

## Luis Eduardo Pineda Ordóñez

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### APPOINTMENTS:

2018-Present **Associate Professor – Universidad de Investigación de Tecnología Experimental Yachay Tech University (Ecuador)**

- Lecturer Courses: Hydrology and Hydrogeology; Ocean and Climate; Earth Sciences; BSc. Thesis supervision
- Research & Development Projects; Community Societal Engagement Projects; Academic Management Duties

2022-Present **Professor – Part-time – Pontificia Universidad Católica del Ecuador – Sede Manabí (Ecuador)**

- Lecturer Course: Hydrometeorology
- MSc. Thesis supervision

### WORK EXPERIENCE:

2016-2018 **Post Doc Researcher - Swedish Meteorological and Hydrological Institute (SMHI), Hydrological research Unit (Sweden)**

- Research & Development Projects:
  - Climate change impact on water resources: hydrological modeling and computation of hydro variables and indicators relevant for the Chilean hydropower industry
  - Global hydrological modeling using HYPE: model setup, assimilation of observations, quality assurance, calibration and uncertainty analysis. Analysis of global datasets
  - Formulation and follow up of case study: Tailoring climate information for food security in the Andes, WP5 in contract C3S\_422\_LOT1\_SMHI lead by SMHI and implemented by CIIFEN -Ecuador (funded by COPERNICUS Climate Change Service)

2015-2018 **Docent - Universidad Técnica Particular de Loja (UTPL), Departamento de Geología, Minas e Ingeniería Civil (Ecuador)**

- Lecturer in MSc. in water resources. *Topics:*  
Hydro-meteo information from GCM and satellites: applications on hydrology;  
Operational climate and hydrological prediction

2010-2014 **PhD Researcher - KU Leuven, Department of Civil Engineering, Hydraulics Section (Belgium)**

- Project: Climate variability and rainfall response: Analysis and Predictability in the Pacific-Andean basin of NW South-America (EU-funded Individual research grant)

Supervisors: Profs. P. Willems, J. Monbaliu, and N. Van Lipzig (KU Leuven).

External examiners: Prof. Jörg Bendix (Philipps-Universität Marburg, Germany) and Dr. Wouter Buytaert (Imperial College London)

Summary:

We investigate the predictability of the rainy season in NW South-America with focus on understanding climatic processes controlling subseasonal to interannual rainfall variability, and the potential and limitation of climate forecast systems. We propose a process-based probabilistic method which makes intelligent use of seasonal climate forecast to produce daily-in-season precipitation estimates for hydrology. This method aimed at improving skills of seasonal forecast on the target region.

**Teaching Duties:**

- Sep 2011 - Ago 2012 MSc. Thesis Supervisión by A. Ochoa, Interuniversity Programme in Water Resources Engineering (IUPWARE). *Topic:* Evaluation of precipitation estimates from regional climate models and satellite products in Ecuador and Peru
- Sep 2011 - Ago 2012 Teaching assistantship. IUPWARE. Course: Statistics for Water Resources Engineering
- 2003-2006 **Civil Engineer**, Water Resources Department, Provincial Government of Loja-Ecuador
- Implementation of water supply and sanitation projects: construction and transference to local communities.
  - Proposal writing for national and international funding bodies: some 10 project funded by Ecuadorian and Latin-American Development Bank (CAF) and NGO's
  - Training and capacity development for rural water managers (voluntary)

**EDUCATION:**

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- 2010-2014 **PhD Engineering Sciences - KU Leuven (Belgium)** *Field of specialization:* Hydro-climatology  
*Derived skills and experience:* analysis of precipitation from NWP models and observational platforms, geo-statistical modeling for development of gridded datasets, GCM output statistics: multivariate analysis, probabilistic modeling of precipitation for downscaling. *Others:* Funding acquisition, project management, scientific publication and communication, programming.  
**SENESCYT register No. 7101 R-15-26605**
- 2009-2010 **MA Sustainable Water Resources - ETH Zurich, Zurich (Switzerland)** *Focus:* Climate  
*Relevant subjects:* climate change uncertainty and risk from probabilistic forecast to economics of climate adaptation, analysis of climate and weather data, large-scale climate variability, land-climate interactions, applied multivariate statistics, fluvial systems, hydrology, watershed modeling. *Thesis:* Investigation of rainfall extremes variability in the Catamayo-Chira basin, Ecuador-Peru.  
**SENESCYT register No. 4066R-12-2382**
- 2006-2008 **MSc. Water Resources Engineering - KU Leuven – VU Brussel (Belgium), Cum Laude**  
*Relevant subjects:* hydrology, surface, river and ground water modelling, GIS and remote sensing, water quality, hydraulics, systems approach to water management. *Thesis:* Floodplain modelling for the Grote River Basin, Belgium  
**SENESCYT register No. 7101R-15-26303**
- 1997-2002 **BEng. Civil Engineering - Universidad Técnica Particular de Loja (Ecuador)**  
Building and construction technologies with major on water and environmental infrastructure  
**SENESCYT register No. 1031-06-659517**

**RELATED TRAINING WITH CERTIFICATION:**

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- May 2017 WMO Working Group on forecast Verification Research, Free University of Berlin, Max-Planck-Institute for Human Development, Hans-Ertel-Centre for Weather Research and German Weather Service, 7th International Verification Methods Workshop, Berlin, Germany
- Nov-Dec 2015 International Centre for Theoretical Physics (ICTP), The Abdus Salam School, Course: Advanced School and Workshop on Subseasonal to seasonal (S2S) Prediction and Application to Drought Prediction, Trieste, Italy.

- Oct 2012 University of Copenhagen, International School Water Research School (FIVA), Course: Earth Observation for Climate Change Research, Copenhagen, Denmark
- Jan-Dec 2003 Diploma: Advisor on water for human supply – University of Cuenca and CAMAREN (Ecuador) Training on capacity development for water supply managers, technicians and leaders working on rural areas

**SCIENTIFIC MEMBERSHIP AND JOURNAL REVIEW:**

- European Geosciences Union
- American Meteorological Society
- Reviewer: Journal Hydrology Regional Studies; International Journal of Climatology; Hydrology and Earth System Sciences; Journal of Hydrology
- Review Editor for Predictions and Projections in Frontiers in Climate

**ACADEMIC ACHIEVEMENTS AND HIGHLIGHTS:**

- PhD project funded by an EU individual grant on the basis of applicant merit, quality of the scientific research and impact on the target region.
- PhD project highlighted by the EU Council Newsroom to illustrate effective educational and research partnerships between the EU and the Economic Commission for Latin America and Caribbean countries (CELAC). PhD dissertation showcased during the EU-CELAC Summit in Brussels in 2015.

**MERIT BASED GRANTS AND DISTINCTIONS (SELECTED):**

- WMO - World Climate Research Programme / travel grant for 7th International Scientific Conference on the Global Water and Energy Cycle, 14-17 July, The Hague, The Netherlands, 2014.
- National Centre of Atmospheric Research NCAR / full grant for ASP Summer colloquium on “Statistical Assessment of Extreme Weather Phenomena under Climate Change”, Colorado Boulder USA (declined), 2011.
- European Commission / EMA2 Program lot 19b / Grant for Doctoral Studies in KU Leuven, 2010.
- Ecuadorian Secretary of Science and Technology SENACYT and Group of Hydrology and Water Resources Management ETH Zurich (tuition fee) / Grant for MA in Sustainable Water Resources, 2009.
- Flemish Interuniversity Council for University Development Cooperation, VLIR-UOS scholarship for ICP Master in Water Resources Engineering, 2006.
- Wageningen University – WALIR Project, Scholarship for outstanding young professionals working in water resources in the Andean region, Lima-Peru, 2004.
- Japan International Cooperation Agency, JICA 3rd Countries Training Program, TCTP scholarship for International course on waste water treatment, Sao-Paolo-Brazil, 2003.

**SKILLS:**

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COMPUTING

- Operating systems: Windows and Linux (basic)
- Script programming: R (preferred), Matlab (good), NCL and Ingrid Postscript for climate data analysis (good), Fortran (basic)
- Several modelling software for hydrology (MIKE hydro models, SWAT, HYPE, InfoWorks ICM), environmental engineering and geomatics (ARC GIS / IDL)
- Familiar with the Weather and Research Forecasting (WRF) System

LANGUAGE

- Spanish (native speaker)
- English (professional proficiency)
- Dutch (intermediate)

**RESEARCH OUTPUT AND OUTREACH:**

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- **SCOPUS:** <https://www.scopus.com/authid/detail.uri?authorId=56351515600>
- **ORCID:** <https://orcid.org/0000-0002-4089-5094>
- **Google Scholar:** <https://scholar.google.es/citations?user=e05bxMcAAAJ&hl=es>
- **Research Gate:** <https://www.researchgate.net/profile/Luis-Pineda-7>