

CURRICULUM VITAE

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ACADEMIC TRAINING

BSc Agriculture, University of Buenos Aires, Argentina
MSc, Ecology, Colorado State University, USA
PhD, Ecology, Colorado State University, USA

AWARDS AND HONORS

2019 **American Geophysical Union**, Fellow
2019 **Regents Professor, Arizona State University**
2018 **Asociación Argentina de Ecología**, Honorary Member
2013 **Ecological Society of America**, Fellow
2009 **American Association for the Advancement of Science**, Fellow
2004 **Andrew D. White Professor-at-Large, Cornell University**
2003 **American Academy of Arts and Sciences**, USA, Elected Member
2003 **National Academy of Physical and Natural Sciences**, Buenos Aires, Elected Member
2002 **National Academy of Sciences**, Argentina, Elected Member
1993 **Guggenheim Fellow**

ACADEMIC EXPERIENCE

2024- Adjunct Faculty, School of Transborder Studies, **Arizona State University**
2024- Adjunct Faculty, Simon A. Levin Mathematical, Computational and Modeling Sciences Center, **Arizona State University**
2019- Regents' Professor, **Arizona State University**
2017- Director, [Global Drylands Center](#), **Arizona State University**
2010- Julie A. Wrigley Professor of Life Sciences and Sustainability, **Arizona State University**
2010- Foundation Professor, **Arizona State University**
2005-10 Sloan Lindemann Distinguished Professor of Biology, **Brown University**
2005-08 Director, Environmental Change Initiative, **Brown University**
2005-08 Director, Center for Environmental Studies, **Brown University**
1991-04 Professor, Department of Ecology, School of Agronomy, **University of Buenos Aires**
1982-04 Research Scientist, **National Research Council**, Argentina
1999 Visiting Scholar, **Imperial College** at Silwood Park
1993-94 Visiting Scholar, Department of Biological Sciences, **Stanford University**, USA
1987-88 Chairman, Department of Ecology, School of Agronomy, **University of Buenos Aires**, Argentina

- 1987-90 Associate Professor, Department of Ecology, School of Agronomy, **University of Buenos Aires**, Argentina
- 1985-87 Research Scientist, Natural Resource Ecology Laboratory, **Colorado State University**, USA
- 1982-83 Assistant Professor, Department of Ecology, School of Agronomy, **University of Buenos Aires**, Argentina
- 1980-82 Assistant Professor, Range Science Department, **Colorado State University**, USA

PROFESSIONAL SERVICE

- * **National Academies of Sciences, Engineering and Medicine**: Committee for the Independent Study on Potential Environmental Effects of Nuclear War. 2023-
- * **National Academies of Sciences, Engineering and Medicine**: Committee to Advise the U.S. Global Change Research Program. 2021-
- * Scientific Advisory Board, Agrotecnio, **Center of Excellence of Catalunya**, Spain, 2021-
- * President, **Ecological Society of America**, 2018-2021
- * Chair, External Advisory Board, School of Global Environmental Sustainability, **Colorado State University**, 2012-2018
- * Co-Director, **SARAS** (South American Institute for Resilience and Sustainability Studies), 2010-16
- * LTER (Long Term Ecological Research) National Advisory Board, **National Science Foundation**, 2010-13
- * **Jury of Ramon Margalef Prize, Barcelona, Spain**, 2008-2011
- * Scientific Advisory Board, **SCOPE Biofuels Project**, 2007-10
- * **Rhode Island, Ocean Special Area Management Plan**, Science Advisory Task Force, 2008
- * Advisor, **National Science Foundation**, Environmental Research and Education, 2007-09
- * Member, Global Agenda Council, **World Economic Forum**, 2008-09
- * President, **SCOPE**, Scientific Committee on Problems of the Environment, 2005-09
- * External Evaluation **CREAF**, Universidad Aut3noma de Barcelona, Spain, 2008.
- * Member, Science Council, **The Nature Conservancy**, 2005-07
- * Secretary General, **SCOPE**, Scientific Committee on Problems of the Environment, 2001-05
- * Editorial Board of **Climate Research**, Inter Research, 1992-05
- * Editor of **Global Change Biology**, Blackwell Scientific, 2003-05
- * Editorial Board of **Ecosystems**, Springer Verlag, 1997-2004
- * Editorial Board of **Oecologia**, Springer Verlag, 1994-2004
- * Member at large Governing Board of the **Ecological Society of America**, 2002-04
- * Chair of “**Red Latinoamericana de Bot3nica**,” 2001-2004
- * Scientific Committee for the **International Geosphere-Biosphere Programme (IGBP)**, 1994-1996
- * Scientific Steering committee of **Global Change and Terrestrial Ecosystems (GCTE)**, a core project of the International Geosphere Biosphere Programme, 1991-1999
- * Leader, Global Change and Terrestrial Ecosystems (GCTE). **Focus 4, Global Change and Ecological Complexity**, 1994-1999
- * Steering committee of **America's Interhemisphere Geo-Biosphere Organization (AMIGO)**, 1991-1995
- * Scientific Advisory Committee of the **Biodiversity and Ecosystem Functioning: Soils and Sediment**, a program of the Scientific Committee on Problems of the Environment (**SCOPE**), 1995-1999

- * Scientific Advisory Committee of **Diversitas**, An International Programme of Biodiversity Science, IUBS, SCOPE, UNESCO, ICSU, IGBP-GCTE, and IUMS, 1995- 2001
- * Scientific Steering Committee of **SCOPE**, Scientific Committee on Problems of the Environment, 1998-2001
- * Scientific Steering Committee of “**Red LatinoAmericana de Botánica**”1999-2001
- * Biology Panel, National Research Council of Argentina, 1989-1992
- * Vice-President **Ecological Society of Argentina**, 1991-1993
- * President **Ecological Society of Argentina**, 1997-1999 and 1999-2001
- * Editorial Board of **Vegetatio**, Kluwer academic publishers, 1990-1996
- * Editorial Board of **Global Change Biology**, Blackwell Scientific, 1994-2003

RESEARCH GRANT EXPERIENCE

- 2024-27 Woody-plant encroachment and its consequences on subsurface water redistribution. **Department of Energy** \$1,000,000 (co-PI)
- 2023-28 Long-term ecosystem responses to directional changes in precipitation amount and variability in an arid grassland. **National Science Foundation** \$ 670,000 (PI)
- 2022-24 Experimental Evaluation of Drought and Grazing Duration on Grassland Productivity **USDA** \$155,067 (PI)
- 2020-24 LTER: Long-Term Research at the Jornada Basin (LTER VII). **National Science Foundation** \$4,508,000 (co-PI)
- 2019-23 Ecological responses to rainfall across the Namib Desert climate gradient. **National Science Foundation** \$299,994 (co-PI)
- 2018-23 Biogeochemical mismatches: decoupling of carbon, nitrogen and phosphorus cycles during drought **Australian Research Council** \$289,642 (co-PI)
- 2018-23 Long-term ecosystem responses to directional changes in precipitation amount and variability in an arid grassland **National Science Foundation** \$519,999 (PI)
- 2018-23 Forecasting dryland ecosystem vulnerability to change: a cross-system assessment of vegetation and process responses to disturbance and climate variability on DoD lands **SERDP-DOD** \$730,851 (co-PI)
- 2018-18 Looking for a Pulse in Dryland Ecosystems: Evaluating the Pulse Dynamics Paradigm Forty Years after its Creation **New Phytologist Trust** \$10,000 (co-PI)
- 2016-21 Exotic grass and woody-plant encroachment in Southwestern rangelands: Mechanisms of invasion and opportunities of containment **USDA-NIFA-AFRI** (PI) \$500,000
- 2015-20 Water Availability Controls on Above-Belowground Productivity Partitioning: Herbivory versus Plant Response **National Science Foundation**, (PI) \$718,935
- 2014-21 Drought-Net: A global network to assess terrestrial ecosystem sensitivity to drought **National Science Foundation**, (co-PI) \$499,992
- 2012-13 Abrupt grass-woodland transitions: Determinants and consequences for ecosystem services **National Science Foundation**, \$49,798
- 2012-18 LTER: Long-Term Research at the Jornada Basin (LTER VI) **National Science Foundation**, (co-PI) \$5,880,000
- 2012-14 Woody-plant encroachment: Degradation or a shift in the portfolio of ecosystem services? **Keck Foundation**, \$75,000
- 2009-13 Precipitation Controls of Carbon and Nitrogen Cycles in Arid-Semiarid Ecosystems **US National Science Foundation**, \$799,439

- 2009-10 Vegetation structure constraints on ANPP in arid ecosystems: assessing the meristem limitation hypothesis **US National Science Foundation**, \$14,804
- 2004-07 Global change and the carbon cycle in arid and semiarid ecosystems: Experiments in the Patagonian steppe. **University of Buenos Aires**
- 2004-07 Spatial and temporal controls of carbon cycling in arid and semiarid ecosystems **PICT, Agencia Nacional de Promoción Científica y Tecnológica**
- 2002-04 Ecophysiological consequences of infrequent massive flowering of monocarpic bamboo grasses (*Chusquea* spp) in temperate and tropical South America **US National Science Foundation**
- 2001-02 Biodiversity effect on ecosystem functioning: Diversity of species, functional groups, patches, and resources. **University of Buenos Aires**
- 2000-03 Global change effects on primary production in arid ecosystems: The Patagonian steppe as a model ecosystem. **PICT, Agencia Nacional de Promoción Científica y Tecnológica**
- 1999-06 The role of biodiversity and climate in the functioning of ecosystems: A comparative study of grasslands, savannas, and forests. **InterAmerican Institute for Global Change Research**
- 1998-01 Ecosystem responses to stratospheric ozone reduction in southernmost South America. **US National Science Foundation**
- 1998-00 Biodiversity effects on the functioning of ecosystems: Experiments and models at two scales in the Patagonian steppe. **UBA**
- 1998-00 The effect of global change on the functioning of the Patagonian steppe ecosystem. **Agencia Nacional de Promoción Científica y Tecnológica**
- 1998-01 Management technology to increase production and decrease erosion in grasslands and steppes. **Agencia Nacional de Promoción Científica y Tecnológica**
- 1997-01 Production and decomposition controls in the Patagonian steppe. **CONICET**
- 1997 Global Change Effects on Biodiversity and Ecosystem Functioning: Manipulation of a Keystone Process. **InterAmerican Institute for Global Change Research**
- 1996 Workshop “Biodiversity Scenarios” at UC Santa Barbara, California, USA. June 1996. **InterAmerican Institute for Global Change Research and National Center for Ecological Analysis and Synthesis UC Santa Barbara**
- 1995 Workshop “Global Change and Ecological Complexity” Cedar Creek, Minnesota, USA, September 1995. **Electric Power Research Institute and International Geosphere Biosphere Programme**
- 1995 Workshop “Global Change Impacts on Latin American Terrestrial Ecosystems and Feedbacks to the Globe” Buenos Aires March 1995. **Inter-American Institute for Global Change Research**
- 1995-98 Ecosystem Responses to Stratospheric Ozone Reduction in Southernmost South America, **US National Science Foundation**
- 1994-97 Seasonal dynamics of primary production, **UBA**
- 1994-97 The role of small rainfall events on nitrogen mineralization, **UBA**
- 1994-97 Constraints on Production and Decomposition in Temperate Semiarid Grasslands, **US National Science Foundation**
- 1992-95 Sustainability of natural and cultivated systems Inter American Development Bank-**CONICET**
- 1991-93 Environmental and management effects on plant available water in the Patagonian steppe, **UBA**
- 1991-93 Nutrient partitioning between shrubs and grasses in the Patagonian steppe, **UBA**

1991-93 Cyclical dynamics of vegetation patches in the Patagonian steppe, **UBA**
 1991 Argentina-Chile scientific collaborative award. **Fundación Antorchas**
 1991 Competition and facilitation between grasses and shrubs **Fundación Antorchas**
 1989-93 Resource partitioning among grasses and shrubs in semi-arid regions, **CONICET**
 1989-93 Cyclical succession in the Patagonian steppe. **CONICET**
 1988-89 Water dynamics in the Patagonian steppe: A simulation modeling approach **UBA**
 1988-89 Water partitioning among grasses and shrubs in the Patagonian arid steppe, **UBA**
 1987-88 Grass-shrub interactions in two semi-arid regions, **US National Science Foundation**
 1985-88 The effect of defoliation on the community dynamics of a grassland of the Flooding Pampas. **CONICET**
 1985-88 Resource partitioning among life forms of the arid steppes. **CONICET**
 1983-84 Resource partitioning among life forms in Southern Patagonia. **UBA**
 1983-84 Convergence in the partitioning of resources among functional types in two semiarid regions, **US National Science Foundation-CONICET**

GRADUATE STUDENTS AND POST DOCTORAL FELLOWS

Graduate Students:

Lily Nichols (exp 2026)
 Annessa Foss (exp 2025)
 Madeline Buhman 2024
 Chris Vito (exp 2025)
 Courtney Currier, 2023
 Bryce Sutter, 2022
 Luis Weber, 2021
 Svenja Wagner, 2019
 Amy Wiedenfeld, 2018
 Aaron Boydston, 2018
 Owen McKenna, 2016
 Laureano Gherardi, 2014
 Lara Reichmann, 2011
 Pedro Flombaum, 2007
 Marselle Alexander, 2007
 Victoria Marchesini, 2006
 M. Laura Yahdjian, 2004
 Verónica Pancotto, 2004
 Pablo Roset, 2000
 Esteban Jobbágy, 1998
 Adriana Beltrán, 1997
 José M. Paruelo, 1991
 Martín R. Aguiar, 1991
 Rodolfo A. Golluscio, 1990

Postdoctoral fellows:

Nicholas Glass 2022-24
 Mónica Ladro de Guevara 2018-20
 Laureano Gherardi, 2015-21

José Anadón, 2012-13
Lara Reichmann, 2011-12
Erika Sudderth, 2009
M. Laura Yahdjian, 2005
Elisabeth Huber-Sannwald, 1996-97
Patricia Folgarait, 1995-97
Silvia Cid, 1995-96
Miguel A. Brizuela, 1991-94

TEACHING EXPERIENCE

Classes currently being taught at Arizona State University:

- Ecosystem Ecology (BIO 422/598 SOS 598)
- Human Impact on Ecosystem Functioning (SOS494/598; BIO494/598)
- Sustainability Science (SOS/ BIO 591)
- Life Sciences Career Paths (BIO 189)
- Sustainability Science: Interactions between Human and Environmental Systems (SOS 526)

Classes taught in the past:

- Human Impact on Ecosystem Functioning (BIOL1490), Brown University
- Biodiversity (BIOL2430), Brown University
- Topics in Conservation Science (BIOL1940), Brown University
- Ecology, UBA
- Ecosystem Ecology, UBA Plant Physiology, UBA
- Range Ecophysiology (RS 351), Colorado State University
- Functional Diversity in Ecosystems, University of Concepción, Chile
- Global Change and Biodiversity, UNAM, Mexico

PUBLICATIONS (H-index = 113)

- 255 Jordan, S.E., Smith, W.K., Sala, O.E., 2024. Ecosystem service indicators on military-managed drylands in the Western United States. **Ecological Applications** n/a, e3044. [PDF](#)
- 254 Gross, N., Maestre, F.T., Liancourt, P., Berdugo, M., Martin, R., Gozalo, B., Ochoa, V., Delgado-Baquerizo, M., Maire, V., Saiz, H., Soliveres, S., Valencia, E., Eldridge, D.J., Guirado, E., Jabot, F., Asensio, S., Gaitán, J.J., García-Gómez, M., Martínez, P., Martínez-Valderrama, J., Mendoza, B.J., Moreno-Jiménez, E., Pescador, D.S., Plaza, C., Pijuan, I.S., Abedi, M., Ahumada, R.J., Amghar, F., Arroyo, A.I., Bahalkeh, K., Bailey, L., Ben Salem, F., Blaum, N., Boldgiv, B., Bowker, M.A., Branquinho, C., van den Brink, L., Bu, C., Canessa, R., Castillo-Monroy, A. del P., Castro, H., Castro, P., Chibani, R., Conceição, A.A., Darrouzet-Nardi, A., Davila, Y.C., Deák, B., Donoso, D.A., Durán, J., Espinosa, C., Fajardo, A., Farzam, M., Ferrante, D., Franzese, J., Fraser, L., Gonzalez, S., Gusman-Montalvan, E., Hernández-Hernández, R.M., Hölzel, N., Huber-Sannwald, E., Jadan, O., Jeltsch, F., Jentsch, A., Ju, M., Kaseke, K.F., Kindermann, L., le Roux, P., Linstädter, A., Louw, M.A., Mabaso, M., Maggs-Kölling, G., Makhalanyane, T.P., Issa, O.M., Manzaneda, A.J., Marais, E., Margerie, P., Hughes, F.M., Messeder, J.V.S., Mora, J.P., Moreno, G., Munson, S.M., Nunes, A., Oliva, G., Oñatibia, G.R., Peter, G., Pueyo, Y., Quiroga, R.E., Ramírez-Iglesias, E., Reed, S.C., Rey, P.J., Reyes Gómez, V.M., Rodríguez, A., Rolo, V., Rubalcaba, J.G., Ruppert, J.C., **Sala, O.**, Salah, A., Sebei, P.J., Stavi, I., Stephens, C., Teixido, A.L., Thomas, A.D., Throop, H.L., Tielbörger, K., Travers, S., Undrakhbold, S., Val, J., Valkó, O., Velbert, F., Wamiti, W., Wang, L., Wang, D., Wardle, G.M., Wolff, P., Yahdjian, L., Yari, R., Zaady, E., Zeberio, J.M., Zhang, Y., Zhou, X., Le Bagousse-Pinguet, Y., 2024. Unforeseen plant phenotypic diversity in a dry and grazed world. **Nature** 632, 808–814. [PDF](#)
- 253 Biancari, L., Aguiar, M.R., Eldridge, D.J., Oñatibia, G.R., Bagousse-Pinguet, Y.L., Saiz, H., Gross, N., Austin, A.T., Ochoa, V., Gozalo, B., Asensio, S., Guirado, E., Valencia, E., Berdugo, M., Plaza, C., Martínez-Valderrama, J., Mendoza, B.J., García-Gómez, M., Abedi, M., Ahumada, R.J., Alcántara, J.M., Amghar, F., Anadón, J.D., Aramayo, V., Arredondo, T., Bader, M.Y., Bahalkeh, K., Salem, F.B., Blaum, N., Boldgiv, B., Bowker, M., Branquinho, C., Bu, C., Byambatsogt, B., Calvo, D.A., Monroy, A.P.C., Castro, H., Castro-Quezada, P., Chibani, R., Conceição, A.A., Currier, C.M., Donoso, D.A., Dougill, A., Ejtehadi, H., Espinosa, C.I., Fajardo, A., Farzam, M., Ferrante, D., Fraser, L.H., Gaitán, J.J., Gherardi, L.A., Gusmán-Montalván, E., Hernández-Hernández, R.M., Hölzel, N., Huber-Sannwald, E., Hughes, F.M., Jadán, O., Jeltsch, F., Jentsch, A., Ju, M., Kaseke, K.F., Kindermann, L., Köbel, M., Roux, P.C. le, Liancourt, P., Linstädter, A., Liu, J., Louw, M.A., Maggs-Kölling, G., Issa, O.M., Marais, E., Margerie, P., Messeder, J.V.S., Mora, J.P., Moreno, G., Munson, S.M., Oliva, G., Pueyo, Y., Quiroga, R.E., Reed, S.C., Rey, P.J., Rodríguez, A., Rodríguez, L.B., Rolo, V., Ruppert, J.C., **Sala, O.**, Salah, A., Stavi, I., Stephens, C.R.A., Swemmer, A.M., Teixido, A.L., Thomas, A.D., Throop, H.L., Tielbörger, K., Travers, S.K., Brink, L. van den, Wagner, V., Wamiti, W., Wang, D., Wang, L., Wolff, P., Yahdjian, L., Zaady, E., Maestre, F.T., 2024. Drivers of woody dominance across global drylands. **Science Advances** 10, eadn6007. [PDF](#)

- 252 Terry, T. J., **O.E. Sala**, S. Ferrenberg, S.C. Reed, B. Osborne, S. Jordan, S. Lee, P.B. Adler et al. 2024. Disturbance amplifies sensitivity of dryland productivity to precipitation variability. **Science Advances** 10(30): eadm9732. [PDF](#)
- 251 Díaz-Martínez, P., Maestre, F.T., Moreno-Jiménez, E., Delgado-Baquerizo, M., Eldridge, D.J., Saiz, H., Gross, N., Le Bagousse-Pinguet, Y., Gozalo, B., Ochoa, V., Guirado, E., García-Gómez, M., Valencia, E., Asensio, S., Berdugo, M., Martínez-Valderrama, J., Mendoza, B.J., García-Gil, J.C., Zaccone, C., Panettieri, M., García-Palacios, P., Fan, W., Benavente-Ferraces, I., Rey, A., Eisenhauer, N., Cesarz, S., Abedi, M., Ahumada, R.J., Alcántara, J.M., Amghar, F., Aramayo, V., Arroyo, A.I., Bahalkeh, K., Ben Salem, F., Blaum, N., Boldgiv, B., Bowker, M.A., Bran, D., Branquinho, C., Bu, C., Cáceres, Y., Canessa, R., Castillo-Monroy, A.P., Castro, I., Castro-Quezada, P., Chibani, R., Conceição, A.A., Currier, C.M., Darrouzet-Nardi, A., Deák, B., Dickman, C.R., Donoso, D.A., Dougill, A.J., Durán, J., Ejtehadi, H., Espinosa, C., Fajardo, A., Farzam, M., Ferrante, D., Fraser, L.H., Gaitán, J.J., Gusman Montalván, E., Hernández-Hernández, R.M., von Hessberg, A., Hölzel, N., Huber-Sannwald, E., Hughes, F.M., Jadán-Maza, O., Geissler, K., Jentsch, A., Ju, M., Kaseke, K.F., Kindermann, L., Koopman, J.E., Le Roux, P.C., Liancourt, P., Linstädter, A., Liu, J., Louw, M.A., Maggs-Kölling, G., Makhallanyane, T.P., Issa, O.M., Marais, E., Margerie, P., Mazaneda, A.J., McClaran, M.P., Messeder, J.V.S., Mora, J.P., Moreno, G., Munson, S.M., Nunes, A., Oliva, G., Oñatibia, G.R., Osborne, B., Peter, G., Pueyo, Y., Quiroga, R.E., Reed, S.C., Reyes, V.M., Rodríguez, A., Ruppert, J.C., **Sala, O.**, Salah, A., Sebei, J., Sloan, M., Solongo, S., Stavi, I., Stephens, C.R.A., Teixido, A.L., Thomas, A.D., Throop, H.L., Tielbörger, K., Travers, S., Val, J., Valko, O., van den Brink, L., Velbert, F., Wamiti, W., Wang, D., Wang, L., Wardle, G.M., Yahdjian, L., Zaady, E., Zeberio, J.M., Zhang, Y., Zhou, X., Plaza, C., 2024. Vulnerability of mineral-associated soil organic carbon to climate across global drylands. **Nature Climate Change** 14, 976–982. [PDF](#)
- 250 Eldridge, D. J., J. Ding, J. Dorrough, M. Delgado-Baquerizo, O. Sala, N. Gross, Y. Le Bagousse-Pinguet, M. Mallen-Cooper, H. Saiz, and S. Asensio. 2024. Hotspots of biogeochemical activity linked to aridity and plant traits across global drylands. **Nature Plants**:1-11, [PDF](#)
249. Smith, M. D., K. D. Wilkins, M. C. Holdrege, P. Wilfahrt, S. L. Collins, A. K. Knapp, O. E. Sala, J. S. Dukes, R. P. Phillips, and L. Yahdjian. 2024. Extreme drought impacts have been underestimated in grasslands and shrublands globally. **Proceedings of the National Academy of Sciences** 121:e2309881120. [PDF](#)
248. Flombaum, P., L. Vivanco, F. Cabrera, and O. E. Sala. 2024. Grassland Communities and Ecosystems. **Reference Module in Life Sciences**. Elsevier. Pages 382-390, [PDF](#)
247. Eldridge, D. J., and O. Sala. 2023. Australia’s carbon plan disregards evidence. **Science** **382**:894-894. [PDF](#)
246. Briske, D. D., S. R. Archer, E. Burchfield, W. Burnidge, J. D. Derner, H. Gosnell, J. Hatfield, C. E. Kazanski, M. Khalil, T. J. Lark, P. Nagler, O.E. Sala, N.F. Sayre, K.R.

- Stackhouse-Lawson. 2023. Supplying ecosystem services on US rangelands. **Nature Sustainability**:1-9. [PDF](#)
245. Isbell, F., P. Balvanera, A. S. Mori, J. S. He, J. M. Bullock, G. R. Regmi, E. W. Seabloom, S. Ferrier, O. E. Sala, and N. R. Guerrero-Ramírez. 2023. Expert perspectives on global biodiversity loss and its drivers and impacts on people. **Frontiers in Ecology and the Environment** 21 (2): 94-103. [PDF](#)
 244. Maestre, F. T., Y. Le Bagousse-Pinguet, M. Delgado-Baquerizo, D. J. Eldridge, H. Saiz, M. Berdugo, B. Gozalo, V. Ochoa, E. Guirado, et al. M. García-Gómez. 2022. Grazing and ecosystem service delivery in global drylands. **Science** 378:915-920. [PDF](#)
 243. Louw, N., L. A. Gherardi, O. E. Sala, and Y. A. Chung. Dryland soil mycobiome response to long-term precipitation variability depends on host type. 2022. **Journal of Ecology**. DOI: 10.1111/1365-2745.14006 [PDF](#)
 242. Garcia-Pichel, F., and O. Sala. 2022. Expanding the Pulse–Reserve Paradigm to Microorganisms on the Basis of Differential Reserve Management Strategies. **Bioscience** 72:638-650. [PDF](#)
 241. Currier, C. M., and O. E. Sala. 2022. Precipitation versus temperature as phenology controls in drylands. **Ecology**: e3793. [PDF](#)
 240. Brown, R. F., O. E. Sala, R. L. Sinsabaugh, and S. L. Collins. 2022. Temporal effects of monsoon rainfall pulses on plant available nitrogen in a Chihuahuan Desert grassland. **Journal of Geophysical Research: Biogeosciences** 127: 1-15. [PDF](#)
 239. Pérez-Ruiz, E. R., E. R. Vivoni, and O. E. Sala. 2022. Seasonal carryover of water and effects on carbon dynamics in a dryland ecosystem. **Ecosphere** 13: e4189. [PDF](#)
 238. Davis, A. R., K. R. Hultine, O. E. Sala, and H. L. Throop. 2022. Seedling responses to soil moisture amount versus pulse frequency in a successfully encroaching semi-arid shrub. **Oecologia**:1-11. [PDF](#)
 237. Sala, O.E. 2022. Open access is a misnomer. **Frontiers in Ecology and the Environment** 20 (2) 71-71. [PDF](#)
 236. Ankrom, K. E., A. L. Franco, S. J. Fonte, L. A. Gherardi, C. M. de Tomasel, C. Wepking, P. Guan, S. Cui, O. E. Sala, and D. H. Wall. 2022. Ecological maturity and stability of nematode communities in response to precipitation manipulations in grasslands. **Applied Soil Ecology** 170:104263. [PDF](#)
 235. Weber-Grullon, L., L. Gherardi, W. A. Rutherford, S. R. Archer, and O. E. Sala. 2022. Woody-plant encroachment: Precipitation, herbivory and grass-competition interact to affect shrub recruitment. **Ecological Applications** :e2536 [PDF](#)
 234. Franco, A., P. Guan, S. Cui, C. Tomasel, L. Gherardi, O. E. Sala, and D. H. Wall. 2022. Precipitation effects on nematode diversity and carbon footprint across grasslands. **Global Change Biology**. 28 (6) 2124-2132 [PDF](#)
 233. Hudson, A. R., D. P. Peters, J. M. Blair, D. L. Childers, P. T. Doran, K. Geil, M. Gooseff, K. L. Gross, N. M. Haddad, and M. A. Pastore. 2022. Cross-site comparisons of dryland ecosystem response to climate change in the US Long-Term Ecological Research Network. **Bioscience** 72:889-907. [PDF](#)

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