



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>

Publications

Detecting landslide-dammed lakes on Sentinel-2 imagery and monitoring their spatio-temporal evolution after the Kaikoura earthquake in New Zealand

Journal Article

SUBMITTED TO REMOTE SENSING OF ENVIRONMENT

07, 2020

- Abad, L., Hölbling, D., Spiekermann, R., Prasicek, G., Dabiri, Z., Argentin, A.-L. (In review). Detecting landslide-dammed lakes on Sentinel-2 imagery and monitoring their spatio-temporal evolution after the Kaikoura earthquake in New Zealand. Remote Sensing of Environment.

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>

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

Journal Article

SCIENCE OF THE TOTAL ENVIRONMENT

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

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>

Observation and Reporting of Landforms and Landscape Dynamics by Citizens

Conference Proceedings

EGU GENERAL ASSEMBLY 2020

03, 2020

- Hölbling, D., Hennig, S., Abad, L., Ecke, S., Tiede, D. (2020). Observation and Reporting of Landforms and Landscape Dynamics by Citizens. EGU General Assembly 2020. <https://doi.org/10.5194/egusphere-egu2020-13593>

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>

Landslide dam susceptibility in the Austrian Alps inferred from modelled landslides , potential valley damming and lake formation.

Conference Proceedings

EGU GENERAL ASSEMBLY 2020

03, 2020

- Argentin, A.-L., Prasicek, G., Robl, J., Hölbling, D., **Abad, L.** (2020). Landslide dam susceptibility in the Austrian Alps inferred from modelled landslides , potential valley damming and lake formation. EGU General Assembly 2020. <https://doi.org/10.5194/egusphere-egu2020-8040>

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>

An Object-Based Approach for Monitoring the Evolution of Landslide-dammed Lakes and Detecting Triggering Landslides in Taiwan

Journal Article

ISPRS - INTERNATIONAL ARCHIVES OF THE PHOTOGRAMMETRY, REMOTE SENSING AND SPATIAL INFORMATION SCIENCES

09, 2019

- Dabiri, Z., Hölbling, D., **Abad, L.**, Prasicek, G., Argentin, A.-L., Tsai, T.-T. (2019). An Object-Based Approach for Monitoring the Evolution of Landslide-dammed Lakes and Detecting Triggering Landslides in Taiwan. ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLII-3/W8, 103–108. <https://doi.org/10.5194/isprs-archives-XLII-3-W8-103-2019>

Assessment of Landslide-Induced Morphology Changes using an Object-Based Image Analysis Approach: A Case Study of Hitardalur, Iceland

Journal Article

ISPRS - INTERNATIONAL ARCHIVES OF THE PHOTOGRAMMETRY, REMOTE SENSING AND SPATIAL INFORMATION SCIENCES

09, 2019

- Dabiri, Z., Hölbling, D., **Abad, L.**, Tiede, D. (2019). Assessment of Landslide-Induced Morphology Changes using an Object-Based Image Analysis Approach: A Case Study of Hitardalur, Iceland. ISPRS - International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLII-3/W8, 109–114. <https://doi.org/10.5194/isprs-archives-XLII-3-W8-109-2019>

Distinct mechanisms of landslides in moraines associated with the post-LIA glacier thinning: observations from the Kinzl glacier, Huascarán, Peru

Conference Proceedings

17TH INTERNATIONAL SYMPOSIUM ON GEO-DISASTER REDUCTION

08, 2019

- Emmer, A., **Abad, L.**, Hölbling, D., Klimeš, J., Štěpánek, P., Zahradníček, P. (2019). Distinct mechanisms of landslides in moraines associated with the post-LIA glacier thinning: observations from the Kinzl glacier, Huascarán, Peru. In 17th International Symposium on Geo-disaster Reduction. Issyk Kul.

Technological solutions for contributory citizen science: experiences from citizenMorph

Journal Article

PROCEEDINGS OF SCIENCE

06, 2019

- Hennig, S., **Abad, L.**, Hölbling, D. (2019). Technological solutions for contributory citizen science: experiences from citizenMorph. Proceedings of Science, (ACSC2019)005, 26–28. <https://pos.sissa.it/366/005/pdf>

Mapping the Evolution of the Butangbunasi Landslide, Taiwan, using Landsat Time Series

Conference Proceedings

27TH INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS GENERAL ASSEMBLY

06, 2019

- Hölbling, D., Dabiri, Z., Tsai, T.-T., Prasicek, G., Tsui, C. Y., Schäffer, L., Argentin, A., **Abad, L.** (2019). Mapping the Evolution of the Butangbunasi Landslide, Taiwan, using Landsat Time Series. In 27th IUGG General Assembly. Montreal, Canada.

Potential distribution of the Polylepis genus in the Paute river basin under a climate change scenario

Journal Article

REVISTA DE LA FACULTAD DE CIENCIAS QUÍMICAS

12, 2018

- Mejía-Coronel, D., Tonón, M., Abad, L. (2018). Distribución Potencial del Género Polylepis en la Cuenca del Río Paute bajo un Escenario de Cambio Climático. Revista de La Facultad de Ciencias Químicas., December(19), 21-37.

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.

Water quality and environmental variables in endangered amphibia habitats in Cuenca urban area

Journal Article

REVISTA DE LA FACULTAD DE CIENCIAS QUÍMICAS

11, 2017

- Abad, L., Mejía, D., León, P., Cárdenas, I., Pacheco, B., Tonón, M. (2017). Calidad del Agua y Variables Ambientales en Hábitats para Anfibios Amenazados en la Zona Urbana de Cuenca. Revista de La Facultad de Ciencias Químicas. Universidad de Cuenca.

Exploring space-time patterns of volunteered cycling data in an intermediate city

Conference Proceedings

MEMORIAS V CONGRESO REDU

10, 2017

- Abad, L.**, Orellana, D. (2017). Exploring space-time patterns of volunteered cycling data in an intermediate city. Memorias V Congreso REDU, 453-457.

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

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

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

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: <i>sfnetworks</i> Webinar and Hackathon 	<i>Online Event</i>
09, 2019	citizenMorph App Testing Workshop	<i>Höfn, IS</i>
12, 2018	GeoMundus 2018 	<i>Lisbon, PT</i>
06, 2016	I University Symposium of Environmental Science Research	<i>Cuenca, EC</i>
2013 - 2014	Vicepresident of the Student Association of Environmental Engineers	<i>Cuenca, EC</i>

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