Ana M Tarquis

List of Publications by Year
in descending order

155 papers	3,135 citations	186254 28 h-index	214788 47 g-index
216 all docs	216 docs citations	216 times ranked	3056 citing authors

#	Article	IF	Citations
1	Observer-dependent variability of the thresholding step in the quantitative analysis of soil images and X-ray microtomography data. Geoderma, 2010, 157, 51-63.	5.1	151
2	Fractal and multifractal analysis of pore-scale images of soil. Journal of Hydrology, 2006, 322, 211-219.	5.4	135
3	Prehydration and Priming Treatments that Advance Germination also Increase the Rate of Deterioration of Lettuce Seeds. Journal of Experimental Botany, 1992, 43, 307-317.	4.8	134
4	Soil resources and element stocks in drylands to face global issues. Scientific Reports, 2018, 8, 13788.	3.3	126
5	Multifractal Analysis of Particle Size Distributions in Soil. Environmental Science & Technology, 1998, 32, 1176-1182.	10.0	95
6	Influence of pyrolysis temperature on composted sewage sludge biochar priming effect in a loamy soil. Chemosphere, 2013, 93, 668-676.	8.2	87
7	Multifractal analysis of the pore- and solid-phases in binary two-dimensional images of natural porous structures. Geoderma, 2006, 134, 318-326.	5.1	85
8	Factors driving the carbon mineralization priming effect in a sandy loam soil amended with different types of biochar. Solid Earth, 2014, 5, 585-594.	2.8	82
9	Effect of scanning and image reconstruction settings in X-ray computed microtomography on quality and segmentation of 3D soil images. Geoderma, 2013, 207-208, 154-165.	5.1	77
10	Comparison of gliding box and box-counting methods in soil image analysis. Geoderma, 2006, 134, 349-359.	5.1	69
11	The Effects of Priming and Ageing on Resistance to Deterioration of Tomato Seeds. Journal of Experimental Botany, 1989, 40, 593-598.	4.8	66
12	Integrated Fertilizer and Irrigation Management to Reduce Nitrate Leaching in Central Spain. Journal of Environmental Quality, 2000, 29, 1539-1547.	2.0	60
13	Risk identification of agricultural drought for sustainable Agroecosystems. Natural Hazards and Earth System Sciences, 2014, 14, 2435-2448.	3.6	54
14	Pore network complexity and thresholding of 3D soil images. Ecological Complexity, 2009, 6, 230-239.	2.9	51
15	Trends in climatic variables and future reference evapotranspiration in Duero Valley (Spain). Natural Hazards and Earth System Sciences, 2011, 11, 1795-1805.	3.6	51
16	A program for fractal and multifractal analysis of two-dimensional binary images: Computer algorithms versus mathematical theory. Geoderma, 2006, 134, 284-294.	5.1	47
17	Multiscaling analysis in a structured clay soil using 2D images. Journal of Hydrology, 2006, 322, 236-246.	5.4	47
18	An accurate evaluation of water availability in sub-arid Mediterranean watersheds through SWAT: Cega-Eresma-Adaja. Agricultural Water Management, 2019, 212, 211-225.	5.6	45

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19	Comparison of gliding box and box-counting methods in river network analysis. Nonlinear Processes in Geophysics, 2007, 14, 603-613.	1.3	44
20	A Population-based Threshold Model Describing the Relationship Between Germination Rates and Seed Deterioration. Journal of Experimental Botany, 1993, 44, 1225-1234.	4.8	42
21	Multifractal Analysis of Soil Surface Roughness. Vadose Zone Journal, 2008, 7, 512-520.	2.2	42
22	Multifractal analysis of 3D images of tillage soil. Geoderma, 2018, 311, 167-174.	5.1	38
23	Detection of pore space in CT soil images using artificial neural networks. Biogeosciences, 2011, 8, 279-288.	3.3	35
24	Assessing soil surface roughness decay during simulated rainfall by multifractal analysis. Nonlinear Processes in Geophysics, 2008, 15, 457-468.	1.3	33
25	The role of temperature in the seed germination of two species of theSolanum nigrumcomplex. Journal of Experimental Botany, 1997, 48, 2087-2093.	4.8	32
26	Nitrogen fertigation: An integrated agronomic and environmental study. Agricultural Water Management, 2013, 120, 46-55.	5.6	32
27	Evaluation of a combined drought indicator and its potential for agricultural drought prediction in southern Spain. Natural Hazards and Earth System Sciences, 2020, 20, 21-33.	3.6	32
28	Identification of pore spaces in 3D CT soil images using PFCM partitional clustering. Geoderma, 2014, 217-218, 90-101.	5.1	29
29	Agronomic concepts in water footprint assessment: A case of study in a fertirrigated melon crop under semiarid conditions. Agricultural Water Management, 2016, 170, 81-90.	5.6	29
30	Estimation of evapotranspiration by the Food and Agricultural Organization of the United Nations (FAO) Penmanâ€"Monteith temperature (PMT) and Hargreavesâ€"Samani (HS) models under temporal and spatial criteria â€" a case study in Duero basin (Spain). Natural Hazards and Earth System Sciences, 2020, 20, 859-875.	3.6	29
31	Soil and irrigation sustainability practices. Agricultural Water Management, 2013, 120, 1-4.	5.6	28
32	Modeling the Oleic Acid Content in Sunflower Oil. Agronomy Journal, 2003, 95, 329.	1.8	26
33	Soil porous system as heterogeneous complex network. Geoderma, 2010, 160, 13-21.	5.1	26
34	Influence of thresholding in mass and entropy dimension of 3-D soil images. Nonlinear Processes in Geophysics, 2008, 15, 881-891.	1.3	26
35	Multifractal analysis of tori destruction in a molecular Hamiltonian system. Physical Review E, 2001, 65, 016213.	2.1	25
36	On the entrainment coefficient in a forced plume: quantitative effects of source parameters. Nonlinear Processes in Geophysics, 2014, 21, 269-278.	1.3	25

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37	Spatial variability patterns of some Vertisol properties at a field scale using standardized data. Soil and Tillage Research, 2012, 120, 76-84.	5.6	24
38	Single‐and Multiscale Remote Sensing Techniques, Multifractals, and MODIS‐Derived Vegetation and Soil Moisture. Vadose Zone Journal, 2008, 7, 533-546.	2.2	23
39	Shadow analysis of soil surface roughness compared to the chain set method and direct measurement of micro-relief. Biogeosciences, 2010, 7, 2477-2487.	3.3	23
40	Application of multifractal analysis to the study of SAR features and oil spills on the ocean surface. Nonlinear Processes in Geophysics, 2014, 21, 439-450.	1.3	22
41	Scaling properties of binary and greyscale images in the context of X-ray soil tomography. Geoderma, 2020, 365, 114205.	5.1	22
42	Mathematical structures of biological and pedological taxonomies. Geoderma, 2006, 134, 360-372.	5.1	20
43	Nonlinear Geophysics: Why We Need It. Eos, 2009, 90, 455-456.	0.1	20
44	Scaling analysis of water retention curves for unsaturated sandy loam soils by using fractal geometry. European Journal of Soil Science, 2010, 61, 425-436.	3.9	20
45	An application of mathematical models to select the optimal alternative for an integral plan to desertification and erosion control (Chaco Area â€" Salta Province â€" Argentina). Biogeosciences, 2010, 7, 3421-3433.	3.3	20
46	Multifractal analysis in soil properties: Spatial signal versus mass distribution. Geoderma, 2017, 287, 54-65.	5.1	20
47	Using geographical information system to generate a drought risk map for rice cultivation: Case study in Babahoyo canton (Ecuador). Biosystems Engineering, 2018, 168, 26-41.	4.3	20
48	Quantifying a soil pore distribution from 3D images: Multifractal spectrum through wavelet approach. Geoderma, 2010, 155, 203-210.	5.1	19
49	Modeling the Oleic Acid Content in Sunflower Oil. Agronomy Journal, 2003, 95, 329-334.	1.8	17
50	Multiscaling of porous soils as heterogeneous complex networks. Nonlinear Processes in Geophysics, 2008, 15, 893-902.	1.3	17
51	Multiscale Soil Investigations: Physical Concepts and Mathematical Techniques. Vadose Zone Journal, 2008, 7, 453-455.	2.2	17
52	Growth dynamics and yield of melon as influenced by nitrogen fertilizer. Scientia Agricola, 2011, 68, 191-199.	1.2	17
53	SIMLIDAR â€" Simulation of LIDAR performance in artificially simulated orchards. Biosystems Engineering, 2012, 111, 72-82.	4.3	17
54	Multiscaling properties of soil images. Biosystems Engineering, 2018, 168, 133-141.	4.3	17

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55	Normalized Difference Vegetation Index Temporal Responses to Temperature and Precipitation in Arid Rangelands. Remote Sensing, 2021, 13, 840.	4.0	17
56	A universal multifractal description applied to precipitation patterns of the Ebro River Basin, Spain. Climate Research, 2010, 44, 17-25.	1.1	17
57	Nitrogen uptake dynamics, yield and quality as influenced by nitrogen fertilization in â€˜Piel de sapoâ€™ melon. Spanish Journal of Agricultural Research, 2012, 10, 756.	0.6	17
58	Wavelet analysis in a structured clay soil using 2-D images. Nonlinear Processes in Geophysics, 2007, 14, 425-434.	1.3	16
59	Multiscaling analysis of soil roughness variability. Geoderma, 2010, 160, 22-30.	5.1	16
60	Risk of Leaching in Soils Amended by Compost and Digestate from Municipal Solid Waste. Scientific World Journal, The, 2014, 2014, 1-8.	2.1	16
61	MULTIFRAC: An ImageJ plugin for multiscale characterization of 2D and 3D stack images. SoftwareX, 2020, 12, 100574.	2.6	16
62	Denitrification from an irrigated soil fertilized with pig slurry under Mediterranean conditions. Biology and Fertility of Soils, 2004, 40, 93-100.	4.3	15
63	Change of extreme rainfall indexes at Ebro River Basin. Natural Hazards and Earth System Sciences, 2012, 12, 2127-2137.	3.6	15
64	Preface &quot;Weather-related hazards and risks in agriculture&quot;. Natural Hazards and Earth System Sciences, 2013, 13, 2599-2603.	3.6	15
65	Preface: Environmental benefits of biochar. Solid Earth, 2014, 5, 1301-1303.	2.8	15
66	New segmentation method based on fractal properties using singularity maps. Geoderma, 2017, 287, 40-53.	5.1	15
67	Statistical analysis for satellite-index-based insurance to define damaged pasture thresholds. Natural Hazards and Earth System Sciences, 2019, 19, 1685-1702.	3.6	15
68	Wind pumps for irrigating greenhouse crops: Comparison in different socio-economical frameworks. Biosystems Engineering, 2014, 128, 21-28.	4.3	14
69	Experimental Study of Heat Transport in Fractured Network. Energy Procedia, 2015, 76, 273-281.	1.8	13
70	Homogenisation of a soil properties map by principal component analysis to define index agricultural insurance policies. Geoderma, 2018, 311, 149-158.	5.1	13
71	Transitioning European Protein-Rich Food Consumption and Production towards More Sustainable Patternsâ€"Strategies and Policy Suggestions. Sustainability, 2020, 12, 1962.	3.2	13
72	ACCURACY OF GENERALIZED DIMENSIONS ESTIMATED FROM GRAYSCALE IMAGES USING THE METHOD OF MOMENTS. Fractals, 2009, 17, 351-363.	3.7	12

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73	Multifractal and Levy-stable statistics of soil surface moisture distribution derived from 2D image analysis. Applied Mathematical Modelling, 2016, 40, 2384-2395.	4.2	12
74	Assessment of Drought Indexes on Different Time Scales: A Case in Semiarid Mediterranean Grasslands. Remote Sensing, 2022, 14, 565.	4.0	11
75	Modeling Dynamic Fragmentation of Soil. Vadose Zone Journal, 2009, 8, 197-201.	2.2	10
76	Fractal scaling of apparent soil moisture estimated from vertical planes of Vertisol pit images. Journal of Hydrology, 2012, 452-453, 205-212.	5.4	10
77	Mulch materials in processing tomato: a multivariate approach. Scientia Agricola, 2013, 70, 250-256.	1.2	10
78	Impacts of Land Use Changes on Soil Properties and Processes. Scientific World Journal, The, 2014, 2014, 1-2.	2.1	10
79	Singularity maps applied to a vegetation index. Biosystems Engineering, 2018, 168, 42-53.	4.3	10
80	Remote sensing in an index-based insurance design for hedging economic impacts on rice cultivation. Natural Hazards and Earth System Sciences, 2020, 20, 345-362.	3.6	10
81	Self-organizing map of soil properties in the context of hydrological modeling. Applied Mathematical Modelling, 2020, 88, 175-189.	4.2	10
82	Multiscaling analysis of Soil Water Content during irrigation events. Comparison between surface and subsurface drip irrigation. Geoderma, 2021, 382, 114777.	5.1	10
83	Faba bean canopy modelling with a parametric open L-system: a comparison with the Monsi and Saeki model. Field Crops Research, 1998, 58, 1-13.	5.1	9
84	Multiscale Entropy€based Analysis of Soil Transect Data. Vadose Zone Journal, 2008, 7, 563-569.	2.2	9
85	Efficiency Indexes for Melon Crop Optimization. Agronomy Journal, 2010, 102, 716-722.	1.8	9
86	Quantifying soil complexity using network models of soil porous structure. Nonlinear Processes in Geophysics, 2013, 20, 41-45.	1.3	9
87	Univariate and multivariate analysis on processing tomato quality under different mulches. Scientia Agricola, 2014, 71, 114-119.	1.2	9
88	Soil water balance correction due to light rainfall, dew and fog in Ebro river basin (Spain). Agricultural Water Management, 2016, 170, 61-67.	5.6	9
89	Scale and space dependencies of soil nitrogen variability. Nonlinear Processes in Geophysics, 2017, 24, 77-87.	1.3	9
90	Local 3D segmentation of soil pore space based on fractal properties using singularity maps. Geoderma, 2018, 311, 175-188.	5.1	9

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91	Assessing soil water content variability through active heat distributed fiber optic temperature sensing. Agricultural Water Management, 2019, 212, 193-202.	5.6	9
92	Multiscaling NDVI Series Analysis of Rainfed Cereal in Central Spain. Remote Sensing, 2021, 13, 568.	4.0	9
93	MCDM Methods for Territorial Services Planning in an Andine Rural Area. , 2006, , .		8
94	Impact of nitrogen uptake on field water balance in fertirrigated melon. Agricultural Water Management, 2013, 120, 56-63.	5.6	8
95	The use of wind pumps for greenhouse microirrigation: A case study for tomato in Cuba. Agricultural Water Management, 2013, 120, 107-114.	5.6	8
96	Spatial and radiometric characterization of multi-spectrum satellite images through multi-fractal analysis. Nonlinear Processes in Geophysics, 2017, 24, 141-155.	1.3	8
97	Review article: Risk management framework of environmental hazards and extremes in Mediterranean ecosystems. Natural Hazards and Earth System Sciences, 2021, 21, 1935-1954.	3.6	8
98	Enhancing LULC scenarios impact assessment in hydrological dynamics using participatory mapping protocols in semiarid regions. Science of the Total Environment, 2022, 803, 149906.	8.0	8
99	Recurrence plots for quantifying the vegetation indices dynamics in a semi-arid grassland. Geoderma, 2022, 406, 115488.	5.1	8
100	Preface "Modeling soil system: complexity under your feet". Biogeosciences, 2011, 8, 3139-3142.	3.3	7
101	Effects of tillage on variability in soil penetration resistance in an olive orchard. Soil Research, 2016, 54, 134.	1.1	7
102	Multiscaling properties on sequences of turbulent plumes images. Chaos, Solitons and Fractals, 2017, 105, 128-136.	5.1	7
103	Fallowing temporal patterns assessment in rainfed agricultural areas based on NDVI time series autocorrelation values. International Journal of Applied Earth Observation and Geoinformation, 2019, 82, 101890.	2.8	7
104	Agro-ecological variability effects on an index-based insurance design for extreme events. Geoderma, 2019, 337, 1341-1350.	5.1	7
105	Detection and quantification of pore, solid and gravel spaces in CT images of a 3D soil sample. Applied Mathematical Modelling, 2020, 85, 360-377.	4.2	7
106	Linking deforestation patterns to soil types: A multifractal approach. European Journal of Soil Science, 2021, 72, 635-655.	3.9	7
107	Phenology as accuracy metrics for vegetation index forecasting over Tunisian forest and cereal cover types. International Journal of Remote Sensing, 2021, 42, 4644-4671.	2.9	7
108	A new multifractal-based grain size distribution model. Geoderma, 2021, 404, 115294.	5.1	7

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109	Spatial Characterization of Landscapes through Multifractal Analysis of DEM. Scientific World Journal, The, 2014, 2014, 1-9.	2.1	6
110	Effect of increasing temperatures on cooling systems. A case of study: European greenhouse sector. Climatic Change, 2014, 123, 175-187.	3.6	6
111	Spatial Modeling of Rainfall Patterns over the Ebro River Basin Using Multifractality and Non-Parametric Statistical Techniques. Water (Switzerland), 2015, 7, 6204-6227.	2.7	6
112	Discrete multi-criteria methods for lands use and conservation planning on La Colacha in Arroyos Menores (RÃo Cuarto, Province of CÃ³rdoba, Argentina). Annals of Operations Research, 2016, 245, 315-336.	4.1	6
113	Scaling Characteristics of Soil Structure. Progress in Soil Science, 2018, , 155-193.	0.8	6
114	Detrended fluctuation analysis for spatial characterisation of landscapes. Biosystems Engineering, 2018, 168, 14-25.	4.3	6
115	Examining the sustainability and development challenge in agricultural-forest frontiers of the Amazon Basin through the eyes of locals. Natural Hazards and Earth System Sciences, 2020, 20, 797-813.	3.6	6
116	Generalized Structure Functions and Multifractal Detrended Fluctuation Analysis Applied to Vegetation Index Time Series: An Arid Rangeland Study. Entropy, 2021, 23, 576.	2.2	6
117	Droughts. , 2017, , 177-210.		6
118	Determination of the uptake and translocation of nitrogen applied at different growth stages of a melon crop (Cucumis melo L.) using 15N isotope. Scientia Horticulturae, 2011, 130, 541-550.	3.6	5
119	Variation in Spectral and Mass Dimension on Three-Dimensional Soil Image Processing. Soil Science, 2012, 177, 88-97.	0.9	5
120	Agricultural activity shapes the communication and migration patterns in Senegal. Chaos, 2016, 26, 065305.	2.5	5
121	Combining global and local scaling methods to detect soil pore space. Journal of Geochemical Exploration, 2018, 189, 72-84.	3.2	5
122	The Vegetationâ€"Climate System Complexity through Recurrence Analysis. Entropy, 2021, 23, 559.	2.2	5
123	Local Fractal Connections to Characterize the Spatial Processes of Deforestation in the Ecuadorian Amazon. Entropy, 2021, 23, 748.	2.2	5
124	Fractal Metrology for biogeosystems analysis. Biogeosciences, 2010, 7, 3799-3815.	3.3	4
125	Thermal time model ofSolanum sarrachoidesgermination. Seed Science Research, 2014, 24, 321-330.	1.7	4
126	Pore detection in 3â€D CT soil samples through an improved subâ€segmentation method. European Journal of Soil Science, 2019, 70, 66-82.	3.9	4

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127	RFSIZE: A BASIC Program to Estimate DNA FRagment Size with a Digitizer. Journal of Heredity, 1989, 80, 254-255.	2.4	3
128	&lt;i&gt;Preface&lt;/i&gt; &quot;Nonlinear and scaling processes in Hydrology and Soil Science&quot;. Nonlinear Processes in Geophysics, 2011, 18, 899-902.	1.3	3
129	Community Structure in a Soil Porous System. Soil Science, 2012, 177, 81-87.	0.9	3
130	An Analytical Approach to Assess the Influence of Expert Panel Answer on Decision Making: The Case of Sustainable Land Use in Ribadavia Banda Norte, Salta (Argentina). Sustainability, 2021, 13, 6705.	3.2	3
131	Fractal Analysis of Laplacian Pyramidal Filters Applied to Segmentation of Soil Images. Scientific World Journal, The, 2014, 2014, 1-13.	2.1	2
132	Engineering education on geosciences in a changing world. European Journal of Engineering Education, 2014, 39, 463-466.	2.3	2
133	Business Intelligence: New products development and supply chain systems in a SoSE perspective. , 2016, , .		2
134	Evaluation of extreme temperature events in northern Spain based on process control charts. Theoretical and Applied Climatology, 2018, 131, 1323-1335.	2.8	2
135	Application of generalized Hurst dimension rose plot in terrain altitude analysis. Applied Mathematical Modelling, 2020, 81, 624-640.	4.2	2
136	Investigating the effect of previous treatments on wheat biomass over multiple spatial frequencies. Biogeosciences, 2010, 7, 2739-2747.	3.3	2
137	Forecast of frost days based on monthly temperatures. Spanish Journal of Agricultural Research, 2009, 7, 513.	0.6	2
138	Preface: Remote sensing, modelling-based hazard and risk assessment, and management of agro-forested ecosystems. Natural Hazards and Earth System Sciences, 2021, 21, 3873-3877.	3.6	2
139	Corrigendum to "Analysis of hail damages and temperature series for peninsular Spain" published in Nat. Hazards Earth Syst. Sci., 11, 3415â€"3422, 2011. Natural Hazards and Earth System Sciences, 2012, 12, 51-51.	3.6	1
140	Foreword to â€˜Sustainable Soil Management and Organic Farmingâ€™. Soil Research, 2016, 54, i.	1.1	1
141	Normality of NDVI Time Series Under Scope: Case Study of Various Plant Types of Tunisia, A Mediterranean Country. , 2020, , .		1
142	Automatic identification of the area covered by acorn trees in the dehesa (pastureland) Extremadura of Spain. Computers and Electronics in Agriculture, 2020, 172, 105289.	7.7	1
143	Fractals as Pre-Processing Tool for Computational Intelligence Application. , 2007, , 193-212.		1
144	Starting Point on the Development of Environmental Risk Management Compe-tences: experiential learning. WPOM: Working Papers on Operations Management, 0, 8, 109.	1.1	1

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145	Index of Freezing Based on Time Series. , 1994, , 303-309.		1
146	Complexity of the Vegetation-Climate System Through Data Analysis. Studies in Computational Intelligence, 2021, , 609-619.	0.9	1
147	Global and local spreading rate estimation in forced plumes. European Journal of Mechanics, B/Fluids, 2022, 92, 203-214.	2.5	1
148	Comparison of Brans Promethee multicriteria decision method and Promethee modified by authors for the optimization of an erosion control integral plan in Chaco area in Salta province (Argentine). , 2009, , .		0
149	Mathematical Decision Theory Applied to Land Capability: A Case Study in the Community of Madrid. Journal of Environmental Quality, 2014, 43, 763-774.	2.0	0
150	Application of Decision Theory methods for a soil classification in the Community of Madrid (Spain). Annals of Operations Research, 2014, 219, 203-229.	4.1	0
151	Agricultural activity shapes the mobility patterns in Senegal. , 2016, , .		0
152	High level education on integrated water resources management for sustainable development. Journal of Technology and Science Education, 2019, 9, 295.	1.2	0
153	Recurrence techniques for the analysis of vegetation indices and climate anomalies: a study case in semiarid grasslands. , 2021, , .		0
154	RISK MANAGEMENT IN INFORMAL UNIVERSITY TECHNOLOGY TRANSFER IN GLOBAL SUPPLY CHAINS. , 2016, , .		0
155	Towards Understanding Complex Interactions of Normalized Difference Vegetation Index Measurements Network and Precipitation Gauges of Cereal Growth System. Studies in Computational Intelligence, 2021, , 620-626.	0.9	0