Edberto Moura Lima

Senior Researcher, BAW Research

edberto.mouralima@baw.at - edberto.moura@gmail.com

edbertolima.github.io - EdbertoLima
0000-0002-8447-8460 - edbertolima - @edbertoml.bsky.social

Ausbildung

Doktorat (Ph.D.), Forstingenieurwesen, *Universidade Federal de Santa Maria* - UFSM, RS, Brasilien. 2018-2022

Master (M.Sc.), Forstingenieurwesen, *Universidade Federal do Paraná* - UFPR, PR, Brasilien. 2016-2018

Bachelor (B.Sc.), Forstingenieurwesen, *Universidade de Brasília* - UnB, DF, Brasilien. 2009-2016

Berufserfahrung

Senior Researcher seit 2025
BAW Research, Pollnbergstraße 1, 3252 Petzenkirchen, Österreich.

Postdoc 2022-2024
Institut für Hydrologie und Wasserwirtschaft (HyWa)
Department für Wasser, Atmosphäre und Umwelt (WAU)
Universität für Bodenkultur Wien (BOKU), Wien, Österreich.

Freiberuflicher Online-Tutor 2016-2022
Serviço Nacional de Aprendizagem Rural do Paraná (SENAR-PR), PR, Brasilien.

Wissenschaftlicher Berater 2021
Department of Geography
University of Lethbridge, Lethbridge, AB, Kanada.

Forschungspraktikant 2016-2018
EMBRAPA Florestas, PR, Brasilien.

Praktikant 2015
Department of Engineering, Terracap, Brasília, Brasilien.

Projekte und Forschungsaufenthalte

VeSchN - Verdunstung des Schilfgürtels Neusiedler See 2026-2028
BAW Research mit der Forschung Burgenland GmbH, Österreich.
Gefördert vom Bundesministerium für Land- und Forstwirtschaft, Klima- und Umweltschutz, Regionen und Wasserwirtschaft (BMLUK) und dem Land Burgenland.
Quantifizierung des Beitrags des Schilfgürtels zur Gesamtverdunstung des Sees sowie des Einflusses von Schilfvitalität, Schilfmanagement und hydrologischen und meteorologischen Bedingungen. Mitarbeit an der Fernerkundungskomponente: satellitengestützte Verdunstungsschätzung (Sentinel-2, 2016-2026) und Hochskalierung der Feldmessungen auf den gesamten Schilfgürtel. Die Ergebnisse dienen als Entscheidungsgrundlage für das Schilfmanagement und die regionale Wasserwirtschaft.

SoilX - Klimaangepasstes Bodenmanagement gegen Wetterextreme (EJP SOIL) 2022-2024
Universität für Bodenkultur Wien (BOKU), Wien, Österreich. European Joint Programme EJP SOIL, EU Horizon 2020 (Grant 862695).
Minderung der Auswirkungen von Dürre und Starkniederschlag auf die Erträge durch Boden- und Bewirtschaftungsmaßnahmen, mit Langzeitfeldversuchen entlang eines europäischen Gradienten, einem Ensemble agrohydrologischer Modelle und sozioökonomischen Interviews. Mitarbeit an den Simulationen des agrohydrologischen Modellensembles.

GIS-Teamleiter, Projekt Restaura PAMPA 2020-2022
Universidade Federal de Santa Maria, RS, Brasilien.
Kartierung von Landnutzung und Landbedeckung mit Google Earth Engine für Schutzgebiete; Identifikation von Flächen für Schutz und Renaturierung.

Gastforscher 2021
Universität für Bodenkultur Wien (BOKU), Wien, Österreich. Betreuung: Dr. Bano Mehdi-Schulz.
Integration der Landnutzungsdynamik in das SWAT-Modell zur Abschätzung des Wasserdargebots.

Gastforscher (ELAP-Stipendium) 2019-2020
University of Lethbridge, AB, Kanada. Betreuung: Dr. Laura Chasmer.
LiDAR-Analyse von Vegetationsveränderungen in Feuchtgebieten im Umfeld der Ölsandförderung.

Publikationen

Publikationsliste auch auf Google Scholar.

Zeitschriftenartikel

Lima, E. M., Mehdi-Schulz, B., & Reichert, J. M. Natural ecosystem loss in an Atlantic Forest agricultural basin: drivers of land-use change and future landscape trajectories. *Frontiers in Sustainable Food Systems, 10*, 1912707. doi: 10.3389/fsufs.2026.1912707, 2026. 2026

Meurer, K. H. E., Turek, M. E., Pullens, J. W. M., **Lima, E. M.**, Schreel, J. D. M., Holzkämper, A., & Mehdi-Schulz, B. Site-specific climate impacts outweigh no-till benefits for modelled winter wheat yields across a European gradient. *European Journal of Soil Science, 77*(3), e70363. doi: 10.1111/ejss.70363, 2026.

Turek, M. E., Pullens, J. W. M., Meurer, K. H. E., **Lima, E. M.**, Mehdi-Schulz, B., & Holzkämper, A. Pedotransfer functions versus model structure: what drives variance in agro-hydrological model results? *European Journal of Soil Science, 76*(2), e70088. doi: 10.1111/ejss.70088, 2025. 2025

Borja, D., Daněk, J., Assis, J. C., Gorosábel, A., Lundquist, C., Rosa, I., … **Lima, E. M.**, Borges, R. C. Rethinking scenario building for sustainable futures: mobilizing conscientização, social learning and knowledge co-production. *Ecosystems and People, 21*(1), 2507247. doi: 10.1080/26395916.2025.2507247, 2025.

Niemeyer, J., Resende, F. M., **Lima, E. M.**, & Vale, M. M. Risk and adaptation of socio-ecological systems to global change in the dry forests of Northeastern South America. *Frontiers in Ecology and Evolution, 13*, 1536445. doi: 10.3389/fevo.2025.1536445, 2025.

Mehdi-Schulz, B., Zoboli, O., Schürz, C., Strenge, E., **Lima, E. M.**, Parajka, J., Wang, C., Zessner, M., & Schönhart, M. The impacts of climate change on nitrogen losses to the environment in Austria: A dual model analysis across spatial and temporal scales to support policy decisions. *Science of The Total Environment, 918*, 170730. doi: 10.1016/j.scitotenv.2024.170730, 2024. 2024

Reichert, J. M., Morales, B., **Lima, E. M.**, de Bastos, F., Morales, C. A. S., & de Araújo, E. F. Soil morphological, physical and chemical properties affecting *Eucalyptus spp.* productivity on Entisols and Ultisols. *Soil and Tillage Research, 226*, 105563. doi: 10.1016/j.still.2022.105563, 2023. 2023

Reichert, J. M., Morales, C. A. S., **Lima, E. M.**, de Bastos, F., Sampietro, J. A., de Araújo, E. F., & Srinivasan, R. Best tillage practices for early-growth of clonal eucalyptus in soils with distinct granulometry, drainage and profile depth. *Soil and Tillage Research, 212*, 105038. doi: 10.1016/j.still.2021.105038, 2021. 2021

da Rosa, D. P., Reichert, J. M., **Lima, E. M.**, & da Rosa, V. T. Chiselling and wheeling on sandy loam long-term no-tillage soil: compressibility and load-bearing capacity. *Soil Research, 59*(5), 488-500. doi: 10.1071/SR20109, 2021.

Chasmer, L., **Lima, E. M.**, Mahoney, C., Hopkinson, C., Montgomery, J., & Cobbaert, D. Shrub changes with proximity to anthropogenic disturbance in boreal wetlands determined using bi-temporal airborne lidar in the Oil Sands Region, Alberta Canada. *Science of The Total Environment, 780*, 146638. doi: 10.1016/j.scitotenv.2021.146638, 2021.

Paz, T. D. C., Menegaes, J. F., Backes, F. A. A. L., Wegermann, K., Difante, A. C., & **Lima, E. M.** Importance of choosing vegetation for the urban road network: a literature review. *Research, Society and Development, 9*(12), e5791210847. doi: 10.33448/rsd-v9i12.10847, 2020. 2020

Resende, F. d. M., Denman, L. A. C., Selva, G. V., Campanhão, L. M. B., Nobre, R. L. G., Jimenez, Y. G., **Lima, E. M.**, Niemeyer, J. A conceptual model to assess the impact of anthropogenic drivers on water-related ecosystem services in the Brazilian Cerrado. *Biota Neotropica, 20*(suppl. 1), e20190899. doi: 10.1590/1676-0611-BN-2019-0899, 2020.

Lima, E. M., Curcio, G. R., Bonnet, A., Uhlmann, A., & Palma, V. H. Crescimento inicial de espécies arbóreas nativas em solos degradados e com presença de plintita no Bioma Cerrado, Brasília - DF, [Initial growth of native tree species in a degraded soil with presence of plinthite in Biome Cerrado, Brasília-DF]. *Nativa, 6*, 787-794. doi: 10.31413/nativa.v6i0.6210, 2018. 2018

de Oliveira, T., **Lima, E. M.**, Sanquetta, C., & dalla Corte, A. Simultaneous adjustment in the prediction of above-ground biomass in *Araucaria angustifolia* (Bertol.) Kuntze. *BIOFIX Scientific Journal, 3*(1), 137-144. doi: 10.5380/biofix.v3i1.58119, 2018.

Cerqueira, C., Môra, R., Lenzi, I., Drescher, R., **Lima, E. M.**, Lisboa, G. d. S., & França, L. d. J. Modeling height of *Pinus caribaea* var. *hondurensis* in different spacing. *BIOFIX Scientific Journal, 2*(2), 93-99. doi: 10.5380/biofix.v2i2.56012, 2017. 2017

Preprints

Ebling, A. A., Behling, A., **Lima, E. M.**, MacFarlane, D. W., & David, H. C. Sampling Amazonian forest with clusters to measure tree species diversity: dissociating the effect of cluster size and sample size. *Research Square*. doi: 10.21203/rs.3.rs-7328739/v1, 2025. 2025

Datensätze

Turek, M. E., Holzkämper, A., Pullens, J. W. M., Meurer, K. H. E., **Lima, E. M.**, & Mehdi-Schulz, B. Supporting data to "Pedotransfer functions versus model structure: what drives uncertainty in agro-hydrological modelling?" [Dataset]. *Zenodo*. doi: 10.5281/zenodo.13947787, 2024. 2024

Tagungsbeiträge (Abstracts)

Tadić, L., Janjić, J., & **Lima, E. M.** Assessing climate change impacts on low-flow extremes in a small catchment in Croatia using the SWAT model. *5th International Congress on Earth and Geological Sciences, Vienna, Austria*, 23-24 July 2026. doi: 10.51219/URForum.2026.Josip-Janjic 2026

Lima, E. M., Böning, K., and Mehdi-Schulz, B. Comparative analysis of two tillage systems and their implications for soil hydrology, carbon dynamics, and nitrogen cycling in a changing climate. *SWAT Conference, Lima, Peru*. 2024

Lima, E. M., Böning, K., Arnillas, C. A., and Mehdi-Schulz, B. APEX R tool: An Open-source R scripted workflow to prepare model inputs and execute APEX simulations in parallel. *SWAT Conference, Lima, Peru*.

Lima, E. M., Böning, K., Ding, F., Stumpp, C., Holzkämper, A., and Mehdi-Schulz, B. Assessing the impacts of future climate scenarios on soil management practices and their hydraulic properties. *EGU General Assembly, Vienna, Austria*.

Stecher, G., **Lima, E. M.**, Herrnegger, M., & Mehdi-Schulz, B. Challenges and potential approaches of applying SWAT in a data scarce and hydrological complex region in Uganda (East Africa). *SWAT Conference, Aarhus, Denmark*. 2023

Mehdi-Schulz, B., **Lima, E. M.**, Egger, C., & Gaube, V. Integrating farmer decisions in dynamic land use change modelling to simulate future nitrate losses to water bodies. *Ecological Models for Tomorrow's Solutions, Conference*.

Lima, E. M., Egger, C., Gaube, V., & Mehdi-Schulz, B. Integrating Farmer Decision-Making with Land Use Trajectories for Understanding Hydrological Responses: Case Study of the Enns Watershed. *SWAT Conference, Aarhus, Denmark*.

Mehdi-Schulz, B., **Lima, E. M.**, Egger, C., & Gaube, V. Linking an ABM to SWAT to determine the impacts of future changes to surface water quality. *SWAT Conference, Aarhus, Denmark*.

Lima, E. M., Reichert, J. M., Schürz, C., & Mehdi-Schulz, B. Simulating streamflow - Does historical land use matter? Comparing two approaches to simulating historic discharge based on dynamic land use and cover maps. *SWAT Conference, Prague*. 2022

Lima, E. M., Souza, E. E. B., Weiler, E. B., Reichert, J. M., Deus Junior, J. C. Influência de diferentes usos do solo no deflúvio de pequenas Bacias Hidrográficas [Influence of different soil uses on water discharge in Small Watersheds]. *XIII Reunião Sul Brasileira de Ciência do Solo, Porto Alegre*. 2020

Lima, E. M., Niemeyer, J., Batistao, A. C. Aumentado a precisão do modelo Water Yield do InVEST na estimativa de Serviços ecossistemas com base em atributos pedológicos regional [Increasing the accuracy of the Water Yield model (InVEST) to estimate hydrological ecosystem services based on regional pedological attributes]. *Conferencia Regional de la Ecosystem Services Partnership Latinoamérica y el Caribe, Cidade do México*.

Weiler, E. B., Reichert, J. M., Mantovanelli, B. C., Barbosa, J. S., Bastos, F., Souza, E. E. B., **Lima, E. M.** Correlação do setor florestal no desenvolvimento socioeconômico e humano do COREDE Celeiro, RS [Correlation between the Forestry sector and the human socioeconomic development of COREDE Celeiro, RS]. *34ª Jornada Acadêmica Integrada, Santa Maria*. 2019

Lima, E. M., Reichert, J. M., Minella, J. P. G., Rovedder, A. P. M., Souza, E. E. B., Barbosa, J. S., Weiler, E. B. Ocupação do solo, fragmentação da paisagem e a redução da cobertura florestal na bacia hidrográfica do Guaporé-RS [Land use, landscape fragmentation, and the reduction of forest cover in the Guaporé-RS watershed]. *34ª Jornada Acadêmica Integrada, Santa Maria*.

Souza, E. E. B., Reichert, J. M., **Lima, E. M.**, Weiler, E. B., Fernandes, G. D., Kemerich, P. D. C., Borba, W. F. Variação do nível da água subterrânea em bacias hidrográficas florestais e de campo na região da Campanha do RS [Changes on the groundwater level in watersheds under forest and grassland use in the region of Campanha do RS]. *34ª Jornada Acadêmica Integrada, Santa Maria*.

Barbosa, J. S., Reichert, J. M., Carducci, C. E., Kohn, L. S., Weiler, E. B., Bastos, F., **Lima, E. M.** Atributos físicos e químicos do solo e sua relação no crescimento da Araucaria angustifolia (BERTOL.) KUNTZE [Physical and chemical attributes of the soil and its relationship to the growth of Araucaria angustifolia (BERTOL.) KUNTZE]. *34ª Jornada Acadêmica Integrada, Santa Maria*.

Correa, U. O. S., Reichert, J. M., **Lima, E. M.**, Cavalli, J. P. Uso do software R em estudos pedológicos: compreendendo os atributos edáficos em uma coleção de perfis de solo [Using R software in pedological studies: understanding the soil attributes in a collection of soil profiles]. *34ª Jornada Acadêmica Integrada, Santa Maria*.

Lima, E. M., Curcio, G. R., Bonnet, A., Reichert, J. M., Palma, V. H. Simulação do fluxo de água em neossolo regolítico distrófico petroplíntico e obstáculos para restauração de áreas degradadas [Simulation of water flow in petroplinic dystrophic Regolitic Neossol and obstacles to the restoration of degraded areas]. *II Conferência Brasileira de Restauração Ecológica, Belo Horizonte, MG*. 2018

Lima, E. M., Rezende, A. V., Oliveira, L. S. B., Azevedo, G. B., Matos, N. M. Diversidade e riqueza em área de Cerrado sensu stricto após diferentes intensidades de exploração da vegetação [Diversity and richness in Cerrado sensu stricto areas under different logging intensities]. *VIII Simpósio Brasileiro de Pós-Graduação em Ciências Florestais, Recife*. 2014

Oliveira, L. S. B., Rezende, A. V., Azevedo, G. B., **Lima, E. M.**, Matos, N. M. Diversidade e dispersão das espécies lenhosas em áreas de cerrado sensu stricto, no período de 1996 a 2011, após supressão da vegetação em 1988 [Diversity and dispersion of woody species in areas of cerrado sensu stricto, from 1996 to 2011, after suppression of vegetation in 1988]. *VIII Simpósio Brasileiro de Pós-Graduação em Ciências Florestais, Recife*.

Weitere Publikationen

Holzkämper, A., ten Damme, L., D'Hose, T., Mehdi-Schulz, B., Pullens, J., Leonhard, H., Höckert, J., Lundström, C., & Meurer, K. *EJPSOIL-SoilX: Final Project Report*. Zenodo. doi: 10.5281/zenodo.14001119, 2024. (Contributor: **Lima, E. M.**) 2024

Milani, J. E. F., **Lima, E. M.** Restauração de Áreas Degradadas [Restoration of Degraded Areas]. *(Short course, university extension)*. 2017

Bonnet, A., Curcio, G. R., **Lima, E. M.**, Santos, D., Ogata, R. Poda experimental de *Schinus terebinthifolius* Raddi (pimenta-rosa) em área de Cerrado [Experimental pruning of *Schinus terebinthifolius* Raddi (pink pepper) in a Cerrado area]. *(Technical research note)*. 2016

Stipendien

Internationale Stipendien

Doktoratsstipendium - CAPES/PRINT (Doktorats-Sandwich-Programm) 2021
- **Gastinstitution:** Universität für Bodenkultur Wien (BOKU), Österreich
- **Programm:** CAPES/PRINT - Institutionelles Internationalisierungsprogramm (Edital Nr. 41/2017)

Emerging Leaders in the Americas Program (ELAP) Stipendium 2019
- **Gastinstitution:** University of Lethbridge, Kanada
- **Programm:** Global Affairs Canada International Scholarships Program

Bachelor-Sandwich-Stipendium - Science Without Borders (CAPES) 2013 - 2015
- **Programm:** Science Without Borders (Ciência Sem Fronteiras - CsF)
- **Gastinstitution:** Institute of Technology Sligo, Irland

Nationale Stipendien

CAPES-Stipendium (Programa de Demanda Social) - Doktorat 2018 - 2022
- **Institution:** Universidade Federal de Santa Maria, Brasilien
- **Studienrichtung:** Forstingenieurwesen

CAPES-Stipendium (Programa de Demanda Social) - Master 2016 - 2018
- **Institution:** Universidade Federal do Paraná, Brasilien
- **Studienrichtung:** Forstingenieurwesen

Auszeichnungen

Posterpreis – XIII Reunião Sul Brasileira de Ciência do Solo, Sociedade Brasileira de Ciência do Solo (SBCS - Núcleo Regional Sul - NRS), 2020. 2020

6. Platz, SENAI Olimpíada do Conhecimento 2008 – Bereich Informationstechnologie (nationaler Wettbewerb für die WorldSkills), 2008. 2008

Konferenzen

Vorträge

Chasmer, L., Hopkinson, C., Mahoney, C., **Lima, E. M.**, Montgomery, J., Cobbaert, D. Assessing wetland ecosystem changes using remotely sensed data. *(Presentation/Other)*. 2019

Chasmer, L., **Lima, E. M.**, Mahoney, C., Hopkinson, C., Cobbaert, D. Comparing spatial distribution of vegetation structural change in wetlands proximal to disturbance: Oil sands region, Alberta, Canada. *(Presentation/Conference or Colloquium)*.

Lima, E. M., Rezende, A. V., Oliveira, L. S. B., Miranda, J. F. N. Dinâmica de uma População de Carvoeiro submetido a tratamentos Silviculturais, em áreas de Cerrado Sensu Stricto [Dynamics of a population of Carvoeiro in areas of cerrado sensu stricto under different silvicultural treatments]. *(Presentation/Congress)*. 2013

Miranda, J. F. N., Rezende, A. V., **Lima, E. M.**, Oliveira, L. S. B., Azevedo, G. B. Dinâmica de uma População de Pequizeiros na Estação Ecológica de Águas Emendadas, Planaltina - DF (2008–2011) [Dynamics of a population of pequizeiros in the Águas Emendadas ecological station, Planaltina - DF]. *(Presentation/Congress)*.

Lima, E. M., Rezende, A. V., Oliveira, L. S. B., Miranda, J. F. N., Sampaio, S. S. Dinâmica de um cerrado sensu stricto seis anos após intervenção por corte raso e diferentes intensidades de desbaste [Dynamics of Cerrado sensu stricto six years after intervention by clear-cut and different thinning intensities]. *(Presentation/Congress)*. 2012

Lehre

Kurse

Einführung in SWAT+ für Einsteiger (8 h, 14.-15. Oktober 2026, Kursleiter), *SNCT 2026 - Nationale Woche für Wissenschaft und Technologie, IFBA Campus Vitória da Conquista*, BA, Brasilien. 2026

Studienassistenz

Bodenphysik, *Departamento de Solos, Universidade Federal de Santa Maria*, RS, Brasilien. 2019-2020

Dendrologie Südbrasiliens, *Departamento de Ciências Florestais, Universidade Federal do Paraná*, PR, Brasilien. 2017

Betreute Abschlussarbeiten

Masterarbeiten

Böning, Kristin. *Impacts of "Conservation Agriculture" as a nature-based solution on hydrological processes and nitrate loss: Application of the APEX model in Flakkebjerg, DK*. Masterarbeit, Universität für Bodenkultur Wien, 2024. http://permalink.obvsg.at/bok/AC17330816 2024

Wissenschaftliche Tätigkeiten

Topic Editor, Frontiers Research Topic *Watershed/landscape scale ecosystem services and Land Use for Sustainable Agricultural Food Production* (gemeinsam mit J. M. Reichert). Handling Editor für Kang, Q., Chen, Z., & Huang, C., *Frontiers in Forests and Global Change*, 2026. — laufend

Gutachter, *Journal of South American Earth Sciences* (ein Manuskript). — 2023

Ehrenamt

Cartas com Ciência, Briefwechselprogramm zwischen Wissenschaftlerinnen und Wissenschaftlern und Schülerinnen und Schülern in portugiesischsprachigen Ländern. — 2023

Software

Rainfall Erosivity Monitor (REM) (GitHub) — 2026
Lima, E. M. *Rainfall Erosivity Monitor (REM)*. Zenodo. doi: 10.5281/zenodo.24081100
Python/Streamlit-Webanwendung zur Berechnung des Regenerosivitätsindex EI30 aus Daten der GeoSphere-Austria-Wetterstationen, mit Erkennung erosiver Starkregen, farbcodierten Erosionswarnungen und Empfehlungen für Feldbegehungen.

QField-Erosionskartierung (DWA-M 921) (GitHub) — 2026
Lima, E. M., Liebhard, G., Brunner, T., & Strauss, P. *QField Manual: DWA-M-921 Erosion Survey*. Zenodo. doi: 10.5281/zenodo.18403752
Kartieranleitung und QGIS/QField-Projekt zur standardisierten Erfassung aktueller Erosionsformen durch Wasser nach dem Merkblatt DWA-M 921 (Deutsch und Englisch).

Kenntnisse

Modellierung: SWAT, APEX, InVEST; Wassermenge und Wasserqualität; Szenarien naturbasierter Lösungen
Datenanalyse: R, Python, SQL; Zeitreihenanalyse, Regression, allgemeine lineare Modelle, multivariate Statistik
GIS und Fernerkundung: Google Earth Engine, Sentinel-1/2, Landsat, MODIS, LiDAR; QGIS, ArcGIS; Fernerkundung der Verdunstung
Werkzeuge: Git, Markdown, Quarto

Sprachen

Muttersprache: Portugiesisch
Verhandlungssicher: Englisch (C1)
Selbstständige Sprachverwendung: Spanisch (B2), Deutsch (B1, ÖIF-Integrationsprüfung 2026)

Persönliches

Staatsbürgerschaft: Brasilien

Stand: 11/2026