

Nils P Wedi

List of Publications by Year in descending order

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Version: 2024-02-01

58
papers

3,056
citations

159585

30
h-index

161849

54
g-index

62
all docs

62
docs citations

62
times ranked

3958
citing authors

#	ARTICLE	IF	CITATIONS
1	Resolved gravity waves in the tropical stratosphere: Impact of horizontal resolution and deep convection parametrization. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 233-251.	2.7	16
2	Atmospheric Energy Spectra in Global Kilometre-Scale Models. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 74, 280-299.	1.7	8
3	The digital revolution of Earth-system science. Nature Computational Science, 2021, 1, 104-113.	8.0	98
4	Resilience and fault tolerance in high-performance computing for numerical weather and climate prediction. International Journal of High Performance Computing Applications, 2021, 35, 285-311.	3.7	7
5	Sensitivities of the Madden-Julian oscillation forecasts to configurations of physics in the ECMWF global model. Atmospheric Chemistry and Physics, 2021, 21, 4759-4778.	4.9	1
6	ECLand: The ECMWF Land Surface Modelling System. Atmosphere, 2021, 12, 723.	2.3	23
7	Model intercomparison of COSMO 5.0 and IFS 45r1 at kilometer-scale grid spacing. Geoscientific Model Development, 2021, 14, 4617-4639.	3.6	15
8	More accuracy with less precision. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 4358-4370.	2.7	13
9	A Baseline for Global Weather and Climate Simulations at 1 km Resolution. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002192.	3.8	54
10	Global Simulations of the Atmosphere at 1.45 km Grid-Spacing with the Integrated Forecasting System. Journal of the Meteorological Society of Japan, 2020, 98, 551-572.	1.8	27
11	Spectral Empirical Orthogonal Function Analysis of Weather and Climate Data. Monthly Weather Review, 2019, 147, 2979-2995.	1.4	18
12	Semi-implicit integration of the unified equations in a mass-based coordinate: model formulation and numerical testing. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 3387-3408.	2.7	4
13	The prospects for increasing the horizontal resolution of the Aeolus horizontal line-of-sight wind profiles. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 3499-3515.	2.7	8
14	Upgraded global mapping information for earth system modelling: an application to surface water depth at the ECMWF. Hydrology and Earth System Sciences, 2019, 23, 4051-4076.	4.9	16
15	FVM 1.0: a nonhydrostatic finite-volume dynamical core for the IFS. Geoscientific Model Development, 2019, 12, 651-676.	3.6	47
16	Uncertainty in the Representation of Orography in Weather and Climate Models and Implications for Parameterized Drag. Journal of Advances in Modeling Earth Systems, 2019, 11, 2567-2585.	3.8	31
17	Assessing the scales in numerical weather and climate predictions: will exascale be the rescue?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20180148.	3.4	48
18	The ESCAPE project: Energy-efficient Scalable Algorithms for Weather Prediction at Exascale. Geoscientific Model Development, 2019, 12, 4425-4441.	3.6	19

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19	Reflecting on the Goal and Baseline for Exascale Computing: A Roadmap Based on Weather and Climate Simulations. <i>Computing in Science and Engineering</i> , 2019, 21, 30-41.	1.2	47
20	Semi-implicit integrations of perturbation equations for all-scale atmospheric dynamics. <i>Journal of Computational Physics</i> , 2019, 376, 145-159.	3.8	17
21	Current and Emerging Time-Integration Strategies in Global Numerical Weather and Climate Prediction. <i>Archives of Computational Methods in Engineering</i> , 2019, 26, 663-684.	10.2	39
22	DYAMOND: the DYNAMics of the Atmospheric general circulation Modeled On Non-hydrostatic Domains. <i>Progress in Earth and Planetary Science</i> , 2019, 6, .	3.0	239
23	Comparing ECMWF high-resolution analyses with lidar temperature measurements in the middle atmosphere. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2018, 144, 633-640.	2.7	30
24	Systematic Errors in Weather and Climate Models: Nature, Origins, and Ways Forward. <i>Bulletin of the American Meteorological Society</i> , 2018, 99, ES67-ES70.	3.3	28
25	Crossing the chasm: how to develop weather and climate models for next generation computers?. <i>Geoscientific Model Development</i> , 2018, 11, 1799-1821.	3.6	50
26	The Numerics of Physical Parametrization in the ECMWF Model. <i>Frontiers in Earth Science</i> , 2018, 6, .	1.8	28
27	Satellite and In Situ Observations for Advancing Global Earth Surface Modelling: A Review. <i>Remote Sensing</i> , 2018, 10, 2038.	4.0	95
28	Building the Next Generation of Climate Modelers: Scale-Aware Physics Parameterization and the "Grey Zone" Challenge. <i>Bulletin of the American Meteorological Society</i> , 2018, 99, ES185-ES189.	3.3	5
29	Atlas : A library for numerical weather prediction and climate modelling. <i>Computer Physics Communications</i> , 2017, 220, 188-204.	7.5	29
30	Stochastic representations of model uncertainties at ECMWF: state of the art and future vision. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2017, 143, 2315-2339.	2.7	170
31	How does subgrid-scale parametrization influence nonlinear spectral energy fluxes in global NWP models?. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 5395-5410.	3.3	48
32	The Draupner wave: A fresh look and the emerging view. <i>Journal of Geophysical Research: Oceans</i> , 2016, 121, 6061-6075.	2.6	46
33	Accelerating Extreme-Scale Numerical Weather Prediction. <i>Lecture Notes in Computer Science</i> , 2016, , 583-593.	1.3	5
34	A finite-volume module for simulating global all-scale atmospheric flows. <i>Journal of Computational Physics</i> , 2016, 314, 287-304.	3.8	34
35	Soil temperature at ECMWF: An assessment using ground-based observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2015, 120, 1361-1373.	3.3	33
36	A Partitioned Global Address Space implementation of the European Centre for Medium Range Weather Forecasts Integrated Forecasting System. <i>International Journal of High Performance Computing Applications</i> , 2015, 29, 261-273.	3.7	16

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37	Evaluation of Medium-Range Forecasts for Hurricane Sandy. <i>Monthly Weather Review</i> , 2014, 142, 1962-1981.	1.4	65
38	Increasing horizontal resolution in numerical weather prediction and climate simulations: illusion or panacea?. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2014, 372, 20130289.	3.4	65
39	Future Changes in the Western North Pacific Tropical Cyclone Activity Projected by a Multidecadal Simulation with a 16-km Global Atmospheric GCM. <i>Journal of Climate</i> , 2014, 27, 7622-7646.	3.2	49
40	A consistent framework for discrete integrations of soundproof and compressible PDEs of atmospheric dynamics. <i>Journal of Computational Physics</i> , 2014, 263, 185-205.	3.8	81
41	A Fast Spherical Harmonics Transform for Global NWP and Climate Models. <i>Monthly Weather Review</i> , 2013, 141, 3450-3461.	1.4	54
42	Characteristics of Occasional Poor Medium-Range Weather Forecasts for Europe. <i>Bulletin of the American Meteorological Society</i> , 2013, 94, 1393-1405.	3.3	139
43	Revolutionizing Climate Modeling with Project Athena: A Multi-Institutional, International Collaboration. <i>Bulletin of the American Meteorological Society</i> , 2013, 94, 231-245.	3.3	75
44	The Aqua-Planet Experiment (APE): CONTROL SST Simulation. <i>Journal of the Meteorological Society of Japan</i> , 2013, 91A, 17-56.	1.8	64
45	Evidence for Enhanced Landâ€ˆAtmosphere Feedback in a Warming Climate. <i>Journal of Hydrometeorology</i> , 2012, 13, 981-995.	1.9	104
46	A PGAS Implementation by Co-design of the ECMWF Integrated Forecasting System (IFS)., 2012, , .		4
47	The Intra-Seasonal Oscillation and its control of tropical cyclones simulated by high-resolution global atmospheric models. <i>Climate Dynamics</i> , 2012, 39, 2185-2206.	3.8	50
48	High-Resolution Global Climate Simulations with the ECMWF Model in Project Athena: Experimental Design, Model Climate, and Seasonal Forecast Skill. <i>Journal of Climate</i> , 2012, 25, 3155-3172.	3.2	202
49	Tropical Cyclone Climatology in a 10-km Global Atmospheric GCM: Toward Weather-Resolving Climate Modeling. <i>Journal of Climate</i> , 2012, 25, 3867-3893.	3.2	157
50	Simulating the diurnal cycle of rainfall in global climate models: resolution versus parameterization. <i>Climate Dynamics</i> , 2012, 39, 399-418.	3.8	190
51	A Nonlinear Perspective on the Dynamics of the MJO: Idealized Large-Eddy Simulations. <i>Journals of the Atmospheric Sciences</i> , 2010, 67, 1202-1217.	1.7	26
52	A framework for testing global nonâ€ˆhydrostatic models. <i>Quarterly Journal of the Royal Meteorological Society</i> , 2009, 135, 469-484.	2.7	56
53	A reduced model of the Maddenâ€ˆJulian oscillation. <i>International Journal for Numerical Methods in Fluids</i> , 2008, 56, 1583-1588.	1.6	3
54	The new ECMWF VAREPS (Variable Resolution Ensemble Prediction System). <i>Quarterly Journal of the Royal Meteorological Society</i> , 2007, 133, 681-695.	2.7	144

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55	Direct Numerical Simulation of the Plumbâ€œMcEwan Laboratory Analog of the QBO. <i>Journals of the Atmospheric Sciences</i> , 2006, 63, 3226-3252.	1.7	41
56	The energetics of wave-driven mean flow oscillations. <i>International Journal for Numerical Methods in Fluids</i> , 2006, 50, 1175-1191.	1.6	4
57	Laboratory for internal gravity-wave dynamics: the numerical equivalent to the quasi-biennial oscillation (QBO) analogue. <i>International Journal for Numerical Methods in Fluids</i> , 2005, 47, 1369-1374.	1.6	9
58	Extending Gal-Chen and Somerville terrain-following coordinate transformation on time-dependent curvilinear boundaries. <i>Journal of Computational Physics</i> , 2004, 193, 1-20.	3.8	61