

# Pierre Soille

## List of Publications by Year in descending order

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Version: 2024-02-01

152  
papers

10,890  
citations

87723

38  
h-index

43802

91  
g-index

162  
all docs

162  
docs citations

162  
times ranked

9462  
citing authors

#	ARTICLE	IF	CITATIONS
1	Watersheds in digital spaces: an efficient algorithm based on immersion simulations. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1991, 13, 583-598.	9.7	4,392
2	Morphological Image Analysis. , 1999, , .		1,163
3	Morphological Image Analysis. , 2004, , .		537
4	Morphological segmentation of binary patterns. Pattern Recognition Letters, 2009, 30, 456-459.	2.6	404
5	A Global Human Settlement Layer From Optical HR/VHR RS Data: Concept and First Results. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2013, 6, 2102-2131.	2.3	338
6	Advances in mathematical morphology applied to geoscience and remote sensing. IEEE Transactions on Geoscience and Remote Sensing, 2002, 40, 2042-2055.	2.7	267
7	Constrained connectivity for hierarchical image partitioning and simplification. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2008, 30, 1132-1145.	9.7	184
8	Mapping landscape corridors. Ecological Indicators, 2007, 7, 481-488.	2.6	155
9	Assessment of the Added-Value of Sentinel-2 for Detecting Built-up Areas. Remote Sensing, 2016, 8, 299.	1.8	145
10	Directional morphological filtering. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2001, 23, 1313-1329.	9.7	137
11	Carving and adaptive drainage enforcement of grid digital elevation models. Water Resources Research, 2003, 39, .	1.7	125
12	Information extraction from very high resolution satellite imagery over Lukole refugee camp, Tanzania. International Journal of Remote Sensing, 2003, 24, 4251-4266.	1.3	108
13	Automated global delineation of human settlements from 40 years of Landsat satellite data archives. Big Earth Data, 2019, 3, 140-169.	2.0	106
14	Morphological gradients. Journal of Electronic Imaging, 1993, 2, 326.	0.5	102
15	On the Validity of Fractal Dimension Measurements in Image Analysis. Journal of Visual Communication and Image Representation, 1996, 7, 217-229.	1.7	102
16	A versatile data-intensive computing platform for information retrieval from big geospatial data. Future Generation Computer Systems, 2018, 81, 30-40.	4.9	102
17	Recursive implementation of erosions and dilations along discrete lines at arbitrary angles. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1996, 18, 562-567.	9.7	99
18	Periodic lines: Definition, cascades, and application to granulometries. Pattern Recognition Letters, 1996, 17, 1057-1063.	2.6	96

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19	Big earth data analytics on Sentinel-1 and Landsat imagery in support to global human settlements mapping. <i>Big Earth Data</i> , 2017, 1, 118-144.	2.0	96
20	An Efficient Algorithm for Drainage Network Extraction on DEMs. <i>Journal of Visual Communication and Image Representation</i> , 1994, 5, 181-189.	1.7	79
21	<title>Determining watersheds in digital pictures via flooding simulations</title>. , 1990, , .		75
22	Morphological image compositing. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2006, 28, 673-683.	9.7	74
23	Generalized geodesy via geodesic time. <i>Pattern Recognition Letters</i> , 1994, 15, 1235-1240.	2.6	73
24	Convolutional neural networks for global human settlements mapping from Sentinel-2 satellite imagery. <i>Neural Computing and Applications</i> , 2021, 33, 6697-6720.	3.2	72
25	Optimal removal of spurious pits in grid digital elevation models. <i>Water Resources Research</i> , 2004, 40, .	1.7	71
26	Development of a pan-European River and Catchment Database. <i>Lecture Notes in Geoinformation and Cartography</i> , 2007, , 121-144.	0.5	68
27	On morphological operators based on rank filters. <i>Pattern Recognition</i> , 2002, 35, 527-535.	5.1	67
28	Spatial distributions from contour lines: An efficient methodology based on distance transformations. <i>Journal of Visual Communication and Image Representation</i> , 1991, 2, 138-150.	1.7	58
29	Change Detection Based on Information Measure. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2011, 49, 4503-4515.	2.7	56
30	Chapter 4 Preparation of DEMs for Geomorphometric Analysis. <i>Developments in Soil Science</i> , 2009, , 87-120.	0.5	53
31	Order independent homotopic thinning for binary and grey tone anchored skeletons. <i>Pattern Recognition Letters</i> , 2002, 23, 687-702.	2.6	52
32	Deriving river networks and catchments at the European scale from medium resolution digital elevation data. <i>Catena</i> , 2007, 70, 296-305.	2.2	52
33	Edge-preserving smoothing using a similarity measure in adaptive geodesic neighbourhoods. <i>Pattern Recognition</i> , 2009, 42, 2306-2316.	5.1	51
34	Beyond self-duality in morphological image analysis. <i>Image and Vision Computing</i> , 2005, 23, 249-257.	2.7	50
35	Neutral model analysis of landscape patterns from mathematical morphology. <i>Landscape Ecology</i> , 2007, 22, 1033-1043.	1.9	50
36	Morphological image analysis applied to crop field mapping. <i>Image and Vision Computing</i> , 2000, 18, 1025-1032.	2.7	45

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37	A New European Settlement Map From Optical Remotely Sensed Data. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2016, 9, 1978-1992.	2.3	45
38	Landscape patterns from mathematical morphology on maps with contagion. Landscape Ecology, 2009, 24, 699-709.	1.9	42
39	Differential Area Profiles: Decomposition Properties and Efficient Computation. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2012, 34, 1533-1548.	9.7	42
40	Morphological partitioning of multispectral images. Journal of Electronic Imaging, 1996, 5, 252.	0.5	41
41	Morphological Texture Features for Unsupervised and Supervised Segmentations of Natural Landscapes. IEEE Transactions on Geoscience and Remote Sensing, 2007, 45, 1074-1083.	2.7	41
42	Mass Processing of Sentinel-1 Images for Maritime Surveillance. Remote Sensing, 2017, 9, 678.	1.8	39
43	Enumeration of Dwellings in Darfur Camps From GeoEye-1 Satellite Images Using Mathematical Morphology. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2011, 4, 8-15.	2.3	38
44	A global cloud free pixel-based image composite from Sentinel-2 data. Data in Brief, 2020, 31, 105737.	0.5	34
45	Extracting building stock information from optical satellite imagery for mapping earthquake exposure and its vulnerability. Natural Hazards, 2013, 68, 79-95.	1.6	32
46	Morphological carving. Pattern Recognition Letters, 2004, 25, 543-550.	2.6	30
47	Tree ring area measurements using morphological image analysis. Canadian Journal of Forest Research, 2001, 31, 1074-1083.	0.8	29
48	Iterative area filtering of multichannel images. Image and Vision Computing, 2007, 25, 1352-1364.	2.7	28
49	Evaluation of the Potential of Convolutional Neural Networks and Random Forests for Multi-Class Segmentation of Sentinel-2 Imagery. Remote Sensing, 2019, 11, 907.	1.8	28
50	Global Human Settlement Analysis for Disaster Risk Reduction. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XL-7/W3, 837-843.	0.2	27
51	Advances in the Analysis of Topographic Features on Discrete Images. Lecture Notes in Computer Science, 2002, , 175-186.	1.0	25
52	Optimizing Sentinel-2 image selection in a Big Data context. Big Earth Data, 2017, 1, 145-158.	2.0	23
53	Dimensionality in image analysis. Journal of Visual Communication and Image Representation, 1992, 3, 137-146.	1.7	22
54	Morphologische Bildverarbeitung. , 1998, , .		22

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55	Constrained Connectivity and Transition Regions. Lecture Notes in Computer Science, 2009, , 59-69.	1.0	21
56	Monitoring changes in the Menik Farm IDP camps in Sri Lanka using multi-temporal very high-resolution satellite data. International Journal of Digital Earth, 2011, 4, 91-106.	1.6	20
57	Local Mutual Information for Dissimilarity-Based Image Segmentation. Journal of Mathematical Imaging and Vision, 2014, 48, 625-644.	0.8	20
58	Erosion and Dilation. , 2004, , 63-103.		20
59	Opening and Closing. , 2004, , 105-137.		20
60	Constrained connectivity for the processing of very-high-resolution satellite images. International Journal of Remote Sensing, 2010, 31, 5879-5893.	1.3	17
61	On Genuine Connectivity Relations Based on Logical Predicates. , 2007, , .		14
62	Automated morphological image composition for mosaicing large image data sets. , 2007, , .		13
63	Characterizing and Counting Roofless Buildings in Very High Resolution Optical Images. IEEE Geoscience and Remote Sensing Letters, 2012, 9, 114-118.	1.4	12
64	Influence of pit removal methods on river network position. Hydrological Processes, 2012, 26, 1984-1990.	1.1	12
65	Image structure orientation using mathematical morphology. , 0, , .		11
66	Real-time Registration of Paper Watermarks. Real Time Imaging, 2001, 7, 367-380.	1.6	11
67	On Morphological Hierarchical Representations for Image Processing and Spatial Data Clustering. Lecture Notes in Computer Science, 2012, , 43-67.	1.0	11
68	Morphological phase unwrapping. Optics and Lasers in Engineering, 1999, 32, 339-352.	2.0	10
69	A probabilistic approach to river network detection in digital elevation models. Catena, 2011, 87, 341-350.	2.2	10
70	Opening and Closing. , 1999, , 89-127.		10
71	Extraction of River Networks from Satellite Images by Combining Mathematical Morphology and Hydrology. Lecture Notes in Computer Science, 2007, , 636-644.	1.0	9
72	Differential Area Profiles. , 2010, , .		9

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73	Conditional Toggle Mappings: Principles and Applications. Journal of Mathematical Imaging and Vision, 2014, 48, 544-565.	0.8	9
74	Application of the Symbolic Machine Learning to Copernicus VHR Imagery: The European Settlement Map. IEEE Geoscience and Remote Sensing Letters, 2020, 17, 1153-1157.	1.4	9
75	Morphological Texture Analysis: An Introduction. Lecture Notes in Physics, 2002, , 215-237.	0.3	9
76	Order Independent Homotopic Thinning. Lecture Notes in Computer Science, 1999, , 337-346.	1.0	9
77	Preventing Chaining through Transitions While Favouing It within Homogeneous Regions. Lecture Notes in Computer Science, 2011, , 96-107.	1.0	9
78	A new built-up presence index based on density of corners. , 2012, , .		8
79	A Special Issue on Big Data from Space for Geoscience and Remote Sensing [From the Guest Editors]. IEEE Geoscience and Remote Sensing Magazine, 2016, 4, 7-9.	4.9	8
80	Morphological gradients. , 1992, 1658, 139.		7
81	Extraction of grid patterns on stamped metal sheets using mathematical morphology. , 0, , .		7
82	<title>Dimensionality of morphological operators and cluster analysis</title>. , 1993, , .		7
83	From Binary to Grey Scale Convex Hulls. Fundamenta Informaticae, 2000, 41, 131-146.	0.3	7
84	Order Independent Image Compositing. Lecture Notes in Computer Science, 2005, , 1076-1083.	1.0	7
85	An interactive image mining tool handling gigapixel images. , 2011, , .		7
86	Mosaicking Copernicus Sentinel-1 Data at Global Scale. IEEE Transactions on Big Data, 2020, 6, 547-557.	4.4	7
87	Advances in Constrained Connectivity. , 2008, , 423-433.		7
88	Erosion and Dilation. , 1999, , 49-88.		7
89	Adaptive Morphological Filtering Using Similarities Based on Geodesic Time. , 2008, , 519-528.		7
90	Digital Surface Model Extraction and Re nement through Image Segmentation - Application to the ISPRS Benchmark Stereo Dataset. Photogrammetrie, Fernerkundung, Geoinformation, 2012, 2012, 317-329.	1.2	6

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91	Background Notions. , 2004, , 15-62.		6
92	Hit-or-miss and Skeletons. , 2004, , 139-182.		6
93	Automatic information retrieval from meter and sub-meter resolution satellite image data in support to crisis management. , 2010, , .		5
94	Differential Morphological Decomposition Segmentation: A Multi-Scale Object Based Image Description. , 2010, , .		5
95	An automated procedure for detection of IDP's dwellings using VHR satellite imagery. , 2011, , .		5
96	Concurrent Computation of Differential Morphological Profiles on Giga-Pixel Images. Lecture Notes in Computer Science, 2011, , 331-342.	1.0	5
97	pyjeo: A Python Package for the Analysis of Geospatial Data. ISPRS International Journal of Geo-Information, 2019, 8, 461.	1.4	5
98	SatImNet: Structured and Harmonised Training Data for Enhanced Satellite Imagery Classification. Remote Sensing, 2020, 12, 3358.	1.8	5
99	Iterative Area Seeded Region Growing for Multichannel Image Simplification. , 2005, , 397-406.		5
100	Morphological Operators with Discrete Line Segments. Lecture Notes in Computer Science, 2000, , 78-98.	1.0	5
101	Order Independence in Binary 2D Homotopic Thinning. Lecture Notes in Computer Science, 2006, , 592-604.	1.0	5
102	Geodesic Transformations. , 1999, , 155-183.		5
103	Dimensional measurements and operators in mathematical morphology. , 1992, , .		4
104	Edge extraction by statistical dependence analysis: application to multi-angular WorldView-2 series. , 2012, , .		4
105	From Mathematical Morphology to Morphological Terrain Features. , 2007, , 45-66.		4
106	Fast Algorithm for Order Independent Binary Homotopic Thinning. Lecture Notes in Computer Science, 2007, , 606-615.	1.0	4
107	Improved Morphological Interpolation of Elevation Contour Data with Generalised Geodesic Propagations. Lecture Notes in Computer Science, 2007, , 742-750.	1.0	4
108	A European Landscape Stratification Reflecting Drainage Density. , 2003, , 95-110.		4

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109	Post-Event Damage Assessment Using Morphological Methodology on 0.5m Resolution Satellite Data. European Journal of Remote Sensing, 2010, , 37-47.	0.2	4
110	Can satellite images provide useful information on refugee camps?. International Journal of Remote Sensing, 2003, 24, 4249-4250.	1.3	3
111	On the Morphological Processing of Objects with Varying Local Contrast. Lecture Notes in Computer Science, 2003, , 52-61.	1.0	3
112	Adaptive Mosaicing: Principle and Application to the Mosaicing of Large Image Data Sets. Lecture Notes in Computer Science, 2007, , 500-507.	1.0	3
113	Woody vegetation increase in Alpine areas: a proposal for a classification and validation scheme. International Journal of Remote Sensing, 2007, 28, 143-166.	1.3	3
114	Morphological Refinement of an Image Segmentation. Lecture Notes in Computer Science, 2005, , 538-545.	1.0	3
115	Image Filtering Based on Locally Estimated Geodesic Functions. Communications in Computer and Information Science, 2009, , 123-134.	0.4	3
116	Geodesic Transformations. , 2004, , 183-218.		3
117	Periodic Lines and their Application to Granulometries. Computational Imaging and Vision, 1996, , 263-272.	0.6	3
118	Physical significance of image measurements. IEEE Transactions on Instrumentation and Measurement, 1995, 44, 751-754.	2.4	2
119	Tests with VHR images for the identification of olive trees and other fruit trees in the European Union. , 2004, 5568, 23.		2
120	Recent developments in morphological image processing for remote sensing. Proceedings of SPIE, 2009, , .	0.8	2
121	Special Issue on Big Data From Space. IEEE Transactions on Big Data, 2020, 6, 427-429.	4.4	2
122	Background Notions. , 1999, , 15-48.		2
123	Segmentation. , 2004, , 267-292.		2
124	Segmentation of natural landscapes using morphological texture features. , 0, , .		1
125	A new generic method for semi-automatic extraction of river and road networks in low- and mid-resolution satellite images. Proceedings of SPIE, 2010, , .	0.8	1
126	Erosion und Dilatation. , 1998, , 51-93.		1



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127	Segmentation. , 1999, , 229-254.		1
128	DETECTION OF VEGETATION CHANGES IN AN ALPINE PROTECTED AREA. , 2004, , .		1
129	Crop Classification from Sentinel-2 Time Series with Temporal Convolutional Neural Networks. , 2021, , .		1
130	Morphological Operators. , 2000, , 483-515.		1
131	Application Fields. , 2004, , 347-368.		1
132	Texture analysis. , 2004, , 317-346.		1
133	Land Cover Detection with Unsupervised Clustering and Hierarchical Partitioning. Studies in Classification, Data Analysis, and Knowledge Organization, 2010, , 455-462.	0.1	1
134	Parallel Processing Strategies for Geospatial Data in a Cloud Computing Infrastructure. Remote Sensing, 2022, 14, 398.	1.8	1
135	Physical significance of measurements in images. , 0, , .		0
136	<title>Unwrapping of phase maps using mathematical morphology</title>. , 1999, , .		0
137	Hierarchical Segmentation of Complex Structures. , 2010, , .		0
138	Multichannel Image Regularisation Using Anisotropic Geodesic Filtering. , 2010, , .		0
139	Iterative Ramp Sharpening for Structure/Signature-Preserving Simplification of Images. , 2010, , .		0
140	Improving the automated detection of refugee/IDP dwellings using the multispectral bands of the WorldView-2 satellite. , 2012, , .		0
141	Automatic recognition of built-up areas in China using CBERS-2B HR data. , 2013, , .		0
142	N-dimensional Frameworks for the Application of Soft Computing to Image Processing. , 2000, , 519-529.		0
143	A Queue Based Algorithm for Order Independent Anchored Skeletonisation. Lecture Notes in Computer Science, 2005, , 530-537.	1.0	0
144	REFINEMENT OF DIGITAL SURFACE MODELS THROUGH CONSTRAINED CONNECTIVITY PARTITIONING OF OPTICAL IMAGERY. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 0, XXXVIII-4/W19, 245-250.	0.2	0

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145	Satellite Imagery and Digital Elevation Models. , 0, , 393-405.		0
146	Geodätische Transformationen. , 1998, , 159-189.		0
147	Ä–ffnung und Schlie–fung. , 1998, , 95-131.		0
148	Geodätische Distanzen. , 1998, , 191-212.		0
149	Klassifikation. , 1998, , 261-286.		0
150	Segmentierung. , 1998, , 237-260.		0
151	Geodesic Metrics. , 1999, , 185-205.		0
152	Application Fields. , 1999, , 279-296.		0