SELENE BÁEZ

National Polytechnic School of Ecuador
Department of Biological Sciences
Ladron de Guevara E11-253
Quito-Ecuador
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EDUCATION

Ph.D. Department of Biology, University of New Mexico, USA, May 2007
Effects of species interactions on the dynamics of plant communities in an arid ecosystem
Advisor: Scott Collins

Masters in Science. Department of Systematic Botany. University of Aarhus, Denmark, August 2001
Edge effects on palm diversity in rainforest fragments in Ecuador.
Advisor: Henrik Balslev

B.S. in Biology Department of Biology. Pontifical Catholic University of Ecuador, Quito, January 1999
Diversity and abundance of useful plants in two indigenous communities of the Ecuadorian Amazon.
Advisor: Renato Valencia

PROFESSIONAL APPOINTMENTS

2019 - to date	Associate Professor. Department of Biology. Escuela Politécnica Nacional, Quito, Ecuador.
2016 - 2019	Lecturer and Researcher. Department of Biology. Escuela Politécnica Nacional, Quito, Ecuador.
2016 - 2019	Associate Researcher. Andean Forest Program. Scientific Advisor of the Fellowships Program.
2014- 2015	Postdoctoral Researcher. Department of Biology. Universidad Técnica Particular de Loja, Loja, Ecuador.
2010-2014	Associate Researcher. Consorcio para el Desarrollo Sostenible de la Región Andina (CONDESAN). Lima, Peru.
2007- 2009	Postdoctoral Researcher. Department of Biology. University of Florida, USA.
2003-2004	Research Coordinator: Biodiversity in high Andean cloud forest in Ecuador. Corporation EcoPar - Research for Conservation of Nature, and International Development Research Center, Canada.

PUBLICATIONS

- Malizia A, + 32 authors. 2020. Elevation and latitude drives structure and tree species composition in Andean forests: results from a large-scale plot Network. PLoS ONE
- Risch AC + 43 authors. 2019. Soil net nitrogen mineralisation across global grasslands. **Nature Communications**. 10:1-10
- **Báez S** and Homeier J. 2018. Functional traits determine tree growth and ecosystem productivity of a tropical montane forest: Insights from a long-term nutrient manipulation experiment. Global Change Biology. 24:399-409.
- Fadrique B, **Báez S**, Duque A, Malizia A, Blundo C, Carilla J, Osinaga-Acosta, O, Malizia L, Silman M, Farfán-Ríos W, Yadvinder M, Young K, Cuesta F, Homeier J, PEralvo M, Pinto E, Jadan O, Aguirre N, Aguirre Z, Feeley K. 2018. Widespread but heterogeneous responses of Andean forests to climate change. **Nature**. 564:207-212
- Slik F + 184 authors. 2018. A phylogenetic classification of the world´s tropical forests. **Proceedings of the National Academy of Science**. 25:1837-1842.
- Urgíles N, Álvarez-Figueroa P, Maita J, Eguiguren P. Ojeda-Luna T, Tamargo E, **Báez S**, Aguirre N. 2018. Diversidad de plantas, estructura de la comunidad y biomasa aérea en un páramo del sur del Ecuador. **Latitud Cero**. 8:44-56.
- Mathez-Stiefel SL, Peralvo M, **Báez S**, Rist S, Buytaert W, Cuesta F, Fadrique B, Feeley KJ, Groth AAP, Homeier J, Llambi LD, Locatelli B, López Sandoval MF, Maliza A, Young KR. 2017. Research priorities for the conservation and sustainable governance in Andean landscapes. **Mountain Research and Development**. 37:323-339.

- Homeier J, **Báez S**, Hertel D, Leuschner L. 2017. Lessons learned from nutrient manipulation experiments in tropical forests. **Frontiers in Earth Sciences**. 5:27. doi: 10.3389/feart.2017.00027.
- **Báez S**, Donoso D, Queenborough S, Jaramillo L, Valencia R, Dangles O. 2016. Long-term effects of mutualism on the growth and survival of a common Amazonian tree. **The American Naturalist**. 188: 567 - 575.
- **Báez S**, Jaramillo L, Cuesta F, Donoso D. 2016. Effects of climate change on Andean biodiversity: a review of published studies up to 2015. **Neotropical Biodiversity**. 2: 181-194.
- Flores-Moreno H, Reich PB, Lind EM, Sullivan LL, Seabloom EW, Yahdjian L, McDougall AS, Reichmann L, Alberti J, **Báez S**, Bakker JD, Cadotte MW, Caldeira M, Chaneton EJ, D´Antonio C, Fay PA, Firn J, Hagenah N, Harpole WS, Irigarne O, Kirkman KP, Knops JMH, La Pierre KJ, Laungani R, Leakey ADB, Culley RL, Moore JL, Pascual J, Borer ET. 2016. Climate modifies response of non-native and native species richness to nutrient enrichment. **Philosophical Transactions B**. 371:1694.
- **Báez S**, Malizia M, Carilla J, Blundo C, Aguilar M, Aguirre N, Aquirre Z, Álvarez E, Cuesta F, Duque A, Farfán-Ríos W, García-Cabrera K, Grau R, Homeier J, Linares-Palomino R, Malizia LR, Melo Cruz O, Osinaga O, Phillips OL, Reynel C, Silman MR, Feeley KJ. 2015. Large-scale patterns of turnover and basal area change in Andean forests. **PLoS ONE**. 10: e0126594.
- **Báez S,** Collins SL, Pockman W, Small EE, Johnson J. 2013. Effects of experimental rainfall manipulations on Chihuahuan Desert grassland and shrubland plant communities. **Oecologia**. 172: 1117–1127.
- Buytaert W, **Báez S**, Dewulf A, Bustamante M. 2012. Web-Based Environmental Simulation: Bridging the Gap between Scientific Modeling and Decision-Making. **Environmental Science and Technology**. 46: 1971-1976.
- **Báez S**, Collins SL. 2008. Shrub invasion decreases species diversity and community stability in the Northern Chihuahuan Desert. **PLoS ONE** 3:e2332
- **Báez S**, Fargione J, Moore DI, Collins SL, and Gosz JR. 2007. Atmospheric N deposition in the northern Chihuahuan desert: current trends and potential consequences. **Journal of Arid Environments**. 68: 640-651.
- **Báez S** and Balslev H. 2007. Edge effects on palm diversity in rain forest fragments in western Ecuador. **Biodiversity and Conservation**. 17: 2201-2211.
- **Báez S**, Collins SL, Lightfoot D and Koontz TL 2006. Bottom-up regulation of plant community structure in an aridland ecosystem. **Ecology**. 87: 2746-2754.
- **Báez S.** 2004. Book review: Flowering Plants of the Neotropics. **Journal of Vegetation Science.** 15: 853–854.

Books and book chapters

- Homeier J, **Báez S**, Hertel D, Leuschner L. (Eds). 2017**. Tropical Forest Ecosystem Responses to Increasing Nutrient Availability.** Frontiers Media SA. DOI 10.3389/978-2-88945-227-9.
- **Báez S**, Ambrose K and Hofstede R. 2010. Ecological and Social bases for the restoration of a high Andean forest: preliminary results and lessons from a case study in Northern Ecuador. Pp. 628-643. In: L.A. Bruijnzel, F.N. Scatena, and L. Hamilton (Eds). **Science for Conservation of Tropical Montane Cloud Forests.** University of Hawaii Press.
- Hofstede R, Ambrose K, and **Báez S.** 2010. Sustainable development of a high-Andean cloud forest in Northern Ecuador. Pp. 644-651. In: L.A. Bruijnzel, F.N. Scatena, and L. Hamilton (Eds). **Science for Conservation of Tropical Montane Cloud Forests.** University of Hawaii Press.
- **Báez S**, Fjeldså J, Krabbe N, Morales-Males P, Navarette H, Poulsen BO, Resl R. Schjellerup I, Skov F, Ståhl S, and Øllgaard B. 2008). **People and Biodiversity: Two Case Studies From the Andean Foothills of Ecuador**, DIVA Technical Report No. 3. . Aarhus, Denmark, 1-190.
- **Báez S.** 1998. The use of forest resources in the Shuar communities of Makuma and Mutintz, pp. 112-124. In: **People and Biodiversity: Two Case Studies From the Andean Foothills of Ecuador**, DIVA Technical Report No. 3. Aarhus, Denmark, 1-190.
- Backevall Å, **Báez S,** Sandú G, and Cashindo D. 1997. **Las Plantas Útiles de los Pueblos Shuar de Makuma y Mutins.** Minor Field Studies No. 23. Swedish University of Agricultural Sciences. Uppsala, Sweden, pp 1-30.
- **Báez, S.** 1997. Appendix 4. Plants used by the community of Oyacachi. pp. 113-119. In Pedersen H.B. (Ed.). **Oyacachi - People and Biodiversity**, DIVA Technical report No. 2. Kalø, Denmark, 1-183.

Divulgation publications and policy briefs

- Cheddadi R, **Báez S**, Normand S, Payne D, Taberlet P. 2020. Editorial: Past plant diversity changes and future conservation issues. Past Plant Diversity and Conservation. 28:3. University of Zurich, Switzerland.

- Mathez-Stiefeld S-L, Peralvo M, and **Báez S**. 2017. Hacia la conservación y gobernanza sostenible de los paisajes boscosos andinos: Una agenda de investigación. CONDESAN, CDE and COSUDE, Quito.
- **Báez S**, Malizia A, Carilla J, Osinaga O. 2016. Respuestas de los Bosques Andinos a los cambios ambientales globales. Propuestas Andinas No. 14. CONDESAN, Quito.
- **Báez S**. 2015. How sensitive are Andean forests to climate change? The Mountain blog. The Mountain Research Initiative, University of Bern, Switzerland.
- Becerra MT, **Báez S**, Cuesta F, Bustamante M, Osinaga O. 2014. La Red de Bosques Andinos, una plataforma regional para promover el monitoreo de biodiversidad y el diálogo entre investigadores, técnicos y tomadores de decisión en la region. Propuestas Andinas No. 9. CONDESAN, Quito.

FUNDING

Jan 2020	COFOREC II: Consolidating a forest monitoring network in a human modified landscape in Nort-Western Ecuador (*as project PI*, funded by the Belgian Foundation for Science, VLIROUS) ~**70,000, -€.** (active between Jan 2020-Dec 2021)
Feb 2018	A synthesis of patterns and mechanisms of diversity and forest change in the Andes: A global biodiversity hotspot (*as project co-PI*, funded by the Living Earth Collaborative Research, Missouri, USA, **35,000 -USD** (active between March 2018-November 2019)
Jan 2018	COFOREC: Consolidating a forest monitoring network in a human modified landscape in Nort-Western Ecuador (*as project PI*, funded by the Belgian Foundation for Science, VLIROUS) ~**70,000, -€.** (active between Jan 2018-Dec 2019)
Jan 2018	Linking tree above- and belowground traits across environmental and disturbance gradients in highly diverse tropical montane forests (*as project Co-PI*, funded by the German Science Foundation), **300,000, -€.** (active between Jan 2018-Dec 2020)
Jan 2016	Uncovering spatial and temporal patterns of turnover and productivity in Northern Andean forests (*as project PI*, funded by the DAAD in the framework Research Stays for University Academics and Scientists, DAAD 50015559), **7,500, -€.**
Feb 2015	Responses of Andean Forests to Climate Change (*as project PI*, funded by the Universidad Técnica Particular de Loja, Ecuador), **29,700 -USD**.
May 2014	Post-doctoral fellowship. Effects of Global Climate Change on the species diversity and ecosystem functioning of Ecuadorian montane forests (*as project PI*, funded by the Prometeo program of the SENESCYT), **67,600 -USD**
Jan 2011	Towards a virtual observatory for ecosystem services and poverty alleviation (as project *Co-PI*, funded by NERC, UK, NE/I004017/1), ~**200,000 -USD**.
June 2008	A direct evaluation of Janzen-Connell effects on tree species diversity in a tropical forests (*as project PI*, funded by the National Geographic Society, NGS 8490-08), **19,500 -USD.**
Sept 2007	Post-doctoral fellowship (*as project PI*, South-East Alliance for Graduate Education and the Professorate), **50,000 -USD**.
Sep 2006	Effects of species interactions on the dynamics of plant communities in an arid ecosystem (*for graduate studies*, funded by the Long-Term Ecological Research Network of USA), **22,000 -USD.**
Aug 1999	Masters studies at University of Aarhus, Denmark. FUNDACYT. **40,000 -USD.**

ACADEMIC SERVICES

Reviewer	Austral Ecology, Caldasia, Ecology, Plant Ecology, PLoS ONE. Frontiers in Biogeosciences, Journal of Arid Environments, Journal of Ecology, Journal of the Total Environment, Mountain Research and Development, Neotropical Biodiversity
Associate editor	Frontiers in Earth Sciences Biogeochemistry. Special Issue: Tropical forests responses to Increasing nutrient availability. In collaboration with Jürgen Homeier, Christopher Leuchner and Dietrich Hertel.

PROFESSIONAL AFFILIATIONS

Association for Tropical Biology and Conservation.

RESEARCH STAYS

2019	Faculty of BioEngineering, University of Gent, Belgium, at Hans Verbeecks research group

2016 Department of Plant Ecology and Ecosystems Research Albrecht-von-Haller Institute for Plant Sciences, University of Gottingen, Germany, at Jurgen Homeier's research group
2003 Department of Biology, University of New Mexico, USA, at Manuel Molles' research group
2002 Department of Plant Ecology, University of Georgia, USA, at Bruce Haine's reseach group

CONFERENCE CONTRIBUTIONS AND TALKS

Session chair/ convenor

- Co-chair of the session: ***Tropical forests nutrient ecology***, European Society of Tropical Ecology. Paris, France, 2018.
- Organization of the session: ***Using forest networks to monitor biodiversity, ecosystem functioning, and support sustainable management in the Andes***, Andes and Amazon meeting. Lima, Peru 2015.

MEETINGS, PRESENTATIONS (INCLUDED ONLY WHEN FIRST AUTHOR)

2019 **Báez S** and J Homeier. Funcitonal Dynamics of an Andean montane forest under climate change. Minisymposium"Patterns and mechanisms of diversity and forest change in the Andes: A global biodiversity hotspot". Missouri Botanical Garden, St. Louis, USA. Invited talk**.**

2019 **Báez S.** Effects of current global environmental change on Neotropical montane forests. International Conference on "Past plant diversity, climate change and mountain conservation". Vulnerability and People, Belmont Forum. Session: "Mountain Conservation and Climate Change" Cuenca, Ecuador. Keynote speaker.

2019 **Báez S.** Scientific collaborations investigating plant diversity, dynamics, and climate change in the Andes. "sAndes- Tree diversity, composition and carbon storage in Andean montane forests". iDiv, Leipzig, Germany. Invited talk.

2018 **Báez S.** Andean forest responses to ongoing environmental change. Session: "Research and Conservation in High Elevation Andean Forests" Latin American Congress of Botany. Quito, Ecuador. Invited talk.

2018 **Báez S** and Homeier J. Andean forest responses to ongoing environmental change. Workshop: Plant Dynamics and Climate Change in the Andes. NERC-CONICET. Mendoza, Argentina. Invited talk**.**

2018 **Báez S** and Homeier J. Tree functional traits and nutrient limitation in an Andean elevation gradient. Session: "Tropical forest nutrient ecology" European Conference of Tropical Ecology. Paris, France.

2017 **Báez S** and Homeier J . Functional stability of a Neotropical montane forest. Workshop of the Andean Forest Network, Institute Alexander Von Humbolt, Bogotá, Colombia.

2017 **Báez S** and Homeier J . Trait-based tree responses affect productivity under experimental nutrient addition in the Andes. Sesson: Ecosystem functioning in secondary and mature tropical forests. Association for Tropical biology and Conservation, Merida, Mexico.

2016 **Báez S** and Homeier J. Spatial and temporal patterns of turnover and productivity in Northern Andean forests. Session: "The future of tropical montane forests: biodiversity, climate change, land use, and conservation" ATBC Annual meeting, Montpellier, France. Invited talk.

2013 **Báez S,** The Red de Bosques Andinos, a communication platform for scientists and policy makers of the region. Session: Monitoring Networks in the Andes. AGU Annual meeting, Cancún, México. Invited talk.

2013 **Báez S,** Monitoring high elevation grassland ecosystems. GLORIA Network Annual meeting, Quito, Ecuador. Invited talk.

2012 **Báez S,** Protocoles for monitoring Andean bioiversity. SG-CAN-CONDESAN. Lima, Perú.

2012 **Báez S,** Cuesta F. Arnillas C. Synthesis of the effects of GCC on Andean biodiversity. Session: Knowledge status on the effects of GCC and the biodiversity of the Tropical Andes. SG-CAN-CONDESAN. Lima, Perú. Invited talk.

2008 **Báez S,** and Collins SL. Effects of species interactions in the diversity and structure of plant communities in the Chihuachuan Desert. Session: Monitoring Environmental Change through long-term ecological research. ESA Annual meeting, Milwakee, Wisconsin, USA. Invited talk.

2007 **Báez S,** and Collins SL. Shrub Invasion Decreases Diversity and Alters Community Stability in Northern Chihuahuan Desert Plant Communities. All Scientists Meeting. Estes Park, Colorado, USA.

2006 **Báez S,** and Anderson K. Temperature as a driver of forest dynamics. Gordon Conference Metabolic basis of ecology. Lewinston, Maine, USA.

2005 **Báez S,** and Collins SL. Bottom-up regulated plant communities. ESA Annual Meeting, Montreal, Canadá.

2004 **Báez S,** Hofstede, R, Ambrose K, Cueva K. Ecological and Social bases for the restoration of a high Andean forest: preliminary results and lessons from a case study in Northern Ecuador. II International Simposio for Cloud Forest Research and Conservation. Kona, Hawaii, USA. Invited talk.

2004 **Báez S,** Perspectives of an Ecuadorean Long-Term Ecological Research Network. ILTER International meeting. Manaos, Brasil. Invited talk.

2002 **Báez S,** and Balslev H. Edge effects on palm diversity in a tropical rainforest. ESA Annual meeting. Tucson, Arizona, USA.

2001 **Báez S,** and Balslev H. Edge effects on palm diversity in a tropical rainforest. Society for Conservation Biology, Hilo, Hawaii, USA.

2001 **Báez S,** and Balslev H. Edge effects on palm diversity in a tropical rainforest. Working group of Scandinavia Researchers in Tropical Forests, Utrech, The Netherlands.

TEACHING APPOINTMENTS

2018	Field course "Recovery and ecosystem functioning of tropical montane forests. National Polytechnic School and University of Ghent, Belgium. Mindo Cloud Forest-Milpe, Ecuador.
2016-	Ecology and Environment. School of Electric Engineering, National Polytechnic School of Ecuador, Quito, Ecuador.
2013	Ecological and Social Aspects of Global Environmental Change in Andean Landscapes. Catholic University of Ecuador, Quito, Ecuador.
2010	Landscape ecology. Masters Program on Conservation Biology. Catholic University of Ecuador, Quito, Ecuador.
2010	Climate Change Biology. Masters Program on Conservation Biology. Catholic University of Ecuador, Quito, Ecuador.
2009	Climate Change Biology. Masters Program on Conservation Biology. Catholic University of Ecuador, Quito, Ecuador.
2003	Ecology of High Andean Ecosystems. School of International Field Studies, Quito, Ecuador.
2002	Flora and Ethnobotany of Ecuador. Andean Center of Latin American Studies, Quito, Ecuador.

ADDITIONAL TRAINING

2009	Climate Change in Tropical Ecosystems. Organization of Tropical Studies, La Selva, Costa Rica
2008	Likelihood Methods in Ecology, Columbia University, New York, USA
1999	Ecology of Amazonian Ecosystems, Organization of Tropical Studies, Iquitos, Perú

WORKSHOPS AND WORKINGROUPS

Jan 2020	sAndes- Tree diversity, composition and carbon storage in Andean montane forests, iDiv, Leipzig, Germany
Sep 2019	A synthesis of patterns and mechanisms of diversity and forest change in the Andes: A global biodiversity hotspot (organizer and speaker). Washington University (speaker), MO, USA .
Jan 2019	sAndes- Tree diversity, composition and carbon storage in Andean montane forests (speaker), iDiv, Leipzig, Germany
Oct 2018	A synthesis of patterns and mechanisms of diversity and forest change in the Andes: A global biodiversity hotspot (organizer and speaker), National Polytechnic School of Ecuador, Quito, Ecuador
Aug 2018	Plant Dynamics and Climate Change in the Andes (speaker), CONYCET, Mendoza, Argentina
Nov 2017	Andean Forest Network (co-organizer, speaker), Institute Alexander Von Humbolt, Bogotá, Colombia
Oct 2015	Research priorities for the conservation and sustainable governance in Andean landscapes (co-organizer and speaker), CONDESAN, and HELVETAS SWISS COOPERATION, Lima, Perú
July 2015	Andean Forest Network (Organizer, speaker) Catholic University of Ecuador, Quito, Ecuador

COLLABORATORS (PAST FIVE YEARS)

Wouter Buytaert (Imperial College, UK), Daisy Carate-Tandalla (University of Goettingen, Germany), Olivier Dangles (Cornell University, USA), David Donoso (National Polytecnich School of Ecuador), Alvaro Duque (Universidad Nacional de Colombia), Kenneth Feely (University of Miami, USA), Jurgen Homeier (University of

Gottingen, Germany), Susana León-Yánez (Catholic University of Ecuador), Agustina Malizia (Regional Institute of Ecological Research, Tucumán, Argentina), Sarah-Lan Mathez (University of Bern, Switzerland), Jonathan Myers (Washington University, USA), Michael Perring (University of Ghent, Belgium), Simon Queemborough (Yale School of Forestry, USA), Anita Risch (Swiss Federal Institute for Forest, Snow and Landscape Research, Switzerland), Laura Salazar (Universidad Tecnológica Indoamérica, Ecuador), Miles Silman (Wake Forest University, USA), Sebastian Tello (Missoury Botanical Garden, USA), Pedro Tognetti (University of Buenos Aires, Argentina), Hans Verbeeck (University of Ghent, Belgium), Renato Valencia (Catholic School of Ecuador).

LANGUAGES

Spanish: native language
English: fluent