

# Chaowei Yang

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

142  
papers

3,105  
citations

30  
h-index

52  
g-index

165  
ext. papers

3,695  
ext. citations

4.1  
avg, IF

5.66  
L-index

#	Paper	IF	Citations
142	Big Data and cloud computing: innovation opportunities and challenges. <i>International Journal of Digital Earth</i> , <b>2017</b> , 10, 13-53	3.9	332
141	Spatial cloud computing: how can the geospatial sciences use and help shape cloud computing?. <i>International Journal of Digital Earth</i> , <b>2011</b> , 4, 305-329	3.9	241
140	Geospatial Cyberinfrastructure: Past, present and future. <i>Computers, Environment and Urban Systems</i> , <b>2010</b> , 34, 264-277	5.9	239
139	Performance-improving techniques in web-based GIS. <i>International Journal of Geographical Information Science</i> , <b>2005</b> , 19, 319-342	4.1	115
138	Big Data in Natural Disaster Management: A Review. <i>Geosciences (Switzerland)</i> , <b>2018</b> , 8, 165	2.7	107
137	Utilizing Cloud Computing to address big geospatial data challenges. <i>Computers, Environment and Urban Systems</i> , <b>2017</b> , 61, 120-128	5.9	102
136	Using spatial principles to optimize distributed computing for enabling the physical science discoveries. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2011</b> , 108, 5498-503	11.5	96
135	Redefining the possibility of digital Earth and geosciences with spatial cloud computing. <i>International Journal of Digital Earth</i> , <b>2013</b> , 6, 297-312	3.9	75
134	Distributed geospatial information processing: sharing distributed geospatial resources to support Digital Earth. <i>International Journal of Digital Earth</i> , <b>2008</b> , 1, 259-278	3.9	74
133	Spatiotemporal Patterns of COVID-19 Impact on Human Activities and Environment in Mainland China Using Nighttime Light and Air Quality Data. <i>Remote Sensing</i> , <b>2020</b> , 12, 1576	5	73
132	Taking the pulse of COVID-19: a spatiotemporal perspective. <i>International Journal of Digital Earth</i> , <b>2020</b> , 13, 1186-1211	3.9	65
131	An active crawler for discovering geospatial Web services and their distribution pattern [A case study of OGC Web Map Service. <i>International Journal of Geographical Information Science</i> , <b>2010</b> , 24, 1127-1147	4.1	51
130	Spatiotemporal impacts of COVID-19 on air pollution in California, USA. <i>Science of the Total Environment</i> , <b>2021</b> , 750, 141592	10.2	50
129	Utilize cloud computing to support dust storm forecasting. <i>International Journal of Digital Earth</i> , <b>2013</b> , 6, 338-355	3.9	45
128	A spatiotemporal indexing approach for efficient processing of big array-based climate data with MapReduce. <i>International Journal of Geographical Information Science</i> , <b>2017</b> , 31, 17-35	4.1	43
127	An optimized framework for seamlessly integrating OGC Web Services to support geospatial sciences. <i>International Journal of Geographical Information Science</i> , <b>2011</b> , 25, 595-613	4.1	42
126	Deep learning for real-time social media text classification for situation awareness [Using Hurricanes Sandy, Harvey, and Irma as case studies. <i>International Journal of Digital Earth</i> , <b>2019</b> , 12, 1230-1247	3.9	42

125	Evaluating the geographical awareness of individuals: an exploratory analysis of twitter data. <i>Cartography and Geographic Information Science</i> , <b>2013</b> , 40, 103-115	2.1	40
124	Semantic-based web service discovery and chaining for building an Arctic spatial data infrastructure. <i>Computers and Geosciences</i> , <b>2011</b> , 37, 1752-1762	4.5	40
123	Visualizing 3D/4D environmental data using many-core graphics processing units (GPUs) and multi-core central processing units (CPUs). <i>Computers and Geosciences</i> , <b>2013</b> , 59, 78-89	4.5	39
122	High-performance computing for the simulation of dust storms. <i>Computers, Environment and Urban Systems</i> , <b>2010</b> , 34, 278-290	5.9	39
121	Evaluating open-source cloud computing solutions for geosciences. <i>Computers and Geosciences</i> , <b>2013</b> , 59, 41-52	4.5	37
120	Monitoring and evaluating the quality of Web Map Service resources for optimizing map composition over the internet to support decision making. <i>Computers and Geosciences</i> , <b>2011</b> , 37, 485-494	4.5	34
119	Automatic Scaling Hadoop in the Cloud for Efficient Process of Big Geospatial Data. <i>ISPRS International Journal of Geo-Information</i> , <b>2016</b> , 5, 173	2.9	33
118	Building Model as a Service to support geosciences. <i>Computers, Environment and Urban Systems</i> , <b>2017</b> , 61, 141-152	5.9	32
117	Numerical Simulations of the Impacts of the Saharan Air Layer on Atlantic Tropical Cyclone Development. <i>Journal of Climate</i> , <b>2009</b> , 22, 6230-6250	4.4	32
116	Big Earth data analytics: a survey. <i>Big Earth Data</i> , <b>2019</b> , 3, 83-107	4.1	31
115	Spatiotemporal event detection: a review. <i>International Journal of Digital Earth</i> , <b>2020</b> , 13, 1339-1365	3.9	30
114	A service brokering and recommendation mechanism for better selecting cloud services. <i>PLoS ONE</i> , <b>2014</b> , 9, e105297	3.7	30
113	A graph-based approach to detecting tourist movement patterns using social media data. <i>Cartography and Geographic Information Science</i> , <b>2019</b> , 46, 368-382	2.1	30
112	A performance, semantic and service quality-enhanced distributed search engine for improving geospatial resource discovery. <i>International Journal of Geographical Information Science</i> , <b>2013</b> , 27, 1109-1132	4.1	29
111	Optimizing grid computing configuration and scheduling for geospatial analysis: An example with interpolating DEM. <i>Computers and Geosciences</i> , <b>2011</b> , 37, 165-176	4.5	28
110	The Impact of Policy Measures on Human Mobility, COVID-19 Cases, and Mortality in the US: A Spatiotemporal Perspective. <i>International Journal of Environmental Research and Public Health</i> , <b>2021</b> , 18,	4.6	28
109	Teamwork-oriented integrated modeling method for geo-problem solving. <i>Environmental Modelling and Software</i> , <b>2019</b> , 119, 111-123	5.2	27
108	Enabling big geoscience data analytics with a cloud-based, MapReduce-enabled and service-oriented workflow framework. <i>PLoS ONE</i> , <b>2015</b> , 10, e0116781	3.7	26

107	Using adaptively coupled models and high-performance computing for enabling the computability of dust storm forecasting. <i>International Journal of Geographical Information Science</i> , <b>2013</b> , 27, 765-784	4.1	25
106	Visualizing dynamic geosciences phenomena using an octree-based view-dependent LOD strategy within virtual globes. <i>Computers and Geosciences</i> , <b>2011</b> , 37, 1295-1302	4.5	25
105	ClimateSpark: An in-memory distributed computing framework for big climate data analytics. <i>Computers and Geosciences</i> , <b>2018</b> , 115, 154-166	4.5	24
104	A Web-Based Geovisual Analytical System for Climate Studies. <i>Future Internet</i> , <b>2012</b> , 4, 1069-1085	3.3	18
103	Cloud computing for geosciences <b>2010</b> ,		18
102	A Twitter Data Credibility Framework Hurricane Harvey as a Use Case. <i>ISPRS International Journal of Geo-Information</i> , <b>2019</b> , 8, 111	2.9	17
101	Building a spatiotemporal index for Earth Observation Big Data. <i>International Journal of Applied Earth Observation and Geoinformation</i> , <b>2018</b> , 73, 245-252	7.3	17
100	An Environmental Data Collection for COVID-19 Pandemic Research. <i>Data</i> , <b>2020</b> , 5, 68	2.3	16
99	Towards intelligent geospatial data discovery: a machine learning framework for search ranking. <i>International Journal of Digital Earth</i> , <b>2018</b> , 11, 956-971	3.9	14
98	Land Surface Temperature Derivation under All Sky Conditions through Integrating AMSR-E/AMSR-2 and MODIS/GOES Observations. <i>Remote Sensing</i> , <b>2019</b> , 11, 1704	5	14
97	Adopting cloud computing to optimize spatial web portals for better performance to support Digital Earth and other global geospatial initiatives. <i>International Journal of Digital Earth</i> , <b>2015</b> , 8, 451-475	2.9	14
96	Optimizing an index with spatiotemporal patterns to support GEOSS Clearinghouse. <i>International Journal of Geographical Information Science</i> , <b>2014</b> , 28, 1459-1481	4.1	14
95	Mining geophysical parameters through decision-tree analysis to determine correlation with tropical cyclone development. <i>Computers and Geosciences</i> , <b>2009</b> , 35, 309-316	4.5	14
94	Individual-Level Fatality Prediction of COVID-19 Patients Using AI Methods. <i>Frontiers in Public Health</i> , <b>2020</b> , 8, 587937	6	14
93	Evaluating the Open Source Data Containers for Handling Big Geospatial Raster Data. <i>ISPRS International Journal of Geo-Information</i> , <b>2018</b> , 7, 144	2.9	14
92	A comprehensive methodology for discovering semantic relationships among geospatial vocabularies using oceanographic data discovery as an example. <i>International Journal of Geographical Information Science</i> , <b>2017</b> , 31, 2310-2328	4.1	13
91	Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic. <i>PLoS ONE</i> , <b>2020</b> , 15, e0240348	3.7	13
90	Daytime Rainy Cloud Detection and Convective Precipitation Delineation Based on a Deep Neural Network Method Using GOES-16 ABI Images. <i>Remote Sensing</i> , <b>2019</b> , 11, 2555	5	12

89	Establishing a sustainable and cross-boundary geospatial cyberinfrastructure to enable polar research. <i>Computers and Geosciences</i> , <b>2011</b> , 37, 1721-1726	4.5	11
88	Web Map Server Performance and Client Design Principles. <i>GIScience and Remote Sensing</i> , <b>2007</b> , 44, 320-333	4.33	11
87	Reconstructing Sessions from Data Discovery and Access Logs to Build a Semantic Knowledge Base for Improving Data Discovery. <i>ISPRS International Journal of Geo-Information</i> , <b>2016</b> , 5, 54	2.9	11
86	A Smart Web-Based Geospatial Data Discovery System with Oceanographic Data as an Example. <i>ISPRS International Journal of Geo-Information</i> , <b>2018</b> , 7, 62	2.9	10
85	Incomplete Label Multi-Task Deep Learning for Spatio-Temporal Event Subtype Forecasting. <i>Proceedings of the AAAI Conference on Artificial Intelligence</i> , <b>2019</b> , 33, 3638-3646	5	10
84	Introduction to big geospatial data research. <i>Annals of GIS</i> , <b>2014</b> , 20, 227-232	4.1	10
83	The GEOSS clearinghouse high performance search engine <b>2011</b> ,		10
82	A loosely integrated data configuration strategy for web-based participatory modeling. <i>GIScience and Remote Sensing</i> , <b>2019</b> , 56, 670-698	4.8	10
81	A spatiotemporal data collection of viral cases for COVID-19 rapid response. <i>Big Earth Data</i> , <b>2021</b> , 5, 90-111	4.1	10
80	Spatiotemporal changes in global nitrogen dioxide emission due to COVID-19 mitigation policies. <i>Science of the Total Environment</i> , <b>2021</b> , 776, 146027	10.2	10
79	A Semantic Search Engine for Spatial Web Portals <b>2008</b> ,		9
78	A Generic Framework for Using Multi-Dimensional Earth Observation Data in GIS. <i>Remote Sensing</i> , <b>2016</b> , 8, 382	5	9
77	A hierarchical indexing strategy for optimizing Apache Spark with HDFS to efficiently query big geospatial raster data. <i>International Journal of Digital Earth</i> , <b>2020</b> , 13, 410-428	3.9	9
76	Using spatiotemporal patterns to optimize Earth Observation Big Data access: Novel approaches of indexing, service modeling and cloud computing. <i>Computers, Environment and Urban Systems</i> , <b>2018</b> , 72, 191-203	5.9	8
75	Generating seamless surfaces for transport and dispersion modeling in GIS. <i>Geoinformatica</i> , <b>2012</b> , 16, 307-327	2.5	8
74	A High Performance Web-Based System for Analyzing and Visualizing Spatiotemporal Data for Climate Studies. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 190-198	0.9	8
73	WebGIS performance issues and solutions <b>2011</b> , 121-138		8
72	Geospatial cloud computing and big data. <i>Computers, Environment and Urban Systems</i> , <b>2017</b> , 61, 119	5.9	7

71	Forming a global monitoring mechanism and a spatiotemporal performance model for geospatial services. <i>International Journal of Geographical Information Science</i> , <b>2015</b> , 29, 375-396	4.1	7
70	A 3D multi-threshold, region-growing algorithm for identifying dust storm features from model simulations. <i>International Journal of Geographical Information Science</i> , <b>2017</b> , 31, 939-961	4.1	7
69	A visualization-enhanced graphical user interface for geospatial resource discovery. <i>Annals of GIS</i> , <b>2013</b> , 19, 109-121	4.1	7
68	An interoperable spatiotemporal weather radar data dissemination system. <i>International Journal of Remote Sensing</i> , <b>2009</b> , 30, 1313-1326	3.1	7
67	A State-Level Socioeconomic Data Collection of the United States for COVID-19 Research. <i>Data</i> , <b>2020</b> , 5, 118	2.3	7
66	Developing Subdomain Allocation Algorithms Based on Spatial and Communicational Constraints to Accelerate Dust Storm Simulation. <i>PLoS ONE</i> , <b>2016</b> , 11, e0152250	3.7	7
65	A Cloud-Based Framework for Large-Scale Log Mining through Apache Spark and Elasticsearch. <i>Applied Sciences (Switzerland)</i> , <b>2019</b> , 9, 1114	2.6	6
64	A spatial web service client based on Microsoft Bing Maps <b>2011</b> ,		6
63	Geospatial cyberinfrastructure (GCI). <i>Computers, Environment and Urban Systems</i> , <b>2010</b> , 34, 263	5.9	6
62	Big Data and Cloud Computing <b>2020</b> , 325-355		6
61	Distributed Geospatial Information Service <b>2006</b> , 103-120		6
60	Contemporary Computing Technologies for Processing Big Spatiotemporal Data <b>2015</b> , 327-351		5
59	PreciPatch: A Dictionary-based Precipitation Downscaling Method. <i>Remote Sensing</i> , <b>2020</b> , 12, 1030	5	5
58	Spatiotemporal Patterns and Driving Factors on Crime Changing During Black Lives Matter Protests. <i>ISPRS International Journal of Geo-Information</i> , <b>2020</b> , 9, 640	2.9	4
57	Data-intensive Spatial Indexing on the Clouds. <i>Procedia Computer Science</i> , <b>2013</b> , 18, 2615-2618	1.6	4
56	Using Semantic Search and Knowledge Reasoning to Improve the Discovery of Earth Science Records. <i>International Journal of Applied Geospatial Research</i> , <b>2014</b> , 5, 44-58	0.6	4
55	Improving search ranking of geospatial data based on deep learning using user behavior data. <i>Computers and Geosciences</i> , <b>2020</b> , 142, 104520	4.5	4
54	Registration of Long-Strip Terrestrial Laser Scanning Point Clouds Using RANSAC and Closed Constraint Adjustment. <i>Remote Sensing</i> , <b>2016</b> , 8, 278	5	4

53	3D modelling strategy for weather radar data analysis. <i>Environmental Earth Sciences</i> , <b>2018</b> , 77, 1	2.9	4
52	High-resolution spatial interpolation on cloud platforms <b>2013</b> ,		3
51	Earth information exchange: sharing earth science information through interoperable approach and cyber infrastructure <b>2007</b> ,		3
50	Evolution and Computing Challenges of Distributed GIS. <i>Annals of GIS</i> , <b>2005</b> , 11, 61-69	4.1	3
49	Digital Earth Challenges and Future Trends <b>2020</b> , 811-827		3
48	Open-air grape classification and its application in parcel-level risk assessment of late frost in the eastern Helan Mountains. <i>ISPRS Journal of Photogrammetry and Remote Sensing</i> , <b>2021</b> , 174, 132-150	11.8	3
47	COVID-Scraper: An Open-Source Toolset for Automatically Scraping and Processing Global Multi-Scale Spatiotemporal COVID-19 Records. <i>IEEE Access</i> , <b>2021</b> , 9, 84783-84798	3.5	3
46	Impact of COVID-19 containment and closure policies on tropospheric nitrogen dioxide: A global perspective. <i>Environment International</i> , <b>2021</b> , 158, 106887	12.9	3
45	An Integrated Data Analytics Platform. <i>Frontiers in Marine Science</i> , <b>2019</b> , 6,	4.5	2
44	An experimental study of open-source cloud platforms for dust storm forecasting <b>2012</b> ,		2
43	Sharing Earth Science Information to Support the Global Earth Observing System of Systems (GEOSS) <b>2008</b> ,		2
42	Spatiotemporal Analysis of Medical Resource Deficiencies in the U.S. under COVID-19 Pandemic		2
41	Phased Implementation of COVID-19 Vaccination: Rapid Assessment of Policy Adoption, Reach and Effectiveness to Protect the Most Vulnerable in the US. <i>International Journal of Environmental Research and Public Health</i> , <b>2021</b> , 18,	4.6	2
40	Improving the Non-Hydrostatic Numerical Dust Model by Integrating Soil Moisture and Greenness Vegetation Fraction Data with Different Spatiotemporal Resolutions. <i>PLoS ONE</i> , <b>2016</b> , 11, e0165616	3.7	2
39	A framework for natural phenomena movement tracking ¶Using 4D dust simulation as an example. <i>Computers and Geosciences</i> , <b>2018</b> , 121, 53-66	4.5	2
38	Utilizing MapReduce to Improve Probe-Car Track Data Mining. <i>ISPRS International Journal of Geo-Information</i> , <b>2018</b> , 7, 287	2.9	2
37	Accelerating Geocomputation with Cloud Computing <b>2013</b> , 41-51		2
36	An On-Demand Service for Managing and Analyzing Arctic Sea Ice High Spatial Resolution Imagery. <i>Data</i> , <b>2020</b> , 5, 39	2.3	1

35	Integrating GIScience Application Through Mashup. <i>Geospatial Technology and the Role of Location in Science</i> , <b>2019</b> , 87-112	0.5	1
34	A service visualization tool for spatial web portal <b>2011</b> ,		1
33	<b>2011</b> ,		1
32	Spatial Web Portal for Building Spatial Data Infrastructure. <i>Annals of GIS</i> , <b>2006</b> , 12, 38-43	4.1	1
31	Implementing computing techniques to accelerate network GIS <b>2006</b> , 6418, 429		1
30	A Distributed GIS for Managing Shanghai Landscape Resources. <i>Annals of GIS</i> , <b>2005</b> , 11, 29-39	4.1	1
29	Geoinformation Computing Platforms <b>2010</b> , 79-125		1
28	Cloud computing research for geosciences and applications <b>2013</b> , 295-310		1
27	A Query Understanding Framework for Earth Data Discovery. <i>Applied Sciences (Switzerland)</i> , <b>2020</b> , 10, 1127	2.6	1
26	A high spatiotemporal resolution framework for urban temperature prediction using IoT data. <i>Computers and Geosciences</i> , <b>2022</b> , 159, 104991	4.5	1
25	Spatiotemporal Trends and Variations of the Rainfall Amount, Intensity, and Frequency in TRMM Multi-satellite Precipitation Analysis (TMPA) Data. <i>Remote Sensing</i> , <b>2021</b> , 13, 4629	5	1
24	Utilizing CUDA-Enabled GPUs to Support 5D Scientific Geovisualization: A Case Study of Simulating Dust Storm Events <b>2013</b> , 69-82		1
23	Cloud computing for ocean and atmospheric science <b>2016</b> ,		1
22	Planetary Defense Mitigation Gateway: A One-Stop Gateway for Pertinent PD-Related Contents. <i>Data</i> , <b>2019</b> , 4, 47	2.3	1
21	Introduction to Computing and Computational Issues of Distributed GIS. <i>Annals of GIS</i> , <b>2005</b> , 11, 1-3	4.1	0
20	Redefining the possibility of digital Earth and geosciences with spatial cloud computing		0
19	Mashing up Geographic Information for Emergency Response: An Earthquake Prototype. <i>Journal of Geographic Information System</i> , <b>2014</b> , 06, 533-547	0.4	0
18	Environmental Informatics: Advancing Data Intensive Sciences to Solve Environmental Problems <b>2011</b> , 1-14		



- 17 Network Geographic Information System **2006**, 254-271
- 16 Spatiotemporal Analysis of Sea Ice Leads in the Arctic Ocean Retrieved from IceBridge Laxon Line Data 2012–2018. *Remote Sensing*, **2021**, 13, 4177 5
- 15 Using Semantic Search and Knowledge Reasoning to Improve the Discovery of Earth Science Records **2016**, 1375-1389
- 14 Advanced Geoinformation Science **2010**, 1-15
- 13 Geoscience application challenges to computing infrastructures **2013**, 3-18
- 12 Handling intensities of data, computation, concurrent access, and spatiotemporal patterns **2013**, 275-294
- 11 GEOSS Clearinghouse **2014**, 31-54
- 10 Hyperspectral Infrared Sounder Cloud Detection Using Deep Neural Network Model. *IEEE Geoscience and Remote Sensing Letters*, **2020**, 1-5 4.1
- 9 Integrating memory-mapping and N-dimensional hash function for fast and efficient grid-based climate data query. *Annals of GIS*, **2021**, 27, 57-69 4.1
- 8 Cloud, Edge, and Mobile Computing for Smart Cities. *Urban Book Series*, **2021**, 757-795 0.3
- 7 New Metrics for Assessing the State Performance in Combating the COVID-19 Pandemic. *GeoHealth*, **2021**, 5, e2021GH000450 5
- 6 An Open-Source Workflow for Spatiotemporal Studies with COVID-19 as an Example. *ISPRS International Journal of Geo-Information*, **2022**, 11, 13 2.9
- 5 Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic **2020**, 15, e0240348
- 4 Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic **2020**, 15, e0240348
- 3 Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic **2020**, 15, e0240348
- 2 Spatiotemporal analysis of medical resource deficiencies in the U.S. under COVID-19 pandemic **2020**, 15, e0240348
- 1 Discovering Precursors to Tropical Cyclone Rapid Intensification in the Atlantic Basin Using Spatiotemporal Data Mining. *Atmosphere*, **2022**, 13, 882 2.7