Christopher J Merchant

List of Publications by Year
in descending order

112	6,158	70961	74018
papers	citations	41 h-index	75 g-index

124	124	124	6322
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Global lake responses to climate change. Nature Reviews Earth & Environment, 2020, 1, 388-403.	12.2	513
2	The ESA Climate Change Initiative: Satellite Data Records for Essential Climate Variables. Bulletin of the American Meteorological Society, 2013, 94, 1541-1552.	1.7	355
3	Worldwide alteration of lake mixing regimes in response to climate change. Nature Geoscience, 2019, 12, 271-276.	5.4	326
4	The Global Ocean Data Assimilation Experiment High-resolution Sea Surface Temperature Pilot Project. Bulletin of the American Meteorological Society, 2007, 88, 1197-1214.	1.7	324
5	THE GODAE HIGH-RESOLUTION SEA SURFACE TEMPERATURE PILOT PROJECT. Oceanography, 2009, 22, 34-45.	0.5	322
6	Satellite-based time-series of sea-surface temperature since 1981 for climate applications. Scientific Data, 2019, 6, 223.	2.4	213
7	Probabilistic physically based cloud screening of satellite infrared imagery for operational sea surface temperature retrieval. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 2735-2755.	1.0	198
8	Sea surface temperature datasets for climate applications from Phase 1 of the European Space Agency Climate Change Initiative (<scp>SST CCI</scp>). Geoscience Data Journal, 2014, 1, 179-191.	1.8	132
9	Sea surface temperature from a geostationary satellite by optimal estimation. Remote Sensing of Environment, 2009, 113, 445-457.	4.6	123
10	Estimation of Sea Surface Temperature from the Spinning Enhanced Visible and Infrared Imager, improved using numerical weather prediction. Remote Sensing of Environment, 2011, 115, 55-65.	4.6	116
11	Atlantic hurricanes and NW Pacific typhoons: ENSO spatial impacts on occurrence and landfall. Geophysical Research Letters, 2000, 27, 1147-1150.	1.5	114
12	Optimal estimation of sea surface temperature from split-window observations. Remote Sensing of Environment, 2008, 112, 2469-2484.	4.6	113
13	Warming of Central European lakes and their response to the 1980s climate regime shift. Climatic Change, 2017, 142, 505-520.	1.7	108
14	Saharan dust in nighttime thermal imagery: Detection and reduction of related biases in retrieved sea surface temperature. Remote Sensing of Environment, 2006, 104, 15-30.	4.6	102
15	Uncertainty information in climate data records from Earth observation. Earth System Science Data, 2017, 9, 511-527.	3.7	100
16	Global lake thermal regions shift under climate change. Nature Communications, 2020, 11, 1232.	5.8	96
17	Intralake Heterogeneity of Thermal Responses to Climate Change: A Study of Large Northern Hemisphere Lakes. Journal of Geophysical Research D: Atmospheres, 2018, 123, 3087-3098.	1.2	95
18	Amplified surface temperature response of cold, deep lakes to inter-annual air temperature variability. Scientific Reports, 2017, 7, 4130.	1.6	93

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19	Multiâ€satellite measurements of large diurnal warming events. Geophysical Research Letters, 2008, 35, .	1.5	92
20	Observational Needs of Sea Surface Temperature. Frontiers in Marine Science, 2019, 6, .	1.2	89
21	Surface water temperature observations of large lakes by optimal estimation. Canadian Journal of Remote Sensing, 2012, 38, 25-45.	1.1	87
22	Toward the elimination of bias in satellite retrievals of sea surface temperature: 1. Theory, modeling and interalgorithm comparison. Journal of Geophysical Research, 1999, 104, 23565-23578.	3.3	85
23	A reprocessing for climate of sea surface temperature from the along-track scanning radiometers: Initial validation, accounting for skin and diurnal variability effects. Remote Sensing of Environment, 2012, 116, 62-78.	4.6	78
24	A 20Âyear independent record of sea surface temperature for climate from Alongâ€Track Scanning Radiometers. Journal of Geophysical Research, 2012, 117, .	3.3	77
25	Retrieval of Sea Surface Temperature from Space, Based on Modeling of Infrared Radiative Transfer: Capabilities and Limitations. Journal of Atmospheric and Oceanic Technology, 2004, 21, 1734-1746.	0.5	72
26	Diurnal warmâ€layer events in the western Mediterranean and European shelf seas. Geophysical Research Letters, 2008, 35, .	1.5	72
27	A Call for New Approaches to Quantifying Biases in Observations of Sea Surface Temperature. Bulletin of the American Meteorological Society, 2017, 98, 1601-1616.	1.7	69
28	Toward the elimination of bias in satellite retrievals of sea surface temperature: 2. Comparison with in situ measurements. Journal of Geophysical Research, 1999, 104, 23579-23590.	3.3	67
29	Substantial increase in minimum lake surface temperatures under climate change. Climatic Change, 2019, 155, 81-94.	1.7	66
30	Northern Hemisphere Atmospheric Stilling Accelerates Lake Thermal Responses to a Warming World. Geophysical Research Letters, 2019, 46, 11983-11992.	1.5	65
31	Global Climate. Bulletin of the American Meteorological Society, 2020, 101, S9-S128.	1.7	61
32	Retrieval characteristics of nonâ€linear sea surface temperature from the Advanced Very High Resolution Radiometer. Geophysical Research Letters, 2009, 36, .	1.5	60
33	Tendencies, variability and persistence of sea surface temperature anomalies. Scientific Reports, 2020, 10, 7986.	1.6	60
34	The accuracy of SST retrievals from AATSR: An initial assessment through geophysical validation against in situ radiometers, buoys and other SST data sets. Advances in Space Research, 2006, 37, 764-769.	1.2	56
35	Direct observations of skin-bulk SST variability. Geophysical Research Letters, 2000, 27, 1171-1174.	1.5	55
36	Synergistic use of MERIS and AATSR as a proxy for estimating Land Surface Temperature from Sentinel-3 data. Remote Sensing of Environment, 2016, 179, 149-161.	4.6	49

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37	Global in situ Observations of Essential Climate and Ocean Variables at the Airâ€“Sea Interface. Frontiers in Marine Science, 2019, 6, .	1.2	49
38	Applying principles of metrology to historical Earth observations from satellites. Metrologia, 2019, 56, 032002.	0.6	48
39	Deriving a sea surface temperature record suitable for climate change research from the along-track scanning radiometers. Advances in Space Research, 2008, 41, 1-11.	1.2	47
40	Geographic and temporal variations in turbulent heat loss from lakes: A global analysis across 45 lakes. Limnology and Oceanography, 2018, 63, 2436-2449.	1.6	47
41	Exposures to power-frequency magnetic fields in the home. Journal of Radiological Protection, 1994, 14, 77-87.	0.6	46
42	Global climatology of surface water temperatures of large lakes by remote sensing. International Journal of Climatology, 2015, 35, 4464-4479.	1.5	45
43	A reprocessing for climate of sea surface temperature from the along-track scanning radiometers: Basis in radiative transfer. Remote Sensing of Environment, 2012, 116, 32-46.	4.6	42
44	Global reconstruction of twentieth century lake surface water temperature reveals different warming trends depending on the climatic zone. Climatic Change, 2020, 160, 427-442.	1.7	42
45	Intercomparison of long-term sea surface temperature analyses using the GHRSST Multi-Product Ensemble (GMPE) system. Remote Sensing of Environment, 2019, 222, 18-33.	4.6	40
46	Retrievals of sea surface temperature from infrared imagery: origin and form of systematic errors. Quarterly Journal of the Royal Meteorological Society, 2006, 132, 1205-1223.	1.0	36
47	A novel method to obtain three-dimensional urban surface temperature from ground-based thermography. Remote Sensing of Environment, 2018, 215, 268-283.	4.6	36
48	Extended optimal estimation techniques for sea surface temperature from the Spinning Enhanced Visible and Infra-Red Imager (SEVIRI). Remote Sensing of Environment, 2013, 131, 287-297.	4.6	35
49	Benchmarking CMIP5 models with a subset of ESA CCI Phase 2 data using the ESMValTool. Remote Sensing of Environment, 2017, 203, 9-39.	4.6	34
50	Independent uncertainty estimates for coefficient based sea surface temperature retrieval from the Along-Track Scanning Radiometer instruments. Remote Sensing of Environment, 2016, 178, 213-222.	4.6	33
51	A reprocessing for climate of sea surface temperature from the along-track scanning radiometers: A new retrieval scheme. Remote Sensing of Environment, 2012, 116, 47-61.	4.6	32
52	Objective Determination of Feature Resolution in Two Sea Surface Temperature Analyses. Journal of Climate, 2013, 26, 2514-2533.	1.2	31
53	Latitude and lake size are important predictors of overâ€lake atmospheric stability. Geophysical Research Letters, 2017, 44, 8875-8883.	1.5	31
54	Global sea-level budget and ocean-mass budget, with a focus on advanced data products and uncertainty characterisation. Earth System Science Data, 2022, 14, 411-447.	3.7	30

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55	Sea Surface Temperature Intercomparison in the Framework of the Copernicus Climate Change Service (C3S). Journal of Climate, 2021, 34, 5257-5283.	1.2	29
56	Causes of the Regional Variability in Observed Sea Level, Sea Surface Temperature and Ocean Colour Over the Period 1993â€“2011. Surveys in Geophysics, 2017, 38, 187-215.	2.1	28
57	Climatological diurnal variability in sea surface temperature characterized from drifting buoy data. Geoscience Data Journal, 2016, 3, 20-28.	1.8	26
58	Sampling uncertainty in gridded sea surface temperature products and Advanced Very High Resolution Radiometer (AVHRR) Global Area Coverage (GAC) data. Remote Sensing of Environment, 2016, 177, 287-294.	4.6	26
59	Systematic errors in global air-sea CO₂ flux caused by temporal averaging of sea-level pressure. Atmospheric Chemistry and Physics, 2005, 5, 1459-1466.	1.9	25
60	The impact of diurnal variability in sea surface temperature on the central Atlantic air-sea CO₂ flux. Atmospheric Chemistry and Physics, 2009, 9, 529-541.	1.9	25
61	The surface temperatures of Earth: steps towards integrated understanding of variability and change. Geoscientific Instrumentation, Methods and Data Systems, 2013, 2, 305-321.	0.6	25
62	Estimating Sea Surface Temperature Measurement Methods Using Characteristic Differences in the Diurnal Cycle. Geophysical Research Letters, 2018, 45, 363-371.	1.5	25
63	A cross-calibration of GMS-5 thermal channels against ATSR-2. Remote Sensing of Environment, 2003, 84, 268-282.	4.6	24
64	Determining lake surface water temperatures worldwide using a tuned one-dimensional lake model (<i>FLake</i>, v1). Geoscientific Model Development, 2016, 9, 2167-2189.	1.3	23
65	An infrared desert dust index for the Along-Track Scanning Radiometers. Remote Sensing of Environment, 2012, 116, 159-176.	4.6	21
66	Consistency of Satellite Climate Data Records for Earth System Monitoring. Bulletin of the American Meteorological Society, 2020, 101, E1948-E1971.	1.7	21
67	Sea Surface Temperature Estimation from the Geostationary Operational Environmental Satellite-12 (GOES-12). Journal of Atmospheric and Oceanic Technology, 2009, 26, 570-581.	0.5	20
68	An empirical model for the statistics of sea surface diurnal warming. Ocean Science, 2012, 8, 197-209.	1.3	20
69	Ten Priority Science Gaps in Assessing Climate Data Record Quality. Remote Sensing, 2019, 11, 986.	1.8	20
70	Generalized Bayesian cloud detection for satellite imagery. Part 1: Technique and validation for night-time imagery over land and sea. International Journal of Remote Sensing, 2010, 31, 2573-2594.	1.3	18
71	Datasets related to inâ€land water for limnology and remote sensing applications: distanceâ€toâ€land, distanceâ€toâ€water, waterâ€body identifier and lakeâ€centre coâ€ordinates. Geoscience Data Journal, 2015, 2, 83-97.	1.8	18
72	Bayesian Cloud Detection for 37 Years of Advanced Very High Resolution Radiometer (AVHRR) Global Area Coverage (GAC) Data. Remote Sensing, 2018, 10, 97.	1.8	18

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73	The EUSTACE Project: Delivering Global, Daily Information on Surface Air Temperature. Bulletin of the American Meteorological Society, 2020, 101, E1924-E1947.	1.7	18
74	An Investigation into the Impact of using Various Techniques to Estimate Arctic Surface Air Temperature Anomalies*. Journal of Climate, 2015, 28, 1743-1763.	1.2	17
75	The sea surface temperature climate change initiative: Alternative image classification algorithms for sea-ice affected oceans. Remote Sensing of Environment, 2015, 162, 396-407.	4.6	17
76	Uncertainties in Steric Sea Level Change Estimation During the Satellite Altimeter Era: Concepts and Practices. Surveys in Geophysics, 2017, 38, 59-87.	2.1	17
77	Generalized Bayesian cloud detection for satellite imagery. Part 2: Technique and validation for daytime imagery. International Journal of Remote Sensing, 2010, 31, 2595-2621.	1.3	15
78	Quantifying Uncertainty in Satellite-Retrieved Land Surface Temperature from Cloud Detection Errors. Remote Sensing, 2018, 10, 616.	1.8	15
79	Sensitivity analysis of an ocean carbon cycle model in the North Atlantic: an investigation of parameters affecting the air-sea CO₂ flux, primary production and export of detritus. Ocean Science, 2011, 7, 405-419.	1.3	13
80	The Role of Advanced Microwave Scanning Radiometer 2 Channels within an Optimal Estimation Scheme for Sea Surface Temperature. Remote Sensing, 2018, 10, 90.	1.8	13
81	Assessment of Long-Term Satellite Derived Sea Surface Temperature Records. Experimental Methods in the Physical Sciences, 2014, , 639-677.	0.1	12
82	Radiance Uncertainty Characterisation to Facilitate Climate Data Record Creation. Remote Sensing, 2019, 11, 474.	1.8	12
83	Occupational exposures to power-frequency magnetic fields in the electricity supply industry. Journal of Radiological Protection, 1994, 14, 155-164.	0.6	11
84	Observations of diurnal and spatial variability of radiative forcing by equatorial deep convective clouds. Journal of Geophysical Research, 2004, 109, .	3.3	11
85	Quantifying the response of the ORAC aerosol optical depth retrieval for MSG SEVIRI to aerosol model assumptions. Journal of Geophysical Research, 2011, 116, .	3.3	11
86	Comparison of SST Diurnal Variation Models Over the Tropical Warm Pool Region. Journal of Geophysical Research: Oceans, 2018, 123, 3467-3488.	1.0	11
87	A Novel Framework to Harmonise Satellite Data Series for Climate Applications. Remote Sensing, 2019, 11, 1002.	1.8	11
88	The Copernicus Surface Velocity Platform drifter with Barometer and Reference Sensor for Temperature (SVP-BRST): genesis, design, and initial results. Ocean Science, 2019, 15, 199-214.	1.3	11
89	Stability Assessment of the (A)ATSR Sea Surface Temperature Climate Dataset from the European Space Agency Climate Change Initiative. Remote Sensing, 2018, 10, 126.	1.8	10
90	Sea Surface Temperature in Global Analyses: Gains from the Copernicus Imaging Microwave Radiometer. Remote Sensing, 2019, 11, 2362.	1.8	10

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91	Bias correction and covariance parameters for optimal estimation by exploiting matched in-situ references. Remote Sensing of Environment, 2020, 237, 111590.	4.6	10
92	Thermal Remote Sensing of Sea Surface Temperature. Remote Sensing and Digital Image Processing, 2013, , 287-313.	0.7	9
93	Simulation and Inversion ofÂSatellite Thermal Measurements. Experimental Methods in the Physical Sciences, 2014, 47, 489-526.	0.1	8
94	Measurements and models of the temperature change of water samples in seaâ€surface temperature buckets. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 2198-2209.	1.0	8
95	Adjusting for Desert-Dust-Related Biases in a Climate Data Record of Sea Surface Temperature. Remote Sensing, 2020, 12, 2554.	1.8	7
96	Applying Metrological Techniques to Satellite Fundamental Climate Data Records. Journal of Physics: Conference Series, 2018, 972, 012003.	0.3	5
97	Inter-Calibration of HY-1B/COCTS Thermal Infrared Channels with MetOp-A/IASI. Remote Sensing, 2018, 10, 1173.	1.8	5
98	Global Sea Surface Temperature. , 2019, , 5-55.		5
99	Potential for improved ATSR dual-view SST retrieval. Geophysical Research Letters, 1998, 25, 3363-3366.	1.5	4
100	High-performance software framework for the calculation of satellite-to-satellite data matchups (MMS version 1.2). Geoscientific Model Development, 2018, 11, 2419-2427.	1.3	4
101	Coastal Tidal Effects on Industrial Thermal Plumes in Satellite Imagery. Remote Sensing, 2019, 11, 2132.	1.8	4
102	Harmonization of Space-Borne Infra-Red Sensors Measuring Sea Surface Temperature. Remote Sensing, 2020, 12, 1048.	1.8	4
103	Allocating extremely-low-frequency magnetic-field exposure between sources. Journal of Radiological Protection, 1995, 15, 259-260.	0.6	3
104	Selecting algorithms for Earth observation of climate within the European Space Agency Climate Change Initiative: Introduction to a special issue. Remote Sensing of Environment, 2015, 162, 239-241.	4.6	2
105	Error Correlations in High-Resolution Infrared Radiation Sounder (HIRS) Radiances. Remote Sensing, 2019, 11, 1337.	1.8	2
106	Infrared Satellite Retrievals in the Presence of Stratospheric Aerosol. Journal of Atmospheric and Oceanic Technology, 1998, 15, 835-840.	0.5	1
107	Communicating Uncertainties in Sea Surface Temperature. Eos, 2015, 96, .	0.1	1
108	Bayesian Cloud Detection over Land for Climate Data Records. Remote Sensing, 2022, 14, 2231.	1.8	1

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109	It's all relatively similar. Physics World, 1995, 8, 84-84.	0.0	0
110	Correlation of residential magnetic fields, road type and traffic in the UK. Journal of Radiological Protection, 1995, 15, 253-258.	0.6	0
111	Introduction to the Remote Sensing of Earth-Surface Temperatures. , 2019, , 1-4.		0
112	Characterising industrial thermal plumes in coastal regions using 3-D numerical simulations. Environmental Research Communications, 2021, 3, 045003.	0.9	0