Ana M Tarquis

List of Publications by Citations

152 papers	2,349 citations	25 h-index	41 g-index
215 ext. papers	2,695 ext. citations	4.2 avg, IF	5.11 L-index

#	Paper	IF	Citations
152	Observer-dependent variability of the thresholding step in the quantitative analysis of soil images and X-ray microtomography data. *Geoderma*, **2010**, 157, 51-63	6.7	125
151	Fractal and multifractal analysis of pore-scale images of soil. *Journal of Hydrology*, **2006**, 322, 211-219	6	117
150	Prehydration and Priming Treatments that Advance Germination also Increase the Rate of Deterioration of Lettuce Seeds. *Journal of Experimental Botany*, **1992**, 43, 307-317	7	108
149	Multifractal Analysis of Particle Size Distributions in Soil. *Environmental Science & Technology*, **1998**, 32, 1176-1182	10.3	78
148	Influence of pyrolysis temperature on composted sewage sludge biochar priming effect in a loamy soil. *Chemosphere*, **2013**, 93, 668-76	8.4	73
147	Multifractal analysis of the pore- and solid-phases in binary two-dimensional images of natural porous structures. *Geoderma*, **2006**, 134, 318-326	6.7	73
146	Soil resources and element stocks in drylands to face global issues. *Scientific Reports*, **2018**, 8, 13788	4.9	69
145	Factors driving the carbon mineralization priming effect in a sandy loam soil amended with different types of biochar. *Solid Earth*, **2014**, 5, 585-594	3.3	65
144	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	6.7	58
143	Comparison of gliding box and box-counting methods in soil image analysis. *Geoderma*, **2006**, 134, 349-359	6.7	57
142	The Effects of Priming and Ageing on Resistance to Deterioration of Tomato Seeds. *Journal of Experimental Botany*, **1989**, 40, 593-598	7	55
141	Integrated Fertilizer and Irrigation Management to Reduce Nitrate Leaching in Central Spain. *Journal of Environmental Quality*, **2000**, 29, 1539-1547	3.4	47
140	Trends in climatic variables and future reference evapotranspiration in Duero Valley (Spain). *Natural Hazards and Earth System Sciences*, **2011**, 11, 1795-1805	3.9	44
139	Pore network complexity and thresholding of 3D soil images. *Ecological Complexity*, **2009**, 6, 230-239	2.6	41
138	A program for fractal and multifractal analysis of two-dimensional binary images: Computer algorithms versus mathematical theory. *Geoderma*, **2006**, 134, 284-294	6.7	41
137	Multiscaling analysis in a structured clay soil using 2D images. *Journal of Hydrology*, **2006**, 322, 236-246	6	39
136	Risk identification of agricultural drought for sustainable Agroecosystems. *Natural Hazards and Earth System Sciences*, **2014**, 14, 2435-2448	3.9	38

135	Multifractal Analysis of Soil Surface Roughness. *Vadose Zone Journal*, **2008**, 7, 512-520	2.7	38
134	Comparison of gliding box and box-counting methods in river network analysis. *Nonlinear Processes in Geophysics*, **2007**, 14, 603-613	2.9	37
133	Detection of pore space in CT soil images using artificial neural networks. *Biogeosciences*, **2011**, 8, 279-288	4.6	30
132	A Population-based Threshold Model Describing the Relationship Between Germination Rates and Seed Deterioration. *Journal of Experimental Botany*, **1993**, 44, 1225-1234	7	29
131	An accurate evaluation of water availability in sub-arid Mediterranean watersheds through SWAT: Cega-Eresma-Adaja. *Agricultural Water Management*, **2019**, 212, 211-225	5.9	29
130	Assessing soil surface roughness decay during simulated rainfall by multifractal analysis. *Nonlinear Processes in Geophysics*, **2008**, 15, 457-468	2.9	27
129	Modeling the Oleic Acid Content in Sunflower Oil. *Agronomy Journal*, **2003**, 95, 329	2.2	26
128	Soil and irrigation sustainability practices. *Agricultural Water Management*, **2013**, 120, 1-4	5.9	25
127	Influence of thresholding in mass and entropy dimension of 3-D soil images. *Nonlinear Processes in Geophysics*, **2008**, 15, 881-891	2.9	24
126	Identification of pore spaces in 3D CT soil images using PFCM partitional clustering. *Geoderma*, **2014**, 217-218, 90-101	6.7	23
125	Nitrogen fertigation: An integrated agronomic and environmental study. *Agricultural Water Management*, **2013**, 120, 46-55	5.9	23
124	The role of temperature in the seed germination of two species of theSolanum nigrumcomplex. *Journal of Experimental Botany*, **1997**, 48, 2087-2093	7	23
123	Multifractal analysis of 3D images of tillage soil. *Geoderma*, **2018**, 311, 167-174	6.7	22
122	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	5.9	21
121	Spatial variability patterns of some Vertisol properties at a field scale using standardized data. *Soil and Tillage Research*, **2012**, 120, 76-84	6.5	21
120	Soil porous system as heterogeneous complex network. *Geoderma*, **2010**, 160, 13-21	6.7	21
119	Multifractal analysis of tori destruction in a molecular Hamiltonian system. *Physical Review E*, **2002**, 65, 016213	2.4	21
118	Single- and Multiscale Remote Sensing Techniques, Multifractals, and MODIS-Derived Vegetation and Soil Moisture. *Vadose Zone Journal*, **2008**, 7, 533-546	2.7	20

117	Mathematical structures of biological and pedological taxonomies. *Geoderma*, **2006**, 134, 360-372	6.7	19
116	On the entrainment coefficient in a forced plume: quantitative effects of source parameters. *Nonlinear Processes in Geophysics*, **2014**, 21, 269-278	2.9	18
115	Multifractal analysis in soil properties: Spatial signal versus mass distribution. *Geoderma*, **2017**, 287, 54-66	6.7	17
114	Scaling analysis of water retention curves for unsaturated sandy loam soils by using fractal geometry. *European Journal of Soil Science*, **2010**, 61, 425-436	3.4	17
113	Quantifying a soil pore distribution from 3D images: Multifractal spectrum through wavelet approach. *Geoderma*, **2010**, 155, 203-210	6.7	17
112	Multiscaling of porous soils as heterogeneous complex networks. *Nonlinear Processes in Geophysics*, **2008**, 15, 893-902	2.9	17
111	A universal multifractal description applied to precipitation patterns of the Ebro River Basin, Spain. *Climate Research*, **2010**, 44, 17-25	1.6	17
110	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	2.9	16
109	Nonlinear Geophysics: Why We Need It. *Eos*, **2009**, 90, 455	1.5	16
108	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	3.9	16
107	SIMLIDAR Simulation of LIDAR performance in artificially simulated orchards. *Biosystems Engineering*, **2012**, 111, 72-82	4.8	15
106	An application of mathematical models to select the optimal alternative for an integral plan to desertification and erosion control (Chaco Area Salta Province Argentina). *Biogeosciences*, **2010**, 7, 3421-3433	4.6	15
105	Multiscaling analysis of soil roughness variability. *Geoderma*, **2010**, 160, 22-30	6.7	15
104	Estimation of evapotranspiration by the Food and Agricultural Organization of the United Nations (FAO) Penman Monteith temperature (PMT) and Hargreaves Samani (HS) models under temporal and spatial criteria a case study in Duero basin (Spain). *Natural Hazards and Earth System Sciences*, **2020**, 20, 859-875	3.9	15
103	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	4.8	14
102	Shadow analysis of soil surface roughness compared to the chain set method and direct measurement of micro-relief. *Biogeosciences*, **2010**, 7, 2477-2487	4.6	14
101	Denitrification from an irrigated soil fertilized with pig slurry under Mediterranean conditions. *Biology and Fertility of Soils*, **2004**, 40, 93-100	6.1	14
100	Change of extreme rainfall indexes at Ebro River Basin. *Natural Hazards and Earth System Sciences*, **2012**, 12, 2127-2137	3.9	13

99	Multiscale Soil Investigations: Physical Concepts and Mathematical Techniques. *Vadose Zone Journal*, **2008**, 7, 453-455	2.7	13
98	Wind pumps for irrigating greenhouse crops: Comparison in different socio-economical frameworks. *Biosystems Engineering*, **2014**, 128, 21-28	4.8	12
97	New segmentation method based on fractal properties using singularity maps. *Geoderma*, **2017**, 287, 40-53	6.7	12
96	Risk of leaching in soils amended by compost and digestate from municipal solid waste. *Scientific World Journal, The*, **2014**, 2014, 565174	2.2	12
95	Wavelet analysis in a structured clay soil using 2-D images. *Nonlinear Processes in Geophysics*, **2007**, 14, 425-434	2.9	12
94	Multifractal and Levy-stable statistics of soil surface moisture distribution derived from 2D image analysis. *Applied Mathematical Modelling*, **2016**, 40, 2384-2395	4.5	11
93	Preface: Environmental benefits of biochar. *Solid Earth*, **2014**, 5, 1301-1303	3.3	11
92	ACCURACY OF GENERALIZED DIMENSIONS ESTIMATED FROM GRAYSCALE IMAGES USING THE METHOD OF MOMENTS. *Fractals*, **2009**, 17, 351-363	3.2	11
91	Nitrogen uptake dynamics, yield and quality as influenced by nitrogen fertilization in Piel de sapo melon. *Spanish Journal of Agricultural Research*, **2012**, 10, 756	1.1	11
90	Multiscaling properties of soil images. *Biosystems Engineering*, **2018**, 168, 133-141	4.8	10
89	Preface "Weather-related hazards and risks in agriculture". *Natural Hazards and Earth System Sciences*, **2013**, 13, 2599-2603	3.9	10
88	Growth dynamics and yield of melon as influenced by nitrogen fertilizer. *Scientia Agricola*, **2011**, 68, 191-199	1.5	10
87	Modeling Dynamic Fragmentation of Soil. *Vadose Zone Journal*, **2009**, 8, 197-201	2.7	10
86	Homogenisation of a soil properties map by principal component analysis to define index agricultural insurance policies. *Geoderma*, **2018**, 311, 149-158	6.7	9
85	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	5.5	9
84	Transitioning European Protein-Rich Food Consumption and Production towards More Sustainable Patterns Strategies and Policy Suggestions. *Sustainability*, **2020**, 12, 1962	3.6	9
83	Scaling properties of binary and greyscale images in the context of X-ray soil tomography. *Geoderma*, **2020**, 365, 114205	6.7	8
82	Spatial and radiometric characterization of multi-spectrum satellite images through multi-fractal analysis. *Nonlinear Processes in Geophysics*, **2017**, 24, 141-155	2.9	8

81	Fractal scaling of apparent soil moisture estimated from vertical planes of Vertisol pit images. *Journal of Hydrology*, **2012**, 452-453, 205-212	6	8
80	Impact of nitrogen uptake on field water balance in fertirrigated melon. *Agricultural Water Management*, **2013**, 120, 56-63	5.9	8
79	Univariate and multivariate analysis on processing tomato quality under different mulches. *Scientia Agricola*, **2014**, 71, 114-119	2.5	8
78	Assessing soil water content variability through active heat distributed fiber optic temperature sensing. *Agricultural Water Management*, **2019**, 212, 193-202	5.9	8
77	Effects of tillage on variability in soil penetration resistance in an olive orchard. *Soil Research*, **2016**, 54, 134	1.8	7
76	Experimental Study of Heat Transport in Fractured Network. *Energy Procedia*, **2015**, 76, 273-281	2.3	7
75	Mulch materials in processing tomato: a multivariate approach. *Scientia Agricola*, **2013**, 70, 250-256	2.5	7
74	Efficiency Indexes for Melon Crop Optimization. *Agronomy Journal*, **2010**, 102, 716-722	2.2	7
73	Multiscale Entropy-based Analysis of Soil Transect Data. *Vadose Zone Journal*, **2008**, 7, 563-569	2.7	7
72	Normalized Difference Vegetation Index Temporal Responses to Temperature and Precipitation in Arid Rangelands. *Remote Sensing*, **2021**, 13, 840	5	7
71	Statistical analysis for satellite-index-based insurance to define damaged pasture thresholds. *Natural Hazards and Earth System Sciences*, **2019**, 19, 1685-1702	3.9	6
70	Local 3D segmentation of soil pore space based on fractal properties using singularity maps. *Geoderma*, **2018**, 311, 175-188	6.7	6
69	Soil water balance correction due to light rainfall, dew and fog in Ebro river basin (Spain). *Agricultural Water Management*, **2016**, 170, 61-67	5.9	6
68	Spatial Modeling of Rainfall Patterns over the Ebro River Basin Using Multifractality and Non-Parametric Statistical Techniques. *Water (Switzerland)*, **2015**, 7, 6204-6227	3	6
67	Quantifying soil complexity using network models of soil porous structure. *Nonlinear Processes in Geophysics*, **2013**, 20, 41-45	2.9	6
66	Preface "Modeling soil system: complexity under your feet". *Biogeosciences*, **2011**, 8, 3139-3142	4.2	6
65	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	7.3	5
64	Self-organizing map of soil properties in the context of hydrological modeling. *Applied Mathematical Modelling*, **2020**, 88, 175-189	4.5	5

63	Scaling Characteristics of Soil Structure. *Progress in Soil Science*, **2018**, 155-193		5
62	The use of wind pumps for greenhouse microirrigation: A case study for tomato in Cuba. *Agricultural Water Management*, **2013**, 120, 107-114	5.9	5
61	Scale and space dependencies of soil nitrogen variability. *Nonlinear Processes in Geophysics*, **2017**, 24, 77-87	2.9	5
60	Modeling the Oleic Acid Content in Sunflower Oil. *Agronomy Journal*, **2003**, 95, 329-334	2.2	5
59	Agro-ecological variability effects on an index-based insurance design for extreme events. *Geoderma*, **2019**, 337, 1341-1350	6.7	5
58	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	3.9	4
57	Combining global and local scaling methods to detect soil pore space. *Journal of Geochemical Exploration*, **2018**, 189, 72-84	3.8	4
56	Detrended fluctuation analysis for spatial characterisation of landscapes. *Biosystems Engineering*, **2018**, 168, 14-25	4.8	4
55	Singularity maps applied to a vegetation index. *Biosystems Engineering*, **2018**, 168, 42-53	4.8	4
54	Multiscaling properties on sequences of turbulent plumes images. *Chaos, Solitons and Fractals*, **2017**, 105, 128-136	9.3	4
53	Spatial characterization of landscapes through multifractal analysis of DEM. *Scientific World Journal, The*, **2014**, 2014, 563038	2.2	4
52	Variation in Spectral and Mass Dimension on Three-Dimensional Soil Image Processing. *Soil Science*, **2012**, 177, 88-97	0.9	4
51	MCDM Methods for Territorial Services Planning in an Andine Rural Area **2006**,		4
50	Droughts **2017**, 177-210		4
49	Agricultural activity shapes the communication and migration patterns in Senegal. *Chaos*, **2016**, 26, 065305	3.3	4
48	Multiscaling analysis of Soil Water Content during irrigation events. Comparison between surface and subsurface drip irrigation. *Geoderma*, **2021**, 382, 114777	6.7	4
47	Discrete multi-criteria methods for lands use and conservation planning on La Colacha in Arroyos Menores (Río Cuarto, Province of Córdoba, Argentina). *Annals of Operations Research*, **2016**, 245, 315-336	3.2	3
46	MULTIFRAC: An ImageJ plugin for multiscale characterization of 2D and 3D stack images. *SoftwareX*, **2020**, 12, 100574	2.7	3

45	Detection and quantification of pore, solid and gravel spaces in CT images of a 3D soil sample. *Applied Mathematical Modelling*, **2020**, 85, 360-377	4.5	3
44	Pore detection in 3-D CT soil samples through an improved sub-segmentation method. *European Journal of Soil Science*, **2019**, 70, 66-82	3.4	3
43	Effect of increasing temperatures on cooling systems. A case of study: European greenhouse sector. *Climatic Change*, **2014**, 123, 175-187	4.5	3
42	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	4.1	3
41	<i>Preface</i> "Nonlinear and scaling processes in Hydrology and Soil Science". *Nonlinear Processes in Geophysics*, **2011**, 18, 899-902	2.9	3
40	Fractal Metrology for biogeosystems analysis. *Biogeosciences*, **2010**, 7, 3799-3815	4.6	3
39	Shadow analysis of soil surface roughness compared to the chain set method and direct measurement of micro-relief		3
38	Factors driving carbon mineralization priming effect in a soil amended with different types of biochar		3
37	The Vegetation-Climate System Complexity through Recurrence Analysis. *Entropy*, **2021**, 23,	2.8	3
36	Generalized Structure Functions and Multifractal Detrended Fluctuation Analysis Applied to Vegetation Index Time Series: An Arid Rangeland Study. *Entropy*, **2021**, 23,	2.8	3
35	Multiscaling NDVI Series Analysis of Rainfed Cereal in Central Spain. *Remote Sensing*, **2021**, 13, 568	5	3
34	Enhancing LULC scenarios impact assessment in hydrological dynamics using participatory mapping protocols in semiarid regions. *Science of the Total Environment*, **2022**, 803, 149906	10.2	3
33	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	3.9	2
32	Application of generalized Hurst dimension rose plot in terrain altitude analysis. *Applied Mathematical Modelling*, **2020**, 81, 624-640	4.5	2
31	Engineering education on geosciences in a changing world. *European Journal of Engineering Education*, **2014**, 39, 463-466	1.5	2
30	Thermal time model of Solanum sarrachoides germination. *Seed Science Research*, **2014**, 24, 321-330	1.3	2
29	Community Structure in a Soil Porous System. *Soil Science*, **2012**, 177, 81-87	0.9	2
28	Introduction to Fractal Geometry, Fragmentation Processes and Multifractal Measures: Theory and Operational Aspects of their Application to Natural Systems **2008**, 11-67		2

27	Assessment of Drought Indexes on Different Time Scales: A Case in Semiarid Mediterranean Grasslands. *Remote Sensing*, **2022**, 14, 565	5	2
26	Investigating the effect of previous treatments on wheat biomass over multiple spatial frequencies. *Biogeosciences*, **2010**, 7, 2739-2747	4.6	2
25	Risk identification of agricultural drought for sustainable agroecosystems		2
24	Forecast of frost days based on monthly temperatures. *Spanish Journal of Agricultural Research*, **2009**, 7, 513	1.1	2
23	Phenology as accuracy metrics for vegetation index forecasting over Tunisian forest and cereal cover types. *International Journal of Remote Sensing*, **2021**, 42, 4644-4671	3.1	2
22	Review article: Risk management framework of environmental hazards and extremes in Mediterranean ecosystems. *Natural Hazards and Earth System Sciences*, **2021**, 21, 1935-1954	3.9	2
21	Local Fractal Connections to Characterize the Spatial Processes of Deforestation in the Ecuadorian Amazon. *Entropy*, **2021**, 23,	2.8	2
20	Business Intelligence: New products development and supply chain systems in a SoSE perspective **2016**,		2
19	Linking deforestation patterns to soil types: A multifractal approach. *European Journal of Soil Science*, **2021**, 72, 635-655	3.4	2
18	A new multifractal-based grain size distribution model. *Geoderma*, **2021**, 404, 115294	6.7	2
17	Automatic identification of the area covered by acorn trees in the dehesa (pastureland) Extremadura of Spain. *Computers and Electronics in Agriculture*, **2020**, 172, 105289	6.5	1
16	Evaluation of extreme temperature events in northern Spain based on process control charts. *Theoretical and Applied Climatology*, **2018**, 131, 1323-1335	3	1
15	Foreword to Sustainable Soil Management and Organic Farming *Soil Research*, **2016**, 54, i	1.8	1
14	Estimation of evapotranspiration by FAO Penman Monteith Temperature and Hargreaves Samani models under temporal and spatial criteria. A case study in Duero Basin (Spain) **2019**,		1
13	Starting Point on the Development of Environemental Risk Management Compe-tences: experiential learning. *WPOM: Working Papers on Operations Management*,8, 109	0.9	1
12	Complexity of the Vegetation-Climate System Through Data Analysis. *Studies in Computational Intelligence*, **2021**, 609-619	0.8	1
11	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	3.6	1
10	Recurrence plots for quantifying the vegetation indices dynamics in a semi-arid grassland. *Geoderma*, **2022**, 406, 115488	6.7	1

9	Fractals as Pre-Processing Tool for Computational Intelligence Application **2007**, 193-212		1
8	Fractal analysis of laplacian pyramidal filters applied to segmentation of soil images. *Scientific World Journal, The*, **2014**, 2014, 212897	2.2	0
7	Global and local spreading rate estimation in forced plumes. *European Journal of Mechanics, B/Fluids*, **2022**, 92, 203-214	2.4	0
6	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	3.9	0
5	Mathematical decision theory applied to land capability: a case study in the community of madrid. *Journal of Environmental Quality*, **2014**, 43, 763-74	3.4	
4	Application of Decision Theory methods for a soil classification in the Community of Madrid (Spain). *Annals of Operations Research*, **2014**, 219, 203-229	3.2	
3	RFSIZE: A BASIC Program to Estimate DNA FRagment Size with a Digitizer. *Journal of Heredity*, **1989** , 80, 254-255	2.4	
2	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	0.8	
1	Index of Freezing Based on Time Series **1994**, 303-309		