

05, 2017 - 08, 2017

### Technical Assistant - Carrera de Ingeniería Ambiental - Facultad de Ciencias Químicas

UNIVERSIDAD DE CUENCA

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

Cuenca, EC

09, 2016 - 08, 2017

### Researcher - Carrera de Ingeniería Ambiental - Facultad de Ciencias Químicas

UNIVERSIDAD DE CUENCA

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

Cuenca, EC

10, 2016 - 01, 2017

### Research Assistant - Carrera de Ingeniería Ambiental - Facultad de ciencias Químicas

UNIVERSIDAD DE CUENCA

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

Cuenca, EC

03, 2016 - 07, 2016

### Internship - Grupo de Investigación de Ciudades Sustentables Llaclalab - Departamento Interdisciplinario de Espacio y Población

UNIVERSIDAD DE CUENCA

- Cartographic data gathering organization, topographic correction and categorization of urban land uses, scientific papers analysis for bibliographic review.

Cuenca, EC

05, 2015 - 06, 2015

### Internship - Departamento de Recursos Hídricos y Ciencias Ambientales (iDRHICA)

UNIVERSIDAD DE CUENCA

- Assess the functioning state of Davis Station sensors, identify similarities and differences of two river basins hydrograms, analyze the effects of temperature and relative humidity on reference evapotranspiration calculation.

Cuenca, EC

07, 2014 - 09, 2014

### Teaching Assistant - Carrera de Ingeniería Ambiental - Facultad de Ciencias Químicas

UNIVERSIDAD DE CUENCA

Cuenca, EC

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

UNIVERSIDAD DE CUENCA

Cuenca, EC

03, 2012 - 01, 2015

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

## Education

### Westfälische Wilhelms-Universität Münster

ERASMUS MUNDUS MSc. GEOSPATIAL TECHNOLOGIES

Münster, DE

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

ERASMUS MUNDUS MSc. GEOSPATIAL TECHNOLOGIES

Lisbon, PT

2017 - 2019

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

### Universidad de Cuenca

ENVIRONMENTAL ENGINEER BSc.

Cuenca, EC

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

APPLIED SCIENCES

Journal Article

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 FOR GEOGRAPHIC INFORMATION SCIENCE

Journal Article

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/gis2020>

### Distinct types of landslides in moraines associated with the post-LIA glacier thinning: Observations from the Kinzl Glacier, Huascarán, Peru

SCIENCE OF THE TOTAL ENVIRONMENT

Journal Article

06, 2020

- Emmer, A., Klimeš, J., Hölbling, D., **Abad, L.**, Draebing, D., Skalák, P., Štěpánek, P., Zahradníček, P. (2020). Distinct types of landslides in moraines associated with the post-LIA glacier thinning: Observations from the Kinzl Glacier, Huascarán, Peru. Science of The Total Environment, 739, 139997. <https://doi.org/10.1016/j.scitotenv.2020.139997>

### 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

Conference Proceedings

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.

EGU GENERAL ASSEMBLY 2020

Conference Proceedings

03, 2020

- Albrecht, F., Hölbling, D., **Abad, L.**, Dabiri, Z., Reichenböck, 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

APPLIED SCIENCES, MDPI

Journal Article

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

INFORMATION, MDPI

[Journal Article](#)

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

MASKANA

[Journal Article](#)

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

XVI CONFERENCIA DE SISTEMAS DE INFORMACIÓN GEOGRÁFICA

[Conference Proceedings](#)

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

SMARTER TARGETING OF EROSION CONTROL

[NZ](#)

2018 - 2023

#### MontEO

THE IMPACT OF MASS MOVEMENTS ON ALPINE TRAILS AND HUTS ASSESSED BY EO DATA

[AT](#)

2020 - 2021

#### RiCoLa

DETECTION AND ANALYSIS OF LANDSLIDE-INDUCED RIVER COURSE CHANGES AND LAKE FORMATION

[AT, NZ, TW](#)

2017 - 2020

#### citizenMorph

OBSERVATION AND REPORTING OF LANDSCAPE DYNAMICS BY CITIZENS

[AT, DE, IS](#)

2018 - 2020

#### MORPH

MAPPING, MONITORING AND MODELLING THE SPATIO-TEMPORAL DYNAMICS OF LAND SURFACE MORPHOLOGY

[IS](#)

2016 - 2020

### PROGRAMMING PROJECTS

#### Kaikoura landslide dammed-lakes

LANDSLIDE DAMMED-LAKES DETECTION AND MONITORING AFTER THE KAIKOURA EARTHQUAKE IN NEW ZEALAND

[GEE project](#)

#### sfnetworks

TIDY GEOSPATIAL NETWORKS IN R

[R Package](#)

#### BNA-EU

BICYCLE NETWORK ANALYSIS SCORE FOR UK AND NL

[RMarkdown Reporting](#)

## Presentations, blogs, courses

### Implementing geo citizen science solutions: experiences from the citizenMorph project

FULL PAPER PRESENTATION IN SESSION C43: SPATIAL CITIZENS SCIENCE 

[Gi-Forum 2020](#)

07, 2020

### Tidy Geospatial Networks in R: Introducing the sfnetworks package

WEBINAR & HACKATHON 

[e-Rum 2020 satellite event](#)

06, 2020

### Mapping and monitoring of landslide-dammed lakes using Sentinel-2 time series

DISPLAY IN SESSION NATURAL HAZARDS NH6.1 

[EGU 2020](#)

05, 2020

### Intro to spatial vector data analysis with R

R SPATIAL CRASH COURSE 

[Maptime Salzburg](#)

02, 2020

### Spatial networks in R with sf and tidygraph

BLOGPOST 

[r-spatial blog](#)

09, 2019

### Bicycle Network Analysis for Lisbon

SHORT PAPER PRESENTATION IN THE 2ND OPEN DATA FOR OPEN CITIES WORKSHOP 

[AGILE Workshop: OD4OC](#)

06, 2018

### Exploring Space-Time Patterns Of Volunteered Cycling Data In An Intermediate City

ABSTRACT PRESENTATION

[GeoMundus 2017](#)

11, 2017

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 <a href="#">🔗</a>
since 2020	Women in Geospatial <a href="#">🔗</a>
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: <i>sfnetworks</i> Webinar and Hackathon <a href="#">🔗</a>	Online Event
09, 2019	citizenMorph App Testing Workshop	Höfn, IS
12, 2018	GeoMundus 2018 <a href="#">🔗</a>	Lisbon, PT
06, 2016	I University Symposium 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