

Bas van Wesemael

List of Publications by Year in descending order

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134
papers

11,325
citations

28274

55
h-index

30087

103
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147
all docs

147
docs citations

147
times ranked

9903
citing authors

#	ARTICLE	IF	CITATIONS
1	High-resolution soil organic carbon mapping at the field scale in Southern Belgium (Wallonia). <i>Geoderma</i> , 2022, 422, 115929.	5.1	10
2	UAV Remote Sensing for Detecting within-Field Spatial Variation of Winter Wheat Growth and Links to Soil Properties and Historical Management Practices. A Case Study on Belgian Loamy Soil. <i>Remote Sensing</i> , 2022, 14, 2806.	4.0	7
3	Satellite Imagery to Map Topsoil Organic Carbon Content over Cultivated Areas: An Overview. <i>Remote Sensing</i> , 2022, 14, 2917.	4.0	25
4	High-Spectral Resolution Remote Sensing of Soil Organic Carbon Dynamics. <i>Remote Sensing</i> , 2021, 13, 1293.	4.0	2
5	Sentinel-2 Exposed Soil Composite for Soil Organic Carbon Prediction. <i>Remote Sensing</i> , 2021, 13, 1791.	4.0	29
6	Soil organic carbon estimation using VNIR–SWIR spectroscopy: The effect of multiple sensors and scanning conditions. <i>Soil and Tillage Research</i> , 2021, 211, 105017.	5.6	16
7	Evaluating the capability of a <scp>UAV</scp>-borne spectrometer for soil organic carbon mapping in bare croplands. <i>Land Degradation and Development</i> , 2021, 32, 4375-4389.	3.9	7
8	Estimation of Soil Organic Carbon Contents in Croplands of Bavaria from SCMaP Soil Reflectance Composites. <i>Remote Sensing</i> , 2021, 13, 3141.	4.0	22
9	A Simple Approach to Isolate Slow and Fast Cycling Organic Carbon Fractions in Central European Soils—Importance of Dispersion Method. <i>Frontiers in Soil Science</i> , 2021, 1, .	2.2	14
10	Earth Observation Data-Driven Cropland Soil Monitoring: A Review. <i>Remote Sensing</i> , 2021, 13, 4439.	4.0	28
11	Vis-NIR spectroscopic assessment of soil aggregate stability and aggregate size distribution in the Belgian Loam Belt. <i>Geoderma</i> , 2020, 357, 113958.	5.1	38
12	Short and long-term impact of urban gardening on soil organic carbon fractions in Lixisols (Burkina) Tj ETQq0 0 0 r gBT /Overlock 10 Tf 5	5.1	7
13	Large-Scale, High-Resolution Mapping of Soil Aggregate Stability in Croplands Using APEX Hyperspectral Imagery. <i>Remote Sensing</i> , 2020, 12, 666.	4.0	19
14	Soil Organic Carbon Mapping from Remote Sensing: The Effect of Crop Residues. <i>Remote Sensing</i> , 2020, 12, 1913.	4.0	28
15	Soil organic carbon storage as a key function of soils - A review of drivers and indicators at various scales. <i>Geoderma</i> , 2019, 333, 149-162.	5.1	944
16	<scp>CARBIOSOL</scp>: Biological indicators of soil quality and organic carbon in grasslands and croplands in Wallonia, Belgium. <i>Ecology</i> , 2019, 100, e02843.	3.2	1
17	Soil Organic Carbon Mapping Using LUCAS Topsoil Database and Sentinel-2 Data: An Approach to Reduce Soil Moisture and Crop Residue Effects. <i>Remote Sensing</i> , 2019, 11, 2121.	4.0	67
18	An indicator for organic matter dynamics in temperate agricultural soils. <i>Agriculture, Ecosystems and Environment</i> , 2019, 274, 62-75.	5.3	35

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19	Assessing the Performance of UAS-Compatible Multispectral and Hyperspectral Sensors for Soil Organic Carbon Prediction. Sustainability, 2019, 11, 1889.	3.2	32
20	Sampling Strategies for Soil Property Mapping Using Multispectral Sentinel-2 and Hyperspectral EnMAP Satellite Data. Remote Sensing, 2019, 11, 309.	4.0	25
21	Evaluating the capability of the Sentinel 2 data for soil organic carbon prediction in croplands. ISPRS Journal of Photogrammetry and Remote Sensing, 2019, 147, 267-282.	11.1	164
22	Rejoinder to Comments on Minasny et al., 2017 Soil carbon 4 per mille Geoderma 292, 59-86. Geoderma, 2018, 309, 124-129.	5.1	34
23	Determining RUSLE and C factors for stone bunds and trenches in rangeland and cropland, North Ethiopia. Land Degradation and Development, 2018, 29, 812-824.	3.9	38
24	Isolating organic carbon fractions with varying turnover rates in temperate agricultural soils – A comprehensive method comparison. Soil Biology and Biochemistry, 2018, 125, 10-26.	8.8	269
25	Soil Organic Carbon Estimation in Croplands by Hyperspectral Remote APEX Data Using the LUCAS Topsoil Database. Remote Sensing, 2018, 10, 153.	4.0	65
26	Defining a reference system for biological indicators of agricultural soil quality in Wallonia, Belgium. Ecological Indicators, 2018, 95, 568-578.	6.3	11
27	Soil carbon 4 per mille. Geoderma, 2017, 292, 59-86.	5.1	1,279
28	Mapping Soil Organic Carbon stocks and estimating uncertainties at the regional scale following a legacy sampling strategy (Southern Belgium, Wallonia). Geoderma Regional, 2017, 9, 73-86.	2.1	24
29	Effectiveness of Plants and Vegetation in Erosion Control and Restoration. SpringerBriefs in Environmental Science, 2017, , 79-104.	0.3	2
30	Synthesis and Application of Spatial Strategies for Use of Vegetation to Minimise Connectivity. SpringerBriefs in Environmental Science, 2017, , 105-124.	0.3	0
31	Mechanisms of Degradation and Identification of Connectivity and Erosion Hotspots. SpringerBriefs in Environmental Science, 2017, , 13-37.	0.3	5
32	Conditions for Growth of Plants. SpringerBriefs in Environmental Science, 2017, , 39-78.	0.3	1
33	Raman spectroscopy detection of biomolecules in biocrusts from differing environmental conditions. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2017, 171, 40-51.	3.9	18
34	Soil conservation in the 21st century: why we need smart agricultural intensification. Soil, 2017, 3, 45-59.	4.9	70
35	Temporal stability and patterns of runoff and runoff with different cover crops in an olive orchard (SW Andalusia, Spain). Catena, 2016, 147, 125-137.	5.0	25
36	Mapping mean total annual precipitation in Belgium, by investigating the scale of topographic control at the regional scale. Journal of Hydrology, 2016, 540, 96-105.	5.4	11

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37	UAS-based soil carbon mapping using VIS-NIR (480–1000 nm) multi-spectral imaging: Potential and limitations. <i>Geoderma</i> , 2016, 275, 55-66.	5.1	65
38	Changes in soil organic carbon pools along a chronosequence of land abandonment in southern Spain. <i>Geoderma</i> , 2016, 268, 14-21.	5.1	33
39	High resolution characterization of the soil organic carbon depth profile in a soil landscape affected by erosion. <i>Soil and Tillage Research</i> , 2016, 156, 185-193.	5.6	34
40	Evolution of the effectiveness of stone bunds and trenches in reducing runoff and soil loss in the semi-arid Ethiopian highlands. <i>Zeitschrift für Geomorphologie</i> , 2015, 59, 477-493.	0.8	65
41	Modelling the impact of agricultural management on soil carbon stocks at the regional scale: the role of lateral fluxes. <i>Global Change Biology</i> , 2015, 21, 3181-3192.	9.5	63
42	Constraining a coupled erosion and soil organic carbon model using hillslope-scale patterns of carbon stocks and pool composition. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2015, 120, 452-465.	3.0	15
43	Detecting and quantifying field-related spatial variation of soil organic carbon using mixed-effect models and airborne imagery. <i>Geoderma</i> , 2015, 259-260, 93-103.	5.1	15
44	Soil spectroscopy: an opportunity to be seized. <i>Global Change Biology</i> , 2015, 21, 10-11.	9.5	44
45	Effect of land abandonment on soil organic carbon fractions along a Mediterranean precipitation gradient. <i>Geoderma</i> , 2015, 249-250, 69-78.	5.1	49
46	Soil Spectroscopy: An Alternative to Wet Chemistry for Soil Monitoring. <i>Advances in Agronomy</i> , 2015, , 139-159.	5.2	288
47	A map of the topsoil organic carbon content of Europe generated by a generalized additive model. <i>European Journal of Soil Science</i> , 2015, 66, 121-134.	3.9	158
48	Soil carbon, multiple benefits. <i>Environmental Development</i> , 2015, 13, 33-38.	4.1	75
49	Spatial filtering of a legacy dataset to characterize relationships between soil organic carbon and soil texture. <i>Geoderma</i> , 2015, 237-238, 224-236.	5.1	9
50	Soil organic carbon evolution after land abandonment along a precipitation gradient in southern Spain. <i>Agriculture, Ecosystems and Environment</i> , 2015, 199, 114-123.	5.3	38
51	Batjes, N. H. 1996. Total carbon and nitrogen in the soils of the world. <i>European Journal of Soil Science</i> , 47, 151–163. <i>Commentary on the impact of Batjes (1996): by P.J. Loveland, F. Conen & B. van Wesemael</i> . <i>European Journal of Soil Science</i> , 2014, 65, 4-9.	3.9	14
52	Regional-scale characterization of the geomorphic control of the spatial distribution of soil organic carbon in cropland. <i>European Journal of Soil Science</i> , 2014, 65, 539-552.	3.9	11
53	Benefits of soil carbon: report on the outcomes of an international scientific committee on problems of the environment rapid assessment workshop. <i>Carbon Management</i> , 2014, 5, 185-192.	2.4	46
54	Sampling optimal calibration sets in soil infrared spectroscopy. <i>Geoderma</i> , 2014, 226-227, 140-150.	5.1	89

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55	Soil organic carbon assessment by field and airborne spectrometry in bare croplands: accounting for soil surface roughness. <i>Geoderma</i> , 2014, 226-227, 94-102.	5.1	39
56	Prediction of soil organic carbon content by diffuse reflectance spectroscopy using a local partial least square regression approach. <i>Soil Biology and Biochemistry</i> , 2014, 68, 337-347.	8.8	218
57	Current status, uncertainty and future needs in soil organic carbon monitoring. <i>Science of the Total Environment</i> , 2014, 468-469, 376-383.	8.0	171
58	Carbon associated with clay and fine silt as an indicator for SOC decadal evolution under different residue management practices. <i>Agriculture, Ecosystems and Environment</i> , 2014, 196, 1-9.	5.3	24
59	Prediction of soil organic carbon for different levels of soil moisture using Vis-NIR spectroscopy. <i>Geoderma</i> , 2013, 199, 37-42.	5.1	280
60	Effects of land use, slope gradient, and soil and water conservation structures on runoff and soil loss in semi-arid Northern Ethiopia. <i>Physical Geography</i> , 2013, 34, 236-259.	1.4	142
61	Evaluating the performance of reservoirs in semi-arid catchments of Tigray: Tradeoff between water harvesting and soil and water conservation. <i>Catena</i> , 2013, 110, 146-154.	5.0	24
62	Spatially-explicit regional-scale prediction of soil organic carbon stocks in cropland using environmental variables and mixed model approaches. <i>Geoderma</i> , 2013, 204-205, 31-42.	5.1	44
63	Temporal dynamics of bio-available Si fluxes in a temperate forested catchment (Meerdaal forest, Tj ETQq1 1 0.784314 rgBT /Overlock 10	3.5	11
64	Prediction of Soil Organic Carbon at the European Scale by Visible and Near InfraRed Reflectance Spectroscopy. <i>PLoS ONE</i> , 2013, 8, e66409.	2.5	295
65	Soil Organic Carbon Assessment at High Vertical Resolution using Closed-â€ Tube Sampling and Visâ€ NIR Spectroscopy. <i>Soil Science Society of America Journal</i> , 2013, 77, 1430-1435.	2.2	22
66	Soil Organic Carbon Predictions by Airborne Imaging Spectroscopy: Comparing Crossâ€ Validation and Validation. <i>Soil Science Society of America Journal</i> , 2012, 76, 2174-2183.	2.2	46
67	Discriminating soil crust type, development stage and degree of disturbance in semiarid environments from their spectral characteristics. <i>European Journal of Soil Science</i> , 2012, 63, 42-53.	3.9	54
68	Carbon cycling in eroding landscapes: geomorphic controls on soil organic C pool composition and C stabilization. <i>Global Change Biology</i> , 2012, 18, 2218-2232.	9.5	187
69	Low erosion rates measured for steep, sparsely vegetated catchments in southeast Spain. <i>Catena</i> , 2011, 84, 1-11.	5.0	87
70	Controls of infiltrationâ€ runoff processes in Mediterranean karst rangelands in SE Spain. <i>Catena</i> , 2011, 86, 98-109.	5.0	100
71	Natural and anthropogenic controls on soil erosion in the Internal Betic Cordillera (southeast) Tj ETQq1 1 0.784314 rgBT /Overlock 10	5.0	55
72	Amorphous silica analysis in terrestrial runoff samples. <i>Geoderma</i> , 2011, 167-168, 228-235.	5.1	17

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73	Soil Organic Carbon mapping of partially vegetated agricultural fields with imaging spectroscopy. International Journal of Applied Earth Observation and Geoinformation, 2011, 13, 81-88.	2.8	106
74	Spatial analysis of soil organic carbon evolution in Belgian croplands and grasslands, 1960-2006. Global Change Biology, 2011, 17, 466-479.	9.5	108
75	Temporal dynamics of soil organic carbon after land-use change in the temperate zone - carbon response functions as a model approach. Global Change Biology, 2011, 17, 2415-2427.	9.5	645
76	A trade-off between dissolved and amorphous silica transport during peak flow events (Scheldt river) Tj ETQq0 0 0 rgBT /Overlock 10 Tf catchments. Biogeochemistry, 2011, 106, 475-487.	3.5	22
77	How can soil monitoring networks be used to improve predictions of organic carbon pool dynamics and CO2 fluxes in agricultural soils?. Plant and Soil, 2011, 338, 247-259.	3.7	61
78	A comparison of management approaches to control muddy floods in central Belgium, northern France and southern England. Land Degradation and Development, 2010, 21, 322-335.	3.9	20
79	Historical land use change has lowered terrestrial silica mobilization. Nature Communications, 2010, 1, 129.	12.8	189
80	Measuring soil organic carbon in croplands at regional scale using airborne imaging spectroscopy. Geoderma, 2010, 158, 32-45.	5.1	236
81	Agricultural management explains historic changes in regional soil carbon stocks. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14926-14930.	7.1	148
82	Magnitude and sources of uncertainties in soil organic carbon (SOC) stock assessments at various scales. European Journal of Soil Science, 2009, 60, 723-739.	3.9	186
83	Changes in organic carbon distribution with depth in agricultural soils in northern Belgium, 1960-2006. Global Change Biology, 2009, 15, 2739-2750.	9.5	113
84	Driving forces of soil organic carbon evolution at the landscape and regional scale using data from a stratified soil monitoring. Global Change Biology, 2009, 15, 2981-3000.	9.5	77
85	Determining soil organic carbon for agricultural soils: a comparison between the Walkley & Black and the dry combustion methods (north Belgium). Soil Use and Management, 2009, 25, 346-353.	4.9	77
86	Abandonment of soil and water conservation structures in Mediterranean ecosystems. Catena, 2009, 76, 114-121.	5.0	57
87	Reliability of an expert-based runoff and erosion model: Application of STREAM to different environments. Catena, 2009, 78, 129-141.	5.0	31
88	Predicting runoff from semi-arid hillslopes as source areas for water harvesting in the Sierra de Gador, southeast Spain. Catena, 2009, 79, 83-92.	5.0	14
89	Modelling the three-dimensional spatial distribution of soil organic carbon (SOC) at the regional scale (Flanders, Belgium). Geoderma, 2009, 152, 43-52.	5.1	88
90	Improving Soil Organic Carbon (SOC) prediction by field spectrometry in bare cropland by reducing the disturbing effect of soil roughness. , 2009, , .		0

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91	Seasonal evolution of runoff generation on agricultural land in the Belgian loess belt and implications for muddy flood triggering. <i>Earth Surface Processes and Landforms</i> , 2008, 33, 1285-1301.	2.5	36
92	Organic carbon stocks and stock changes of forest biomass in Belgium derived from forest inventory data in a spatially explicit approach. <i>Annals of Forest Science</i> , 2008, 65, 604-604.	2.0	8
93	Assessing scale effects on modelled soil organic carbon contents as a result of land use change in Belgium. <i>Soil Use and Management</i> , 2008, 24, 8-18.	4.9	16
94	Soil organic carbon dynamics at the regional scale as influenced by land use history: a case study in forest soils from southern Belgium. <i>Soil Use and Management</i> , 2008, 24, 69-79.	4.9	33
95	Water harvesting potential in function of hillslope characteristics: A case study from the Sierra de Gador (Almeria province, south-east Spain). <i>Journal of Arid Environments</i> , 2008, 72, 1213-1231.	2.4	29
96	Development of spatial heterogeneity in vegetation and soil properties after land abandonment in a semi-arid ecosystem. <i>Journal of Arid Environments</i> , 2008, 72, 2082-2092.	2.4	121
97	Water availability in almond orchards on marl soils in southeast Spain: The role of evaporation and runoff. <i>Journal of Arid Environments</i> , 2008, 72, 2168-2178.	2.4	15
98	Soil organic carbon stock in the Belgian Ardennes as affected by afforestation and deforestation from 1868 to 2005. <i>Forest Ecology and Management</i> , 2008, 256, 1527-1539.	3.2	22
99	Laboratory, field and airborne spectroscopy for monitoring organic carbon content in agricultural soils. <i>Geoderma</i> , 2008, 144, 395-404.	5.1	227
100	A grassed waterway and earthen dams to control muddy floods from a cultivated catchment of the Belgian loess belt. <i>Geomorphology</i> , 2008, 100, 419-428.	2.6	43
101	Spatial and temporal variation of muddy floods in central Belgium, off-site impacts and potential control measures. <i>Catena</i> , 2007, 70, 443-454.	5.0	89
102	Regional assessment of soil organic carbon changes under agriculture in Southern Belgium (1955-2005). <i>Geoderma</i> , 2007, 141, 341-354.	5.1	141
103	Origin and type of rainfall for recharge of a karstic aquifer in the western Mediterranean: a case study from the Sierra de Gador-Campo de Dalias (southeast Spain). <i>Hydrological Processes</i> , 2007, 21, 359-368.	2.6	23
104	Variable carbon recovery of Walkley-Black analysis and implications for national soil organic carbon accounting. <i>European Journal of Soil Science</i> , 2007, 58, 1244-1253.	3.9	68
105	Projecting future N ₂ O emissions from agricultural soils in Belgium. <i>Global Change Biology</i> , 2007, 13, 18-27.	9.5	9
106	Effectiveness of erosion mitigation measures to prevent muddy floods: A case study in the Belgian loam belt. <i>Agriculture, Ecosystems and Environment</i> , 2007, 118, 149-158.	5.3	56
107	Spatial patterns of land degradation and their impacts on the water balance of rainfed treecrops: A case study in South East Spain. <i>Geoderma</i> , 2006, 133, 43-56.	5.1	46
108	Detection of Carbon Stock Change in Agricultural Soils Using Spectroscopic Techniques. <i>Soil Science Society of America Journal</i> , 2006, 70, 844-850.	2.2	103

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109	Modelling the evolution of regional carbon stocks in Belgian cropland soils. Canadian Journal of Soil Science, 2005, 85, 511-521.	1.2	18
110	Growing stock-based assessment of the carbon stock in the Belgian forest biomass. Annals of Forest Science, 2005, 62, 853-864.	2.0	45
111	Soil organic carbon changes in landscape units of Belgium between 1960 and 2000 with reference to 1990. Global Change Biology, 2005, 11, 2128-2140.	9.5	117
112	Estimating annual N ₂ O emissions from agricultural soils in temperate climates. Global Change Biology, 2005, 11, 1701-1711.	9.5	72
113	Carbon sequestration potential in European croplands has been overestimated. Global Change Biology, 2005, 11, 2153-2163.	9.5	138
114	Stocks and fluxes of soil organic carbon for landscape units in Belgium derived from heterogeneous data sets for 1990 and 2000. Geoderma, 2005, 127, 11-23.	5.1	85
115	Belgium's CO ₂ mitigation potential under improved cropland management. Agriculture, Ecosystems and Environment, 2004, 103, 101-116.	5.3	54
116	Soil organic and inorganic carbon contents of landscape units in Belgium derived using data from 1950 to 1970. Soil Use and Management, 2004, 20, 40-47.	4.9	68
117	The impact of soil properties and topography on drought vulnerability of rainfed cropping systems in southern Spain. Agriculture, Ecosystems and Environment, 2003, 94, 1-15.	5.3	26
118	Using stable isotope analysis ($\delta^{18}\text{O}$) to characterise the regional hydrology of the Sierra de Gador, south east Spain. Journal of Hydrology, 2002, 265, 43-55.	5.4	71
119	Carbon Sinks and Conserving Biodiversity. Science, 2001, 294, 2094-2095.	12.6	2
120	Spatial patterns of soil water balance on intensively cultivated hillslopes in a semi-arid environment: the impact of rock fragments and soil thickness. Hydrological Processes, 2000, 14, 1811-1828.	2.6	59
121	Evaporation losses from bare soils as influenced by cultivation techniques in semi-arid regions. Agricultural Water Management, 2000, 42, 355-369.	5.6	66
122	Fine-earth translocation by tillage in stony soils in the Guadalentin, south-east Spain: an investigation using caesium-1341 Paper presented at International Symposium on Tillage Translocation and Tillage Erosion held in conjunction with the 52nd Annual Conference of the Soil and Water Conservation Society, Toronto, Canada, 24-25 July, 1997.1. Soil and Tillage Research, 1999, 51, 279-301.	5.6	51
123	The effect of water vapour adsorption on soil moisture content under Mediterranean climatic conditions. Agricultural Water Management, 1998, 36, 157-168.	5.6	68
124	Variation of rock fragment cover and size along semiarid hillslopes: a case-study from southeast Spain. Geomorphology, 1998, 23, 323-335.	2.6	117
125	Collection and storage of runoff from hillslopes in a semi-arid environment: geomorphic and hydrologic aspects of the aljibe system in Almeria Province, Spain. Journal of Arid Environments, 1998, 40, 1-14.	2.4	46
126	Gravel mulching in vineyards of southern Switzerland. Soil and Tillage Research, 1998, 46, 51-59.	5.6	22

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127	Patterns of rock fragment cover generated by tillage erosion. <i>Geomorphology</i> , 1997, 18, 183-197.	2.6	166
128	Geomorphic threshold conditions for ephemeral gully incision. <i>Geomorphology</i> , 1996, 16, 161-173.	2.6	264
129	SURFACE ROUGHNESS EVOLUTION OF SOILS CONTAINING ROCK FRAGMENTS. <i>Earth Surface Processes and Landforms</i> , 1996, 21, 399-411.	2.5	34
130	Effects of rock fragments on physical degradation of cultivated soils by rainfall. <i>Soil and Tillage Research</i> , 1995, 33, 229-250.	5.6	67
131	Pedogenesis by clay dissolution on acid, low-grade metamorphic rocks under mediterranean forests in southern Tuscany (Italy). <i>Catena</i> , 1995, 24, 105-125.	5.0	7
132	Organic acids in a moder type humus profile under a mediterranean oak forest. <i>Geoderma</i> , 1993, 59, 75-88.	5.1	12
133	Litter decomposition and nutrient distribution in humus profiles in some mediterranean forests in southern Tuscany. <i>Forest Ecology and Management</i> , 1993, 57, 99-114.	3.2	53
134	Crusted microtopography on badland slopes in southeast Spain. <i>Catena</i> , 1987, 14, 131-144.	5.0	16