Diego D Miralles

List of Publications by Year
in descending order

113 papers	16,240 citations	28274 55 h-index	25787 108 g-index
198 all docs	198 docs citations	198 times ranked	12615 citing authors

#	Article	IF	Citations
1	GLEAMÂv3: satellite-based land evaporation and root-zone soil moisture. Geoscientific Model Development, 2017, 10, 1903-1925.	3.6	1,352
2	ERA5-Land: a state-of-the-art global reanalysis dataset for land applications. Earth System Science Data, 2021, 13, 4349-4383.	9.9	1,083
3	Global land-surface evaporation estimated from satellite-based observations. Hydrology and Earth System Sciences, 2011, 15, 453-469.	4.9	1,069
4	ESA CCI Soil Moisture for improved Earth system understanding: State-of-the art and future directions. Remote Sensing of Environment, 2017, 203, 185-215.	11.0	781
5	MSWEP: 3-hourly 0.25Â° global gridded precipitation (1979â€"2015) by merging gauge, satellite, and reanalysis data. Hydrology and Earth System Sciences, 2017, 21, 589-615.	4.9	742
6	Mega-heatwave temperatures due to combined soil desiccation and atmospheric heat accumulation. Nature Geoscience, 2014, 7, 345-349.	12.9	694
7	MSWEP V2 Global 3-Hourly 0.1Â° Precipitation: Methodology and Quantitative Assessment. Bulletin of the American Meteorological Society, 2019, 100, 473-500.	3.3	592
8	The future of evapotranspiration: Global requirements for ecosystem functioning, carbon and climate feedbacks, agricultural management, and water resources. Water Resources Research, 2017, 53, 2618-2626.	4.2	552
9	Landâ€"atmospheric feedbacks during droughts and heatwaves: state of the science and current challenges. Annals of the New York Academy of Sciences, 2019, 1436, 19-35.	3.8	407
10	Multi-decadal trends in global terrestrial evapotranspiration and its components. Scientific Reports, 2016, 6, 19124.	3.3	384
11	Magnitude and variability of land evaporation and its components at the global scale. Hydrology and Earth System Sciences, 2011, 15, 967-981.	4.9	335
12	The future of Earth observation in hydrology. Hydrology and Earth System Sciences, 2017, 21, 3879-3914.	4.9	313
13	Benchmark products for land evapotranspiration: LandFlux-EVAL multi-data set synthesis. Hydrology and Earth System Sciences, 2013, 17, 3707-3720.	4.9	310
14	Revisiting the contribution of transpiration to global terrestrial evapotranspiration. Geophysical Research Letters, 2017, 44, 2792-2801.	4.0	308
15	Reconciling spatial and temporal soil moisture effects on afternoon rainfall. Nature Communications, 2015, 6, 6443.	12.8	284
16	Satellites reveal contrasting responses of regional climate to the widespread greening of Earth. Science, 2017, 356, 1180-1184.	12.6	266
17	El NiÃ±oâ€"La NiÃ±a cycle and recent trends in continental evaporation. Nature Climate Change, 2014, 4, 122-126.	18.8	254
18	The WACMOS-ET project â€" PartÂ2: Evaluation of global terrestrial evaporation data sets. Hydrology and Earth System Sciences, 2016, 20, 823-842.	4.9	253

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19	Global canopy interception from satellite observations. Journal of Geophysical Research, 2010, 115, .	3.3	242
20	Globalâ€scale regionalization of hydrologic model parameters. Water Resources Research, 2016, 52, 3599-3622.	4.2	241
21	Soil moistureâ€temperature coupling: A multiscale observational analysis. Geophysical Research Letters, 2012, 39, .	4.0	212
22	Global patterns in base flow index and recession based on streamflow observations from 3394 catchments. Water Resources Research, 2013, 49, 7843-7863.	4.2	200
23	Recent increases in terrestrial carbon uptake at little cost to the water cycle. Nature Communications, 2017, 8, 110.	12.8	186
24	Estimating Spatial Sampling Errors in Coarse-Scale Soil Moisture Estimates Derived from Point-Scale Observations. Journal of Hydrometeorology, 2010, 11, 1423-1429.	1.9	180
25	Amplification of mega-heatwaves through heat torrents fuelled by upwind drought. Nature Geoscience, 2019, 12, 712-717.	12.9	168
26	State of the Climate in 2018. Bulletin of the American Meteorological Society, 2019, 100, Si-S306.	3.3	168
27	The WACMOS-ET project â€" PartÂ1: Tower-scale evaluation of four remote-sensing-based evapotranspiration algorithms. Hydrology and Earth System Sciences, 2016, 20, 803-822.	4.9	164
28	State of the Climate in 2017. Bulletin of the American Meteorological Society, 2018, 99, Si-S310.	3.3	160
29	A test of an optimal stomatal conductance scheme within the CABLE land surface model. Geoscientific Model Development, 2015, 8, 431-452.	3.6	156
30	Evaluation of 18 satellite- and model-based soil moisture products using in situ measurements from 826 sensors. Hydrology and Earth System Sciences, 2021, 25, 17-40.	4.9	156
31	Increased control of vegetation on global terrestrial energy fluxes. Nature Climate Change, 2020, 10, 356-362.	18.8	152
32	Reviews and syntheses: Turning the challenges of partitioning ecosystem evaporation and transpiration into opportunities. Biogeosciences, 2019, 16, 3747-3775.	3.3	150
33	State of the Climate in 2015. Bulletin of the American Meteorological Society, 2016, 97, Si-S275.	3.3	142
34	Vegetation anomalies caused by antecedent precipitation in most of the world. Environmental Research Letters, 2017, 12, 074016.	5.2	123
35	The GEWEX LandFlux project: evaluation of model evaporation using tower-based and globally gridded forcing data. Geoscientific Model Development, 2016, 9, 283-305.	3.6	119
36	Unraveling the influence of atmospheric evaporative demand on drought and its response to climate change. Wiley Interdisciplinary Reviews: Climate Change, 2020, 11, e632.	8.1	118

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37	A non-linear Granger-causality framework to investigate climateâ€“vegetation dynamics. Geoscientific Model Development, 2017, 10, 1945-1960.	3.6	110
38	Observational evidence for cloud cover enhancement over western European forests. Nature Communications, 2017, 8, 14065.	12.8	104
39	Water, Energy, and Carbon with Artificial Neural Networks (WECANN): a statistically based estimate of global surface turbulent fluxes and gross primary productivity using solar-induced fluorescence. Biogeosciences, 2017, 14, 4101-4124.	3.3	97
40	Partitioning of evapotranspiration in remote sensing-based models. Agricultural and Forest Meteorology, 2018, 260-261, 131-143.	4.8	91
41	Recent increasing frequency of compound summer drought and heatwaves in Southeast Brazil. Environmental Research Letters, 2021, 16, 034036.	5.2	88
42	Global Assessment of the Standardized Evapotranspiration Deficit Index (SEDI) for Drought Analysis and Monitoring. Journal of Climate, 2018, 31, 5371-5393.	3.2	86
43	Improving terrestrial evaporation estimates over continental Australia through assimilation of SMOS soil moisture. International Journal of Applied Earth Observation and Geoinformation, 2016, 48, 146-162.	2.8	85
44	A Quasi-Global Evaluation System for Satellite-Based Surface Soil Moisture Retrievals. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 2516-2527.	6.3	81
45	State of the Climate in 2014. Bulletin of the American Meteorological Society, 2015, 96, ES1-ES32.	3.3	78
46	Global and Regional Evaluation of Energy for Water. Environmental Science & Technology, 2016, 50, 9736-9745.	10.0	78
47	Agriculture intensifies soil moisture decline in Northern China. Scientific Reports, 2015, 5, 11261.	3.3	65
48	Drought self-propagation in drylands due to landâ€“atmosphere feedbacks. Nature Geoscience, 2022, 15, 262-268.	12.9	65
49	Evaluating the land-surface energy partitioning in ERA5. Geoscientific Model Development, 2020, 13, 4159-4181.	3.6	64
50	Land-surface controls on afternoon precipitation diagnosed from observational data: uncertainties and confounding factors. Atmospheric Chemistry and Physics, 2014, 14, 8343-8367.	4.9	63
51	Value of sun-induced chlorophyll fluorescence for quantifying hydrological states and fluxes: Current status and challenges. Agricultural and Forest Meteorology, 2020, 291, 108088.	4.8	62
52	Global Climate. Bulletin of the American Meteorological Society, 2020, 101, S9-S128.	3.3	61
53	A pan-African high-resolution drought index dataset. Earth System Science Data, 2020, 12, 753-769.	9.9	61
54	Response of evapotranspiration and water availability to changing climate and land cover on the Mongolian Plateau during the 21st century. Global and Planetary Change, 2013, 108, 85-99.	3.5	60

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55	Potential of solar-induced chlorophyll fluorescence to estimate transpiration in a temperate forest. Agricultural and Forest Meteorology, 2018, 252, 75-87.	4.8	59
56	Earth system data cubes unravel global multivariate dynamics. Earth System Dynamics, 2020, 11, 201-234.	7.1	59
57	Hourly potential evapotranspiration at 0.1Â° resolution for the global land surface from 1981-present. Scientific Data, 2021, 8, 224.	5.3	59
58	Potential evaporation at eddy-covariance sites across the globe. Hydrology and Earth System Sciences, 2019, 23, 925-948.	4.9	54
59	A mesic maximum in biological water use demarcates biome sensitivity to aridity shifts. Nature Ecology and Evolution, 2017, 1, 1883-1888.	7.8	53
60	Assimilation of global radar backscatter and radiometer brightness temperature observations to improve soil moisture and land evaporationÂestimates. Remote Sensing of Environment, 2017, 189, 194-210.	11.0	51
61	Soil Moistureâ€Temperature Coupling in a Set of Land Surface Models. Journal of Geophysical Research D: Atmospheres, 2018, 123, 1481-1498.	3.3	51
62	On the Use of the Term â€œEvapotranspirationâ€. Water Resources Research, 2020, 56, e2020WR028055.	4.2	51
63	Enhanced water use efficiency in global terrestrial ecosystems under increasing aerosol loadings. Agricultural and Forest Meteorology, 2017, 237-238, 39-49.	4.8	50
64	Assessing the relationship between microwave vegetation optical depth and gross primary production. International Journal of Applied Earth Observation and Geoinformation, 2018, 65, 79-91.	2.8	50
65	Greening drylands despite warming consistent with carbon dioxide fertilization effect. Global Change Biology, 2021, 27, 3336-3349.	9.5	50
66	Terrestrial evaporation response to modes of climate variability. Npj Climate and Atmospheric Science, 2018, 1, .	6.8	49
67	Contribution of water-limited ecoregions to their own supply of rainfall. Environmental Research Letters, 2016, 11, 124007.	5.2	47
68	An observation-constrained multi-physics WRF ensemble for simulating European mega heat waves. Geoscientific Model Development, 2015, 8, 2285-2298.	3.6	44
69	A deep learning-based hybrid model of global terrestrial evaporation. Nature Communications, 2022, 13, 1912.	12.8	44
70	Fifty years since Monteith's 1965 seminal paper: the emergence of global ecohydrology. Ecohydrology, 2014, 7, 897-902.	2.4	39
71	A carbon sink-driven approach to estimate gross primary production from microwave satellite observations. Remote Sensing of Environment, 2019, 229, 100-113.	11.0	36
72	Response of evapotranspiration and water availability to the changing climate in Northern Eurasia. Climatic Change, 2014, 126, 413-427.	3.6	35

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73	Sun-induced fluorescence closely linked to ecosystem transpiration as evidenced by satellite data and radiative transfer models. Remote Sensing of Environment, 2020, 249, 112030.	11.0	35
74	Exploring the Potential of Satellite Solar-Induced Fluorescence to Constrain Global Transpiration Estimates. Remote Sensing, 2019, 11, 413.	4.0	34
75	Estimating causal networks in biosphereâ€"atmosphere interaction with the PCMCI approach. Biogeosciences, 2020, 17, 1033-1061.	3.3	34
76	Enhanced canopy growth precedes senescence in 2005 and 2010 Amazonian droughts. Remote Sensing of Environment, 2018, 211, 26-37.	11.0	33
77	A Precipitation Recycling Network to Assess Freshwater Vulnerability: Challenging the Watershed Convention. Water Resources Research, 2019, 55, 9947-9961.	4.2	33
78	Relation between precipitation location and antecedent/subsequent soil moisture spatial patterns. Journal of Geophysical Research D: Atmospheres, 2017, 122, 6319-6328.	3.3	32
79	Closing the Water Cycle from Observations across Scales: Where Do We Stand?. Bulletin of the American Meteorological Society, 2021, 102, E1897-E1935.	3.3	31
80	Towards Estimating Land Evaporation at Field Scales Using GLEAM. Remote Sensing, 2018, 10, 1720.	4.0	30
81	MSWX: Global 3-Hourly 0.1Â° Bias-Corrected Meteorological Data Including Near-Real-Time Updates and Forecast Ensembles. Bulletin of the American Meteorological Society, 2022, 103, E710-E732.	3.3	30
82	Soil drought can mitigate deadly heat stress thanks to a reduction of air humidity. Science Advances, 2022, 8, eabe6653.	10.3	30
83	Sensitivity of Evapotranspiration Components in Remote Sensing-Based Models. Remote Sensing, 2018, 10, 1601.	4.0	28
84	Exploring the merging of the global land evaporation WACMOS-ET products based on local tower measurements. Hydrology and Earth System Sciences, 2018, 22, 4513-4533.	4.9	28
85	Wavelet correlations to reveal multiscale coupling in geophysical systems. Journal of Geophysical Research D: Atmospheres, 2015, 120, 7555-7572.	3.3	26
86	Evapotranspiration in Northern Eurasia: Impact of forcing uncertainties on terrestrial ecosystem model estimates. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2647-2660.	3.3	26
87	Response to Comment on â€œSatellites reveal contrasting responses of regional climate to the widespread greening of Earthâ€• Science, 2018, 360, .	12.6	22
88	Decoupling between ecosystem photosynthesis and transpiration: a last resort against overheating. Environmental Research Letters, 2022, 17, 044013.	5.2	22
89	Advances in the Remote Sensing of Terrestrial Evaporation. Remote Sensing, 2019, 11, 1138.	4.0	21
90	Budykoâ€Based Longâ€Term Water and Energy Balance Closure in Global Watersheds From Earth Observations. Water Resources Research, 2021, 57, e2020WR028658.	4.2	19

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91	Upgrading Landâ€Cover and Vegetation Seasonality in the ECMWF Coupled System: Verification With FLUXNET Sites, METEOSAT Satellite Land Surface Temperatures, and ERA5 Atmospheric Reanalysis. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034163.	3.3	17
92	Are Remote Sensing Evapotranspiration Models Reliable Across South American Ecoregions?. Water Resources Research, 2021, 57, e2020WR028752.	4.2	17
93	The influence of soil dry-out on the record-breaking hot 2013/2014 summer in Southeast Brazil. Scientific Reports, 2022, 12, 5836.	3.3	16
94	The uncertain role of rising atmospheric CO2 on global plant transpiration. Earth-Science Reviews, 2022, 230, 104055.	9.1	16
95	Atmospheric boundary layer dynamics from balloon soundings worldwide: CLASS4GL v1.0. Geoscientific Model Development, 2019, 12, 2139-2153.	3.6	15
96	Soil moisture signature in global weather balloon soundings. Npj Climate and Atmospheric Science, 2021, 4, .	6.8	15
97	Global soil moisture bimodality in satellite observations and climate models. Journal of Geophysical Research D: Atmospheres, 2017, 122, 4299-4311.	3.3	14
98	Global hydro-climatic biomes identified via multitask learning. Geoscientific Model Development, 2018, 11, 4139-4153.	3.6	14
99	A unified framework to estimate the origins of atmospheric moisture and heat using Lagrangian models. Geoscientific Model Development, 2022, 15, 1875-1898.	3.6	14
100	Sentinel-1 Backscatter Assimilation Using Support Vector Regression or the Water Cloud Model at European Soil Moisture Sites. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	13
101	Global biosphereâ€“climate interaction: a causal appraisal of observations and models over multiple temporal scales. Biogeosciences, 2019, 16, 4851-4874.	3.3	12
102	Vegetation greening concurs with increases in dry season water yield over the Upper Brahmaputra River basin. Journal of Hydrology, 2021, 603, 126981.	5.4	10
103	Relation between Convective Rainfall Properties and Antecedent Soil Moisture Heterogeneity Conditions in North Africa. Remote Sensing, 2018, 10, 969.	4.0	7
104	Atmospheric heat and moisture transport to energyâ€•and waterâ€limited ecosystems. Annals of the New York Academy of Sciences, 2020, 1472, 123-138.	3.8	6
105	Global-Scale Estimation of Land Surface Heat Fluxes from Space. , 2013, , 249-282.		5
106	Functional convergence of biosphereâ€“atmosphere interactions in response to meteorological conditions. Biogeosciences, 2021, 18, 2379-2404.	3.3	5
107	Impact of Drought on Isoprene Fluxes Assessed Using Field Data, Satellite-Based GLEAM Soil Moisture and HCHO Observations from OMI. Remote Sensing, 2022, 14, 2021.	4.0	5
108	Analyzing Granger Causality in Climate Data with Time Series Classification Methods. Lecture Notes in Computer Science, 2017, , 15-26.	1.3	4

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109	Characterizing the Response of Vegetation Cover to Water Limitation in Africa Using Geostationary Satellites. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	3
110	A non-linear data-driven approach to reveal global vegetation sensitivity to climate. , 2017, , .		2
111	Global climatic drivers of vegetation based on wavelet analysis. , 2017, , .		2
112	Investigating the control of ocean-atmospheric oscillations over global terrestrial evaporation using a simple supervised learning method. , 2017, , .		0
113	Cover Image, Volume 1436, Issue 1. Annals of the New York Academy of Sciences, 2019, 1436, i-i.	3.8	0