

LETTER TO THE EDITOR

Open letter: There are more than just trees and forests to be conserved and restored

OPEN LETTER TO POLICYMAKERS AT THE 16TH MEETING OF THE CONFERENCE OF THE PARTIES TO THE CONVENTION ON BIOLOGICAL DIVERSITY (COP 16, CALI, COLOMBIA, 2024)

Tropical and subtropical grasslands and savannas have historically been neglected in global and local conservation policies. As a result, nearly half of their coverage has been lost. In 2023, the world's most biodiverse savanna (Brazilian Cerrado) lost 1.110.326 ha, increasing the rate of land conversion by 67.7% (MapBiomass, 2024). The resulting biodiversity and ecosystem service losses, including the ability to mitigate climate change, are profound and irreversible.

As scientists specialized in ecology, conservation, and restoration, from around the world, we call on policymakers at COP 16 to act decisively: *Tropical and subtropical grasslands and savannas matter for biodiversity protection, and the future of this planet relies on these ecosystems to the same extent it relies on forests.*

We urge the following commitments:

- Prioritize conservation and adequate management of grasslands and savannas.
- Establish mechanisms to reduce and halt land conversion in these ecosystems immediately.
- Promote conservation aligned with local economic activities, such as ecotourism and sustainable bioeconomic initiatives.
- Reject afforestation initiatives disguised as restoration efforts that harm these unique ecosystems.

Grasslands and savannas harbor an extraordinary biodiversity of light-loving fauna and flora, with up to 60 plants per square meter in some regions (Silva Menezes et al., 2018; Wilson et al., 2012). Many of these species are endemic and at risk of extinction. These ancient ecosystems are home to an astonishing cultural legacy and diversity. They are not only crucial for species conservation but also water security and carbon storage. For example, most of the major rivers in the Amazon originate in montane grasslands in the Andes, the *Cerrado*, and the Guyana Plateau. Peat soils in South American savannas store more carbon belowground than tropical forests do aboveground.

These carbon stocks, some dating back 40,000 years, are at risk if inappropriate land use practices like soil drainage or large-scale tree planting disrupt natural water cycles.

Once open ecosystems are degraded, they rarely regain their original biodiversity and function. Effective restoration remains a challenge, while promising, restored open ecosystems rarely fully recover the complexity, diversity, or resilience of pristine ecosystems (Nerlekar & Veldman, 2020; Pilon et al., 2023; Zaloumis & Bond, 2011). This makes immediate conservation the most effective tool in mitigating biodiversity loss and maintaining ecosystem services.

The UN Decade on Ecosystem Restoration is meaningless without a solid policy to reduce and stop land conversion. Conserving the remaining tropical and subtropical grasslands and savannas is the only assurance that future generations will benefit from the services these ecosystems provide. We believe in the potential of restoration, but it cannot replace effective biodiversity protection. Robust environmental policies must be grounded in scientific evidence and prioritize both present and future societal well-being. As scientists and citizens, we emphasize the critical need to conserve what remains of these ecosystems. **While science works toward restoring what has been lost, conservation is our best defense against the biodiversity crisis and the loss of essential ecosystem services.**

KEYWORDS

biodiversity crises, conservation, COP 16, ecological restoration, open ecosystems

AUTHOR CONTRIBUTIONS

Natashi Pilon, Franciele Peixoto, Rafael S. Oliveira, Ana Carolina C. Oliveira, and Giselda Durigan led the initiative and wrote the letter; all the 137 authors read and agreed with all the content of the letter.

CONFLICT OF INTEREST STATEMENT

We declare no conflict of interest.

DATA AVAILABILITY STATEMENT

There are no data associated with the paper.

This is an open access article under the terms of the [Creative Commons Attribution-NonCommercial-NoDerivs](https://creativecommons.org/licenses/by-nc-nd/4.0/) License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

© 2025 The Author(s). *Plants, People, Planet* published by John Wiley & Sons Ltd on behalf of New Phytologist Foundation.

- Natashi Pilon¹ 
- Franciele Peixoto²
- Rafael S. Oliveira¹ 
- Ana Carolina C. Oliveira¹
- Julio Alquéres³
- Swanni Alvarado⁴
- Jose G. M. Angelo⁵
- Sally Archibald⁶ 
- Mohammed Armani⁷
- Ludwig Balaszti^{8,9} 
- Sébastien Barot¹⁰
- Fernanda de V. Barros¹¹
- Mario Barroso¹²
- Alessandra Bassani¹
- Mariska te Beest^{13,14,15}
- Juan Benavides-Tocarruncho¹¹
- Lorena M. Benitez⁹
- Paulo N. Bernardino^{1,16} 
- William J. Bond¹⁷
- Bowy den Braber¹⁸
- Nina Buchmann¹⁹ 
- Elise Buisson²⁰ 
- Bruna H. Campos²¹ 
- Claudia Campos⁵
- Josep Canadell (Pep)²²
- Tristan Charles-Dominique²³ 
- Rachel Cohen²⁴
- Anya Courtenay⁹
- Joris P. G. M. Cromsigt^{13,14,25} 
- Gabriella Damasceno^{26,27} 
- Vinicius L. Dantas²⁸
- Balázs Deák²⁹
- Michele Dechoum³⁰
- Adam J. M. Devenish³¹
- Milton H. Diaz-Toribio³²
- Brice Yannick Djiofack^{33,34}
- Jason E. Donaldson³⁵
- Larissa Doria¹ 
- Natalie Dudinszky^{36,37}
- Lucas Durães⁵
- Susan E. Eshelman³⁸ 
- Marcos de Fialho⁵
- Manfred Finckh³⁹ 
- Jennifer L. Funk⁴⁰ 
- Rachael Gallagher⁴¹ 
- T. Ganesh⁴²
- Jacques Gignoux⁴³
- Luiz Gustavo Gonçalves⁵
- Michelle Greve⁴⁴
- Daniel Mark Griffith⁴⁵
- Natalia Guerin²⁴ 
- Kenny Helsen²⁴
- Gareth P. Hempson⁴⁶ 
- Ankila Hiremath⁴²
- William A. Hoffmann⁴⁷
- Sheila M. Holmes²⁵
- Lindsay B. Hutley⁴⁸
- Debbie Jewitt⁴⁹ 
- Arjun Kannan⁴²
- Marie Noelle Keijzer²⁴
- David A. Keith⁵⁰
- Sarala Khaling⁴²
- Kevin Kirkman⁵¹
- Rosana M. Kolb⁵² 
- Foundiéré Koné⁵³
- Alessandra R. Kozovits⁵⁴ 
- Christian Kull⁵⁵
- Frank van Langevelde⁵⁶
- R. Sedricke Lapuz⁵⁷ 
- Jean-Christophe Lata⁵⁸ 
- Soizig Le Stradic⁵⁹ 
- Caroline E. R. Lehmann^{8,9} 
- Naïssa Luz⁶⁰
- M. D. Madhusudan⁶¹
- Soro Nounfro Madjima⁶²
- Iravatee Majgaonkar⁴²
- Onildo J. Marini-Filho⁵
- Aklilu Negussie Mekuria²⁴
- Paulina Meller⁶³ 
- Máximo M. Costa⁵
- Raoni Merisse⁵
- Cássia B. R. Munhoz⁶⁴ 
- Brett P. Murphy⁶⁵
- Leena Naftal⁶⁶
- Olinirina Prisca Nanjarisoa³¹
- Aya B. N'Dri⁶⁷ 
- Ashish N. Nerlekar⁶⁸ 
- Aristides S. G. Neto⁵
- Jesse B. Nippert⁶⁹
- Sindiso Nkuna⁷⁰
- Reed Noss⁷¹
- Imma Oliveras Menor^{72,73} 
- Colin P. Osborne⁷⁴ 
- Gerhard E. Overbeck⁷⁵ 
- Giovanna Palazzi⁵
- Catherine Parr⁷⁶ 
- Juli G. Pausas⁷⁷ 
- R. Toby Pennington¹¹ 
- Valério D. Pillar⁷⁵ 
- Francis E. Putz^{78,79} 
- Fitiavana Rasaminirina^{80,81}
- Jayashree Ratnam⁸²
- Diego Raymundo⁸³
- Ana Ribeiro⁸⁴
- Jess Rickenback^{8,9} 
- Lucy Rowland¹¹ 

Alexandre Bonesso Sampaio⁸⁵ 
 Mahesh Sankaran⁸²
 Naomi B. Schwartz⁸⁶ 
 Seshadri Kadaba Shamanna⁴²
 Stefan Siebert⁸⁷
 Frances Siebert⁸⁷
 Desireé Cristiane Barbosa Silva⁵
 Suelma Ribeiro-Silva^{5,88}
 Domingos Fortunato P. F. Silva⁸⁹
 Julliene S. G. Monteiro Silva⁹⁰
 Fernando A. O. Silveira⁹¹ 
 Kimberley Simpson⁹² 
 A. Carla Staver⁹³ 
 Bethina Stein⁹⁴ 
 Nicola Stevens^{6,95} 
 Chris Still⁹⁶
 Caroline A. E. Strömberg⁹⁷ 
 Rima Mekdaschi Studer⁹⁸ 
 Anthony Swemmer⁹⁹
 Kyle Warwick Tomlinson¹⁰⁰
 Orsolya Valkó²⁹
 Renato Vanderlei¹⁰¹
 Joseph W. Veldman¹⁰²
 Larissa Verona¹ 
 Susanne Vetter¹⁰³ 
 Ricardo A. G. Viani¹⁰⁴
 Maria S. Vorontsova¹⁰⁵ 
 Jakub D. Wiczorkowski^{8,9} 
 Benjamin Wigley^{106,107}
 Amy Zanne¹⁶ 
 Giselda Durigan²¹ 

¹Universidade Estadual de Campinas, Departamento de Biologia Vegetal, Instituto de Biologia, Centro de Ecologia Integrativa, Campinas, Brazil

²Universidade Estadual de Campinas, Centro de Ecologia Integrativa, Campinas, Brazil

³Carbon4412, São Paulo, Brazil

⁴Departamento de Biología, Universidad Nacional de Colombia, Bogotá, Colombia

⁵Instituto Chico Mendes de Conservação da Biodiversidade, Brasília, Brazil

⁶School of Animal, Plant and Environmental Sciences, University of the Witwatersrand Johannesburg, Johannesburg, South Africa

⁷Institute for Biospheric Studies, Yale University, New Haven, Connecticut, USA

⁸Royal Botanic Garden Edinburgh, Taxonomy and Macroecology, Edinburgh, UK

⁹School of Geosciences, University of Edinburgh, Edinburgh, UK

¹⁰IEES-Paris, IRD, Sorbonne Université, Paris, France

¹¹Department of Geography, Faculty of Environment, Science and Economy, University of Exeter, Exeter, UK

¹²The Nature Conservancy, Brasília, Brazil

¹³Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, the Netherlands

¹⁴Centre for African Conservation Ecology, Nelson Mandela University, Gqeberha, ZA, South Africa

¹⁵South African Environmental Observation Network, Grasslands-Forests-Wetlands Node, Pietermaritzburg, South Africa

¹⁶Cary Institute of Ecosystem Studies, Millbrook, New York, USA

¹⁷Botany, Botany Department, UCT, Private Bag, Rondebosch, University of Cape Town, Western Cape, South Africa

¹⁸Geosciences and Natural Resource Management, University of Copenhagen, Copenhagen, Denmark

¹⁹ETH Zurich Department of Environmental Systems Science, Zurich, Switzerland

²⁰Avignon Université, Institut Méditerranéen de Biodiversité et d'Ecologie IMBE, CNRS, IRD, Aix-Marseille Université, Avignon, France

²¹Instituto de Pesquisas Ambientais, São Paulo, Brazil

²²Global Carbon Project of Future Earth, Australia

²³CNRS, Paris, France

²⁴WeForest, Brussels, Belgium

²⁵Department of Wildlife, Fish and Environmental Studies, Swedish University of Agricultural Sciences, Umeå, Sweden

²⁶German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig, Leipzig, Germany

²⁷Institute of Biology, Geobotany and Botanical Garden, Martin Luther University Halle Wittenberg, Halle (Saale), Germany

²⁸Institute of Geography, Federal University of Uberlândia, Uberlândia, Brazil

²⁹HUN-REN Centre for Ecological Research Institute of Ecology and Botany, Lendület Seed Ecology Research Group, Vácrátót, Hungary

³⁰Federal University of Santa Catarina, Florianópolis, Brazil

³¹Royal Botanic Gardens Kew, London, UK

³²Jardín Botánico Francisco Javier Clavijero, Institute of Ecology, Xalapa, Mexico

³³Faculty of Bioscience Engineering, Department of Environment, Laboratory of Wood Technology (UGent-Woodlab), Ghent University, Ghent, Belgium

³⁴Royal Museum for Central Africa, Service of Wood Biology, Tervuren, Belgium

³⁵Nicholas School of the Environment, Duke University, Durham, North Carolina, USA

³⁶BirdLife International, Cambridge, UK

³⁷Universidad Nacional del Comahue-CONICET, Grupo de Biología y Ecología de Animales Patagónicos, INIBIOMA, San Carlos de Bariloche, Argentina

³⁸School of Biological Science, University of Edinburgh, Edinburgh, UK

³⁹Institute of Plant Science and Microbiology (IPM), University of Hamburg, Hamburg, Germany

⁴⁰University of California Davis, Davis, California, USA

⁴¹Hawkesbury Institute for the Environment, Richmond, Western Sydney University Hawkesbury Institute for the Environment, Penrith, Australia

- ⁴²Ashoka Trust for Research in Ecology and the Environment, Bengaluru, India
- ⁴³Institute of Ecology and Environmental Sciences (iEESParis), CNRS, Paris, France
- ⁴⁴Natural and Agricultural Sciences, University of Pretoria, Pretoria, South Africa
- ⁴⁵Oregon State University, Corvallis, Oregon, USA
- ⁴⁶School of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow, Glasgow, UK
- ⁴⁷PMB, Dept. Plant Biology, North Carolina State University, Raleigh, North Carolina, USA
- ⁴⁸Research Institute for the Environment and Livelihoods, Faculty of Science & Technology, Charles Darwin University, Darwin, Australia
- ⁴⁹Ezemvelo KZN Wildlife, Pietermaritzburg, South Africa
- ⁵⁰Centre for Ecosystem Science, University of New South Wales, Sydney, Australia
- ⁵¹University of KwaZulu-Natal - Pietermaritzburg Campus, Pietermaritzburg, South Africa
- ⁵²Faculdade de Ciências e Letras, Universidade Estadual Paulista Julio de Mesquita Filho, Assis, Brazil
- ⁵³Centre de Recherche en Écologie, Université Nangui Abrogoua, Abidjan Autonomous District, Côte d'Ivoire
- ⁵⁴Universidade Federal de Ouro Preto, Ouro Preto, Brazil
- ⁵⁵University of Lausanne, Institute of Geography and Sustainability, Lausanne, Switzerland
- ⁵⁶Wageningen Universiteit en Research, Wageningen, the Netherlands
- ⁵⁷School of Biological Sciences, The University of Hong Kong, Pokfulam, Hong Kong
- ⁵⁸Institute of Ecology and Environmental Sciences (iEESParis), Sorbonne Université, Paris, France
- ⁵⁹UMR BIOGECO, INRAE and Université de Bordeaux, Paris, France
- ⁶⁰Universidade Federal do Paraná, Curitiba, Brazil
- ⁶¹National Centre for Biological Sciences, GKV Campus, Bangalore, India
- ⁶²Laboratoire D'ecologie et de Développement Durable, Abidjan, Côte d'Ivoire
- ⁶³Landesamt für Umwelt, Naturschutz und Geologie M-V, Güstrow, Germany
- ⁶⁴Universidade de Brasília, Instituto de Ciências Biológicas, Brasília, Brazil
- ⁶⁵Charles Darwin University, Darwin, Australia
- ⁶⁶Namibia University of Science and Technology (NUST), Windhoek, Namibia
- ⁶⁷Department of Natural Sciences (UFR SN), Laboratory of Ecology and Sustainable Development (LEDD) and Laboratory of Botany and Valorisation of Plant Diversity (LaBVDIV), Nangui Abrogoua University, Abidjan, Côte d'Ivoire
- ⁶⁸Department of Plant Biology, Michigan State University, East Lansing, Michigan, USA
- ⁶⁹Division of Biology Manhattan, Kansas State University, Manhattan, Kansas, USA
- ⁷⁰School of Life Sciences, Scottsville, University of KwaZulu-Natal, Pietermaritzburg, South Africa
- ⁷¹Southeastern Grasslands Institute, Southeastern Grasslands Institute, Melrose, Florida, USA
- ⁷²Université de Montpellier, AMAP (Botanique et Modélisation de l'Architecture des Plantes et des Végétations), CIRAD, CNRS, INRA, IRD, Montpellier, France
- ⁷³School of Geography and the Environment, University of Oxford, Oxford, UK
- ⁷⁴School of Biosciences, Alfred Denny Building, Western Bank, University of Sheffield, Sheffield, UK
- ⁷⁵Universidade Federal do Rio Grande do Sul, Instituto de Biociências, Porto Alegre, Brazil
- ⁷⁶University of Liverpool, Liverpool, UK
- ⁷⁷Centro de Investigaciones sobre Desertificación, Consejo Superior de Investigaciones Científicas, Universitat de València, Generalitat Valenciana (CIDE, CSIC-UV-GV), Valencia, Spain
- ⁷⁸Department of Biology, University of Florida, Gainesville, Florida, USA
- ⁷⁹University of the Sunshine Coast, Forest Research Institute, Maroochydore, Australia
- ⁸⁰Royal Botanic Gardens Kew, Richmond, UK
- ⁸¹University of Antananarivo, Antananarivo, Antananarivo Province, Madagascar
- ⁸²National Centre for Biological Sciences, Bangalore, India
- ⁸³Universidade Federal de Juiz de Fora, Juiz de Fora, Brazil
- ⁸⁴Forest Research Center, Associate Laboratory TERRA, School of Agriculture, University of Lisbon, Lisbon, Portugal
- ⁸⁵Centro Nacional de Pesquisa e Conservação em Biodiversidade e Restauração Ecológica - CBC/ICMBio, Brasília, Brazil
- ⁸⁶Department of Geography, The University of British Columbia, Vancouver, Canada
- ⁸⁷Unit for Environmental Sciences and Management, North-West University, Potchefstroom, South Africa
- ⁸⁸Jardim Botânico do Rio de Janeiro, National School of Tropical Botany, Rio de Janeiro, Brazil
- ⁸⁹SEOSAW - Socio-Ecological Observatory for Studying African Woodlands, Angola
- ⁹⁰Universidade Estadual de Campinas, Instituto de Biologia, Programa de Pós-Graduação em Ecologia Campinas, Campinas, Brazil
- ⁹¹Federal University of Minas Gerais, Belo Horizonte, Brazil
- ⁹²School of Biosciences, Alfred Denny Building, Western Bank, The University of Sheffield, Sheffield, UK
- ⁹³Department of Ecology and Evolutionary Biology, Yale University, New Haven, Connecticut, USA
- ⁹⁴Universidade Estadual de Campinas, Instituto de Biologia, Programa de Pós-graduação de Biologia Vegetal, Campinas, Brazil
- ⁹⁵School of Geography, University of Oxford, Oxford, UK
- ⁹⁶Forest Ecosystems and Society, Oregon State University, Corvallis, Oregon, USA
- ⁹⁷Department of Biology, Burke Museum of Natural History & Culture, University of Washington, Seattle, Washington, USA
- ⁹⁸Centre for Development and Environment (CDE), University of Bern, Bern, Switzerland
- ⁹⁹National Research Foundation, Pretoria, South Africa

¹⁰⁰Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Mengla, Yunnan, China

¹⁰¹Universidade Federal de Pernambuco, Recife, Brazil

¹⁰²Department of Ecology and Conservation Biology, Texas A&M University, College Station, Texas, USA

¹⁰³Botany Department, Rhodes University, Grahamstown, South Africa

¹⁰⁴Universidade Federal de São Carlos, Araras, Brazil

¹⁰⁵Royal Botanic Gardens, Kew, Herbarium, Library, Art and Archives, Richmond, UK

¹⁰⁶Nelson Mandela University School of Natural Resource Management, George Campus, George, South Africa

¹⁰⁷Savanna Node, Scientific Services, SANParks, Skukuza, South Africa

Correspondence

Pilon, Natashi, Universidade Estadual de Campinas, Instituto de Biologia, Departamento de Biologia Vegetal, Campinas, SP, Brazil.

Email: npilon@unicamp.br

ORCID

Natashi Pilon [ID](https://orcid.org/0000-0001-7985-5842) <https://orcid.org/0000-0001-7985-5842>

Rafael S. Oliveira [ID](https://orcid.org/0000-0002-6392-2526) <https://orcid.org/0000-0002-6392-2526>

Sally Archibald [ID](https://orcid.org/0000-0003-2786-3976) <https://orcid.org/0000-0003-2786-3976>

Ludwig Baldaszti [ID](https://orcid.org/0000-0003-0548-8503) <https://orcid.org/0000-0003-0548-8503>

Paulo N. Bernardino [ID](https://orcid.org/0000-0002-9226-3160) <https://orcid.org/0000-0002-9226-3160>

Nina Buchmann [ID](https://orcid.org/0000-0003-0826-2980) <https://orcid.org/0000-0003-0826-2980>

Elise Buisson [ID](https://orcid.org/0000-0002-3640-8134) <https://orcid.org/0000-0002-3640-8134>

Bruna H. Campos [ID](https://orcid.org/0000-0003-4028-539X) <https://orcid.org/0000-0003-4028-539X>

Tristan Charles-Dominique [ID](https://orcid.org/0000-0002-5767-0406) <https://orcid.org/0000-0002-5767-0406>

Joris P. G. M. Cromsigt [ID](https://orcid.org/0000-0002-8632-9469) <https://orcid.org/0000-0002-8632-9469>

Gabriella Damasceno [ID](https://orcid.org/0000-0001-5103-484X) <https://orcid.org/0000-0001-5103-484X>

Larissa Doria [ID](https://orcid.org/0000-0002-3479-211X) <https://orcid.org/0000-0002-3479-211X>

Susan E. Eshelman [ID](https://orcid.org/0000-0002-0883-2392) <https://orcid.org/0000-0002-0883-2392>

Manfred Finckh [ID](https://orcid.org/0000-0003-2186-0854) <https://orcid.org/0000-0003-2186-0854>

Jennifer L. Funk [ID](https://orcid.org/0000-0002-1916-5513) <https://orcid.org/0000-0002-1916-5513>

Rachael Gallagher [ID](https://orcid.org/0000-0002-4680-8115) <https://orcid.org/0000-0002-4680-8115>

Natalia Guerin [ID](https://orcid.org/0000-0002-9545-7729) <https://orcid.org/0000-0002-9545-7729>

Gareth P. Hempson [ID](https://orcid.org/0000-0001-8055-4895) <https://orcid.org/0000-0001-8055-4895>

Debbie Jewitt [ID](https://orcid.org/0000-0002-0964-692X) <https://orcid.org/0000-0002-0964-692X>

Rosana M. Kolb [ID](https://orcid.org/0000-0003-3841-5597) <https://orcid.org/0000-0003-3841-5597>

Alessandra R. Kozovits [ID](https://orcid.org/0000-0002-7312-0076) <https://orcid.org/0000-0002-7312-0076>

R. Sedricke Lapuz [ID](https://orcid.org/0000-0002-5072-2306) <https://orcid.org/0000-0002-5072-2306>

Jean-Christophe Lata [ID](https://orcid.org/0000-0002-1094-4625) <https://orcid.org/0000-0002-1094-4625>

Soizig Le Stradic [ID](https://orcid.org/0000-0003-2643-3544) <https://orcid.org/0000-0003-2643-3544>

Caroline E. R. Lehmann [ID](https://orcid.org/0000-0002-6825-124X) <https://orcid.org/0000-0002-6825-124X>

Paulina Meller [ID](https://orcid.org/0000-0001-6711-4385) <https://orcid.org/0000-0001-6711-4385>

Cássia B. R. Munhoz [ID](https://orcid.org/0000-0002-7990-6715) <https://orcid.org/0000-0002-7990-6715>

Aya B. N'Dri [ID](https://orcid.org/0000-0002-6333-6279) <https://orcid.org/0000-0002-6333-6279>

Ashish N. Nerlekar [ID](https://orcid.org/0000-0002-3737-882X) <https://orcid.org/0000-0002-3737-882X>

Imma Oliveras Menor [ID](https://orcid.org/0000-0001-5345-2236) <https://orcid.org/0000-0001-5345-2236>

Colin P. Osborne [ID](https://orcid.org/0000-0002-7423-3718) <https://orcid.org/0000-0002-7423-3718>

Gerhard E. Overbeck [ID](https://orcid.org/0000-0002-8716-5136) <https://orcid.org/0000-0002-8716-5136>

Catherine Parr [ID](https://orcid.org/0000-0003-1627-763X) <https://orcid.org/0000-0003-1627-763X>

Juli G. Pausas [ID](https://orcid.org/0000-0003-3533-5786) <https://orcid.org/0000-0003-3533-5786>

R. Toby Pennington [ID](https://orcid.org/0000-0002-8196-288X) <https://orcid.org/0000-0002-8196-288X>

Valério D. Pillar [ID](https://orcid.org/0000-0001-6408-2891) <https://orcid.org/0000-0001-6408-2891>

Francis E. Putz [ID](https://orcid.org/0000-0003-0051-6675) <https://orcid.org/0000-0003-0051-6675>

Jess Rickenback [ID](https://orcid.org/0000-0001-5803-7728) <https://orcid.org/0000-0001-5803-7728>

Lucy Rowland [ID](https://orcid.org/0000-0002-0774-3216) <https://orcid.org/0000-0002-0774-3216>

Alexandre Bonesso Sampaio [ID](https://orcid.org/0000-0002-3010-4607) <https://orcid.org/0000-0002-3010-4607>

Naomi B. Schwartz [ID](https://orcid.org/0000-0002-3439-2888) <https://orcid.org/0000-0002-3439-2888>

Fernando A. O. Silveira [ID](https://orcid.org/0000-0001-9700-7521) <https://orcid.org/0000-0001-9700-7521>

Kimberley Simpson [ID](https://orcid.org/0000-0001-6673-227X) <https://orcid.org/0000-0001-6673-227X>

A. Carla Staver [ID](https://orcid.org/0000-0002-2384-675X) <https://orcid.org/0000-0002-2384-675X>

Bethina Stein [ID](https://orcid.org/0000-0002-9749-2739) <https://orcid.org/0000-0002-9749-2739>

Nicola Stevens [ID](https://orcid.org/0000-0002-0693-8409) <https://orcid.org/0000-0002-0693-8409>

Caroline A. E. Strömberg [ID](https://orcid.org/0000-0003-0612-0305) <https://orcid.org/0000-0003-0612-0305>

Rima Mekdaschi Studer [ID](https://orcid.org/0000-0002-5098-0241) <https://orcid.org/0000-0002-5098-0241>

Larissa Verona [ID](https://orcid.org/0000-0002-3476-9868) <https://orcid.org/0000-0002-3476-9868>

Susanne Vetter [ID](https://orcid.org/0000-0002-2063-5615) <https://orcid.org/0000-0002-2063-5615>

Maria S. Vorontsova [ID](https://orcid.org/0000-0003-0899-1120) <https://orcid.org/0000-0003-0899-1120>

Jakub D. Wiczorkowski [ID](https://orcid.org/0000-0003-2128-5925) <https://orcid.org/0000-0003-2128-5925>

Amy Zanne [ID](https://orcid.org/0000-0001-6379-9452) <https://orcid.org/0000-0001-6379-9452>

Giselda Durigan [ID](https://orcid.org/0000-0003-0693-3154) <https://orcid.org/0000-0003-0693-3154>

REFERENCES

- MapBiomas. (2024). RAD2023: Relatório Anual do Desmatamento no Brasil 2023. MapBiomas.
- Nerlekar, A. N., & Veldman, J. W. (2020). High plant diversity and slow assembly of old-growth grasslands. *Proceedings of the National Academy of Sciences*, 117, 18550–18556. <https://doi.org/10.1073/pnas.1922266117>
- Pilon, N., Campos, B. H., Durigan, G., Cava, M. G., Rowland, L., Schmidt, I., Sampaio, A., & Oliveira, R. S. (2023). Challenges and directions for open ecosystems biodiversity restoration: An overview of the techniques applied for Cerrado. *Journal of Applied Ecology*, 60, 849–858. <https://doi.org/10.1111/1365-2664.14368>
- Silva Menezes, L., Vogel Ely, C., Lucas, D. B., Minervini Silva, G. H., Boldrini, I. I., & Overbeck, G. E. (2018). Plant species richness record in Brazilian Pampa grasslands and implications. *Brazilian Journal of Botany*, 41, 817–823. <https://doi.org/10.1007/s40415-018-0492-6>
- Wilson, J. B., Peet, R. K., Dengler, J., & Pärtel, M. (2012). Plant species richness: The world records. *Journal of Vegetation Science*, 23, 796–802. <https://doi.org/10.1111/j.1654-1103.2012.01400.x>
- Zaloumis, N. P., & Bond, W. J. (2011). Grassland restoration after afforestation: No direction home? *Austral Ecology*, 36, 357–366. <https://doi.org/10.1111/j.1442-9993.2010.02158.x>