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| ALCELY LAU MELO  **C I V I L E N G I N E E R**  I D . 8 - 8 4 9 - 4 5 5  C i v i l E n g i n e e r i n g L i c e n s e N o . 2 0 1 5 - 0 0 6 - 1 7 8 ( P a n a m a ) | San Miguelito, Panama [alcelylau@gmail.com](mailto:alcelylau@gmail.com) Cel. (507) 6589 5450  Tel. (507) 230 5741 |

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| **S U M M A R Y** |
| Civil Engineer, with specialization in meteorology and experience in the field of research, management and improvement of hydrological and meteorological tools for national sustainable development. |
| **S K I L L S**  **ED U C A T I O N Functional knowledge:**  **Master’s degree in Hydrology,** 2020 – 2022. ArcGIS, Civil3D. University of Arizona. GPA: 4.0 / 4.0 **Advance:** *Relevant Coursework:* Watershed engineering, Field Methods Microsoft Office, Python. Hydrology Modeling, Remote Sensing, Water Law. **Professional:**  Analytical Reasoning, quick  **Bachelor’s degree in Civil Engineering,** 2010 – 2015. learner, self-motivated,  Universidad Tecnológica de Panamá. Index: 2.43 / 3.0. teamwork, leadership.  **L A N G U A G E S**  **Native:** Spanish.  **E X P E R I E N C E Advance:** English. |
| **Directora de Climatología,**  Instituto de Meteorología e Hidrología de Panamá, April 2023 - present.  Evolution of the position of Investigations and Climate Applications Manager after the creation of the Institute of Meteorology and Hydrology of Panama (IMHPA).  **Engineering Assistant,**  Regional Flood Control District, Pima County, Tucson, AZ, USA, July 2022 – March 2023.  Watershed studies, geographic information systems services and analysis, climate analysis, flood control reservoir design, and standard detail drawing.  **Investigations and Climate Applications Manager,**  Empresa de Trasmisión Eléctrica, S.A. (ETESA), January 2017 – December 2022.  Plan projects for the execution and innovation of climate services that benefit the main productive sectors of the country. Develop strategies for the national meteorological database management. Direct the elaboration of the climate seasonal forecast. Administrate human resources and coordinate specialized training programs.  **Hydrological Analyst,**  Empresa de Trasmisión Eléctrica, S.A. (ETESA), December 2015 – December 2016. Elaboration of the annual superficial Hydrological Balance for all the basins of the country.  Analysis of the availability and use of water resources for electricity generation through the realization and dissemination of the daily balance of hydroelectric power plants. Preparation of daily, weekly and monthly flow forecast in the dams of hydroelectric power stations of the country. |

# Meteorological Analyst,

Empresa de Trasmisión Eléctrica, S.A. (ETESA), May 2015 – February 2016.

Automation of analysis and processing of meteorological data. Management of models and tools to assess future climate conditions in different climate change scenarios. Preparation of inter-institutional reports for the monitoring of rainfall and temperature behavior in various sites in Panama.

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| **P U B L I C A T I O N S**  **Understanding Intensity–Duration–Frequency (IDF) Curves Using IMERG Sub-Hourly Precipitation against Dense Gauge Networks.** October 2022. Alcely Lau and Ali Behrangi. Published in: Remote Sensing. 2022; 14(19):5032.  **Master’s thesis: Assessment of the Potential use of IMERG Sub-Hourly Precipitation to Derive Intensity-Duration-Frequency (IDF) Curves Over Dense Gauges Networks.** May 2022.  **Performance evaluation of different WRF configurations for a rainfall event over Panama** (Original Title: Evaluación del desempeño de diferentes configuraciones del WRF para un evento de lluvia sobre Panamá). May 2020.  Maibys Sierra-Lorenzo, Arnoldo Bezanilla-Morlot, Abel Dionisio Centella-Artola, Anisbel León- Marcos, Israel Borrajero-Montejo, Adrián Luis Ferrer-Hernández, Jesús Leonel Salazar-Gaitán, Alcely Lau-Melo, Freddy Picado-Traña, Joel Pérez-Fernández. Published in: Atmospheric and Climate Sciences (ACS), Vol.10 No.3 2020.  **Seasonal changes of the diurnal variation of precipitation in the upper Río Chagres basin, Panamá.** December 2019.  Tosiyuki Nakaegawa, Reinhardt Pinzon, Jose Fabrega, Johnny A. Cuevas, Héctor A. De Lima, Eric Cordoba, Keisuke Nakayama, Josue Ivan Batista Lao, Alcely Lau Melo, Diego Arturo Gonzalez, Shoji Kusunoki. Published in: PLoS ONE 14(12): e0224662.  **Bachelor’s thesis: Generation of intensity, duration, frequency relationships in watersheds of the Republic of Panama. 2015.**  Generation of intensity-duration-frequency (IDF) rainfall equations for watersheds in Panama, by analyzing the frequency of the maximum annual series of daily rainfall. As a result, updated IDF equations were obtained for 10 basins throughout the country. |
| **C O U R S E S A N D W O R K S H O P S** |
| **Workshop "Update GEOCLIM and GEOWRSI for climatological analysis of rain",**  Presented by Famine Early Warning Systems Network in Empresa de Trasmisión Eléctrica S.A., 2019.  **Workshop "Introduction to the Weather Research and Forecasting (WRF) Model",**  Presented by the Environmental Observatory of the Ministry of Environment and Natural Resources of El Salvador, in Empresa de Trasmisión Eléctrica S.A., 2018.  **Seminar-Workshop "Statistical techniques of data filling, analysis and quality control for hydrometeorological data",**  Presented by Universidad de Panamá (UP) in Empresa de Trasmisión Eléctrica S.A., 2018.  **Course "Monitoring and Prediction of Droughts",**  Presented by the State Meteorological Agency (AEMET, Spain). Santa Cruz de la Sierra, Bolivia, 2017. |

# Course on "Cost-Benefit Analysis in Disaster Risk Reduction",

Presented by Florida International University (FIU) in virtual mode. May 2016 - June 2016.

# O U T S T A N D I N G P A R T I C I P A T I O N S A N D S C H O L A R S H I P

## Fulbright-SENACYT Scholarship 2020-2021.

Member of the planning committee of the Hydrology and Atmospheric Science Student Symposium

“El Día del Agua y la Atmósfera” 2022.

Hydrology and Atmospheric Science Student Association’s treasurer, 2021-2022.

Publication of bachelor’s degree thesis results in the Manual of requirements for the revision of plans of the Public Works Office in Panama, third edition, 2021.

Representative of Panama in the Climate Forum of Central America and Climate Forum of Mesoamerica. Organized by the Regional Committee of Hydraulic Resources of the Central American Isthmus (CRRH), since 2016.

Active Member of the School of Civil Engineers (COICI) of the Panamanian Engineering and Architecture Society (SPIA), since 2018.

Bachelor’s degree thesis cited in the Manual of Hydrological and Hydraulic Technical Considerations for Road Infrastructure in Central America, first edition, 2016.