NATALIA A. BERMUDEZ

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Core Competencies

Field Researcher	ArcMap, ArcGIS Online, ArcGIS Pro	Team-oriented
Spatial Analyst	Phyton and Model Builder	Work in Multicultural Environments
Terrset, and QGIS	Microsoft Office	Bilingual in English and Spanish

Education

Lehman College, CUNY, Bronx, NY **2022**

Master of Science in Geographic Information Science (GISc)

- GPA 3.9
- Capstone Project: Monitoring Land Use Land Cover Change in Areas Susceptible to Volcanic Hazard Between 1986 and 2020 in Latin America. Case of study: Galeras, Colombia; Fuego Volcano, Guatemala; and Popocatépetl in México. May 2022. Workshop in GISc Research. Honors in Geography.

Bergen Community College, Paramus, New Jersey **2015**

AA Liberal Arts in Sociology

- Academic Excellence Award for AA in Sociology 2016
- Bergen Community College Honor's list; Fall 2012, Spring 2015
- Dean's List Spring 2015

Technological University of Pereira, Colombia **2013**

Bachelor's Degree in Environmental Management

- GPA grant that covers full tuition in Spring 2007 and Fall 2008
- Student leader in Risk Management Student Club for 3 years
- Research funding for Prospective Strategies of Disaster Risk Management in Pereira, Colombia. 2009. (Results used to undergraduate thesis)
- Research funding for The Municipal Risk Management Plan Evaluation for the Central West Metropolitan Area of Colombia –AMCO- 2010. (Project lead by the Risk Management Student Club)
- Co-investigator in two academic books

Work Experience

NASA, SERVIR, and the University of Alabama in Huntsville. Huntsville, Alabama
InterAmerican Research Associate **May 2022 to Present**

- Providing science management support for work in Central, and South America and the Caribbean Islands in capacity-building initiatives and serving as a liaison between NASA/ SERVIR and AmeriGEO.
- Overseeing and supervising NASA-funded projects in the framework of the AmeriGEO and GEO regional initiatives. Assisting to connect principal project investigators with the GEO initiatives and other relevant stakeholders' needs. Reporting and promoting project results and impact to NASA Headquarters and the regional community.
- Coordinating activities for the long-lasting engagement of stakeholders, academia, and earth observation practitioners. Harmonizing the identification of stakeholders and assessing their needs in terms of the use of technological geoprocessing systems. Promoting capacity-building activities, training activities, and collaborative projects to strengthen understanding of earth observations and expand their use.
- Contributing with the SERVIR scientific team to co-develop research activities for innovative solutions on risk reduction and Land Use Land Cover Change focusing on the Interamerican system of SERVIR hubs, Amazonia, and Centro America (the last hub is in process of consolidation).

Lehman College and Columbia University. Columbia Climate School, New York, NY
Research Assistant **October 2021 to January 2022**

Project: Collecting Vulnerability Data Using Mechanical Turking: A Crowdsourcing Approach to Identifying Socioeconomic Indicators of Urban Building Vulnerability to Floods

- Collected Flood Vulnerability data using mechanical Turking process, based on building footprint and Google Street View Imagery
- Digitized of building footprints and other attributes from high-resolution imagery obtained from multiple sources, using available cloud-based software and data platforms

- Cleaned, validated, and performed other quality control on the newly created and existing imaginary data using Geographic Information System (GIS) approaches
- Integrated the data with other relevant data on elevation, land use, flood and landslide hazard, and other environmental and socioeconomic characteristics
- Provided appropriate metadata and documentation for the data produced, including any problems or errors encountered
- Conducted selected case studies in Mocoa, Colombia in areas of interest to demonstrate the utility of the data in research and applications, assess data uncertainties and limitations, and identify gaps and possible areas of improvement
- Contributed to the research process on creating a global flood vulnerability layer.

New York City Department of Education (DOE). Division of School Facilities, New York, NY
Intern   **January 2021 to July 2021**
Project: Update the inventory of the Department of Education (DOE) facilities that are inside of MS4 permit areas in the city of New York City
- Identified and corroborated the location of public schools built under the Municipal Separate Storm Sewer System (MS4) in New York City and nearby state water bodies with direct stormwater overland flow from Schools
- Maintained and updated geodatabase of DOE facilities falling within MS4 permits including thematic layers, characterization of data elements, attributes, feature table, and metadata
- Researched and collected data from public and internal sources. Designed a methodology that suits the requirements of the internship. Applied and integrated different geoprocessing tools available in ArcGIS to consolidate results
- Updated and georeferenced new and uncounted DOE facilities in New York Cities within MS4 permits adding the new result to the DOE's facilities geodatabase and working folder used by the Division of School Facilities
- Requested water and sewer records per new facilities identified by the inventory to the Bureau of Water and Sewer Operation, Department of Environmental Protection
- Corroborate findings by reviewing city site plans, sewer drawings, records, and architecture planes contemplating all five boroughs of NYC; identified discharge points and drainage areas in facilities
- Designed and elaborated MS4 map layout and poster following cartographic principals and visualizing results in a simple manner; presented and handled updates of the new school identified by the inventory to staff members and supervisor
- Created a written report offering an overview of the school's operations subject to the MS4 permits inside of the Division

Constru Casa NGO, San Pedro las Huertas, Sacatepéquez, Guatemala   **May 2017 to November 2017**
Principal Researcher
Project: Long-term effects study of affordable housing provision and community development programs by Constru Casa for families living in extreme poverty, Guatemala
- Conducted a depth study about the long-term impacts of Constru Casa's integral programming on families and communities regarding improvements on Well-being conditions and community development
- Designed a research plan approved by Constru Casa's directors; Identified specific aims, theoretical premises, methodological design, research indicators, population, and strategies for data analysis
- Developed and administered questionnaire and interviews with beneficiary families, social workers, and Constru Casa's partner alliances
- Organized, categorized, and analyzed findings. Recorded information on computer databases. Systematized qualitative and quantitative information. Compiled a large amount of empirical data
- Summarized project results and prepared concise report in English for presentation to staff, in public meetings, to donors, and external audiences
- Identified recommendations on policies and procedures based on research findings. Designed an action work plan and described programmatic improvements
- Managed social media and website content, assisted with newsletter design and other promotional materials; maintained donor's newsletters

Technological University of Pereira, Colombia   **May 2010 to February 2011**
Undergraduate Research Assistant (Risk Management & Social Conflict Research Group)
Projects: Environmental Management Proposal for Territorial Improvement of Esperanza Galicia The Ukumari Biopark Urban Plan, Pereira, Colombia & The Application of Public Policy for the Relocation of Risk Housing Units in Pereira city, Colombia. Case Study; Tokyo
- Collaborated during teamwork meetings to assemble data collation and entire research results; created final report

- Participated and contributed to group discussions about approach to problem solving, literature review, methodological design, and research action plan during the three phases of the project; environmental diagnosis, situational analysis, and strategic planning guidelines
- Summarized meetings discussions, created reports, distributed to group members
- Recorded and filmed interviews with community leaders, transcribed key ideas, and prepared reports
- Educated and trained 10 undergraduate students, scheduled interviews, organized transportation, and coordinated meals; supervised administration of survey and data collection
- Recorded finding of environmental diagnosis with members of the team; identify environmental problems, biophysical and socio-economic conditions of Esperanza Galicia. Created database, systematized quantitative and qualitative data, maintained factual statistical information, and analyzed data

The Local Office of Preparedness and Disaster Response, Dosquebradas, Colombia   **May 2009 to December 2009**
Intern
Project: Identification and Evaluation of Disaster Risk Condition for Housing in Dosquebradas, Risaralda, Colombia in partnership with Caldas University, Colombia. Geological Studies.
- Identified and evaluated risk of housing units in eleven boroughs with the population of 191.073 for flooding and mass movement hazards
- Observed natural degradation, reviewed historical disasters, and recognition of land use conflicts; prepared environmental diagnosis reports
- Identified residents with diverse socioeconomic backgrounds, gender, age, and education, scheduled appointments by phone and explain the purpose of the survey
- Co-created data base, inputted findings, and prepared reports for team work. Systematized quantitative and qualitative information, organized data collection, condensed and illustrated results in graphics and charts; archived primary source documents.
- Analyzed, and consolidated results in conjunction with team members. Identified 4599 at-risk units. Prepared final report and recommendations; final report uploaded at Preventionweb.net
- Delivered oral team presentation for the General Director of Risk Management Office from the Risaralda Environmental Protection Authority – CARDER

Professional Development

Synthetic Aperture Radar: Hazards	**2023**
Online MOOC Course by Alaska Satellite Facility- ASF	
American Geophysical Union, AGU, Chicago	**2022**
Oral Presentation Capstone effort at the session: Human-Induced Factors and Effects on Natural Hazards	
Python Scripting for Geoprocessing Workflows	**2021**
Online course hosted by Esri Training	
UN/DPI - NGO	**2017**
Youth Representative from ACEPESA Central American NGO to the United Nations	
New York University, NYU	**2016**
Course Practice Oral Communications for the Workplace Professional Development Participation	
Emergency Management Institute – FEMA	**2014**
Course of Fundamentals of Emergency Management	