Emilio Rodriguez-Caballero

List of Publications by Year
in descending order

66 papers	2,695 citations	186209 28 h-index	197736 49 g-index
72 all docs	72 docs citations	72 times ranked	2055 citing authors

#	Article	IF	Citations
1	Dryland photoautotrophic soil surface communities endangered by global change. Nature Geoscience, 2018, 11, 185-189.	5.4	302
2	Effects of biological soil crusts on surface roughness and implications for runoff and erosion. Geomorphology, 2012, 145-146, 81-89.	1.1	188
3	Biological soil crusts accelerate the nitrogen cycle through large NO and HONO emissions in drylands. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15384-15389.	3.3	153
4	Biocrusts positively affect the soil water balance in semiarid ecosystems. Ecohydrology, 2016, 9, 1208-1221.	1.1	145
5	The pervasive and multifaceted influence of biocrusts on water in the world's drylands. Global Change Biology, 2020, 26, 6003-6014.	4.2	129
6	Effects of biocrust on soil erosion and organic carbon losses under natural rainfall. Catena, 2017, 148, 117-125.	2.2	125
7	Soil Loss and Runoff in Semiarid Ecosystems: A Complex Interaction Between Biological Soil Crusts, Micro-topography, and Hydrological Drivers. Ecosystems, 2013, 16, 529-546.	1.6	108
8	Towards a predictive framework for biocrust mediation of plant performance: A metaâ€analysis. Journal of Ecology, 2019, 107, 2789-2807.	1.9	92
9	What is a biocrust? A refined, contemporary definition for a broadening research community. Biological Reviews, 2022, 97, 1768-1785.	4.7	87
10	Runoff at contrasting scales in a semiarid ecosystem: A complex balance between biological soil crust features and rainfall characteristics. Journal of Hydrology, 2012, 452-453, 130-138.	2.3	81
11	Restoring soil functions by means of cyanobacteria inoculation: Importance of soil conditions and species selection. Land Degradation and Development, 2018, 29, 3184-3193.	1.8	79
12	Ecosystem services provided by biocrusts: From ecosystem functions to social values. Journal of Arid Environments, 2018, 159, 45-53.	1.2	67
13	Cross-scale interactions between surface components and rainfall properties. Non-linearities in the hydrological and erosive behavior of semiarid catchments. Journal of Hydrology, 2014, 517, 815-825.	2.3	63
14	Penetration resistance of biological soil crusts and its dynamics after crust removal: Relationships with runoff and soil detachment. Catena, 2015, 126, 164-172.	2.2	52
15	Advanced image processing methods as a tool to map and quantify different types of biological soil crust. ISPRS Journal of Photogrammetry and Remote Sensing, 2014, 90, 59-67.	4.9	47
16	Biological soil crust effects must be included to accurately model infiltration and erosion in drylands: An example from Tabernas Badlands. Geomorphology, 2015, 241, 331-342.	1.1	46
17	Importance of biocrusts in dryland monitoring using spectral indices. Remote Sensing of Environment, 2015, 170, 32-39.	4.6	46
18	Biological soil crusts in ecological restoration: emerging research and perspectives. Restoration Ecology, 2020, 28, S3.	1.4	46

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19	Water Regulation in Cyanobacterial Biocrusts from Drylands: Negative Impacts of Anthropogenic Disturbance. Water (Switzerland), 2020, 12, 720.	1.2	42
20	Dynamics of organic carbon losses by water erosion after biocrust removal. Journal of Hydrology and Hydromechanics, 2014, 62, 258-268.	0.7	41
21	Swelling of biocrusts upon wetting induces changes in surface micro-topography. Soil Biology and Biochemistry, 2015, 82, 107-111.	4.2	41
22	Soil CO2 exchange controlled by the interaction of biocrust successional stage and environmental variables in two semiarid ecosystems. Soil Biology and Biochemistry, 2018, 124, 11-23.	4.2	41
23	Land cover and its transformation in the backward trajectory footprint region of the Amazon Tall Tower Observatory. Atmospheric Chemistry and Physics, 2019, 19, 8425-8470.	1.9	41
24	Global cycling and climate effects of aeolian dust controlled by biological soil crusts. Nature Geoscience, 2022, 15, 458-463.	5.4	36
25	Transferability of multi- and hyperspectral optical biocrust indices. ISPRS Journal of Photogrammetry and Remote Sensing, 2017, 126, 94-107.	4.9	34
26	Runoff from biocrust: A vital resource for vegetation performance on Mediterranean steppes. Ecohydrology, 2018, 11, e1977.	1.1	34
27	Habitat-dependent composition of bacterial and fungal communities in biological soil crusts from Oman. Scientific Reports, 2019, 9, 6468.	1.6	34
28	Patterns of runoff and sediment production in response to land-use changes in an ungauged Mediterranean catchment. Journal of Hydrology, 2015, 531, 1054-1066.	2.3	33
29	Land degradation effects on composition of pioneering soil communities: An alternative successional sequence for dryland cyanobacterial biocrusts. Soil Biology and Biochemistry, 2020, 146, 107824.	4.2	28
30	Mask R-CNN and OBIA Fusion Improves the Segmentation of Scattered Vegetation in Very High-Resolution Optical Sensors. Sensors, 2021, 21, 320.	2.1	28
31	Insights into microbial involvement in desert varnish formation retrieved from metagenomic analysis. Environmental Microbiology Reports, 2018, 10, 264-271.	1.0	27
32	Biocrust landscapeâ€scale spatial distribution is strongly controlled by terrain attributes: Topographic thresholds for colonization in a semiarid badland system. Earth Surface Processes and Landforms, 2019, 44, 2771-2779.	1.2	27
33	A new adaptive method to filter terrestrial laser scanner point clouds using morphological filters and spectral information to conserve surface micro-topography. ISPRS Journal of Photogrammetry and Remote Sensing, 2016, 117, 141-148.	4.9	24
34	Spectral Response Analysis: An Indirect and Non-Destructive Methodology for the Chlorophyll Quantification of Biocrusts. Remote Sensing, 2019, 11, 1350.	1.8	24
35	The protective role of cyanobacteria on soil stability in two Aridisols in northeastern Iran. Geoderma Regional, 2019, 16, e00201.	0.9	23
36	Biomass assessment of microbial surface communities by means of hyperspectral remote sensing data. Science of the Total Environment, 2017, 586, 1287-1297.	3.9	22

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37	Biological soil crusts of the Succulent Karoo: a review. African Journal of Range and Forage Science, 2018, 35, 335-350.	0.6	20
38	Effect of water availability on induced cyanobacterial biocrust development. Catena, 2021, 197, 104988.	2.2	19
39	Non-rainfall water inputs: A key water source for biocrust carbon fixation. Science of the Total Environment, 2021, 792, 148299.	3.9	18
40	Vertical and lateral soil moisture patterns on a Mediterranean karst hillslope. Journal of Hydrology and Hydromechanics, 2016, 64, 209-217.	0.7	16
41	Temporal variability and time compression of sediment yield in small Mediterranean catchments: impacts for land and water management. Soil Use and Management, 2018, 34, 388-403.	2.6	16
42	Optical Remote Sensing for Soil Mapping and Monitoring. , 2017, , 87-125.		14
43	Water harvesting techniques based on terrain modification enhance vegetation survival in dryland restoration. Catena, 2018, 167, 319-326.	2.2	14
44	Effects of climate change and land use intensification on regional biological soil crust cover and composition in southern Africa. Geoderma, 2022, 406, 115508.	2.3	14
45	The first reintroduction project for mhorr gazelle (Nanger dama mhorr) into the wild: Knowledge and experience gained to support future conservation actions. Global Ecology and Conservation, 2019, 19, e00680.	1.0	13
46	Assessing the influence of soil abiotic and biotic factors on Nostoc commune inoculation success. Plant and Soil, 2019, 444, 57-70.	1.8	12
47	CaracterÃsticas de las costras fÃsicas y biolÃ³gicas del suelo con mayor influencia sobre la infiltraciÃ³n y la erosiÃ³n en ecosistemas semiÃ¡ridos. Pirineos, 2010, 165, 69-96.	0.6	11
48	Temporal dynamics of dryland soil CO2 efflux using high-frequency measurements: Patterns and dominant drivers among biocrust types, vegetation and bare soil. Geoderma, 2022, 405, 115404.	2.3	10
49	Mediterranean badlands: Their driving processes and climate change futures. Earth Surface Processes and Landforms, 2022, 47, 17-31.	1.2	9
50	Landslides on dry badlands: UAV images to identify the drivers controlling their unexpected occurrence on vegetated hillslopes. Journal of Arid Environments, 2021, 187, 104434.	1.2	8
51	Ecogeographical patterns in owl plumage colouration: Climate and vegetation cover predict global colour variation. Global Ecology and Biogeography, 2022, 31, 515-530.	2.7	7
52	Overview and Seasonality of PM10 and PM2.5 in Guayaquil, Ecuador. Aerosol Science and Engineering, 2021, 5, 499-515.	1.1	6
53	Biocrusts and catchment asymmetry in Tabernas Desert (Almeria, Spain). Geoderma, 2022, 406, 115526.	2.3	6
54	Identifying socialâ€“ecological gaps to promote biocrust conservation actions. Web Ecology, 2020, 20, 117-132.	0.4	6

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55	Non-Destructive Biomass Estimation in Mediterranean Alpha Steppes: Improving Traditional Methods for Measuring Dry and Green Fractions by Combining Proximal Remote Sensing Tools. Remote Sensing, 2021, 13, 2970.	1.8	5
56	Cryptogamic organisms are a substantial source and sink for volatile organic compounds in the Amazon region. Communications Earth & Environment, 2021, 2, .	2.6	5
57	Irrigated land expansion since 1985 in Southern Tunisia. Journal of African Earth Sciences, 2017, 129, 146-152.	0.9	4
58	Long-term hydrological monitoring in arid-semiarid AlmerÃa, SE Spain. What have we learned?. Cuadernos De Investigacion Geografica, 2018, 44, 581-600.	0.6	4
59	Runoff Generation in Badlands. , 2018, , 155-190.		3
60	Habitat requirements of the Mhorr gazelle: What does this species need to survive in the wild?. Global Ecology and Conservation, 2020, 24, e01389.	1.0	3
61	Design Optimization of Biocrust-Plant Spatial Configuration for Dry Ecosystem Restoration Using Water Redistribution and Erosion Models. Frontiers in Ecology and Evolution, 2022, 10, .	1.1	3
62	Biocrust restoration: a key tool to recover degraded arid ecosystem functioning. Ecosistemas, 2021, 30, 2236.	0.2	3
63	EvaluaciÃ³n de los diferentes Ãndices para cartografiar biocostras a partir de informaciÃ³n espectral. Revista De Teledeteccion, 2014, , 79.	0.6	2
64	Effects of Agricultural Use on Endangered Plant Taxa in Spain. Agriculture (Switzerland), 2021, 11, 1097.	1.4	2
65	Image analysis to qualify soil erodibility into a wind tunnel. Ciencia E Agrotecnologia, 2018, 42, 240-247.	1.5	1
66	Comment on â€˜Kidron, G. J. (2018). Biocrust research: A critical view on eight common hydrologicalâ€•related paradigms and dubious theses. Ecohydrology, e2061â€™. Ecohydrology, 2020, 13, e2215.	1.1	1