Hirofumi Tomita

List of Publications by Year
in descending order

94 papers	4,360 citations	136950 32 h-index	110387 64 g-index
97 all docs	97 docs citations	97 times ranked	3015 citing authors

#	Article	IF	Citations
1	Enhancing data assimilation of GPM observations. , 2022, , 787-804.		0
2	Development of the Realâ€Time 30â€sâ€Update Big Data Assimilation System for Convective Rainfall Prediction With a Phased Array Weather Radar: Description and Preliminary Evaluation. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	9
3	Advantage of 30â€sâ€Updating Numerical Weather Prediction With a Phasedâ€Array Weather Radar Over Operational Nowcast for a Convective Precipitation System. Geophysical Research Letters, 2022, 49, .	4.0	7
4	New Critical Length for the Onset of Selfâ€Aggregation of Moist Convection. Geophysical Research Letters, 2020, 47, e2020GL088763.	4.0	15
5	Methodology of the Constraint Condition in Dynamical Downscaling for Regional Climate Evaluation: A Review. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD032166.	3.3	31
6	A 1024-Member Ensemble Data Assimilation with 3.5-Km Mesh Global Weather Simulations. , 2020, , .		18
7	Impacts of Number of Cloud Condensation Nuclei on Two-Dimensional Moist Rayleigh Convection. Journal of the Meteorological Society of Japan, 2020, 98, 437-453.	1.8	2
8	Theoretical Time Evolution of Numerical Errors When Using Floating Point Numbers in Shallowâ€Water Models. Journal of Advances in Modeling Earth Systems, 2019, 11, 3235-3250.	3.8	0
9	An evaluation method for uncertainties in regional climate projections. Atmospheric Science Letters, 2019, 20, e877.	1.9	6
10	Maintenance condition of backâ€building squallâ€line in a numerical simulation of a heavy rainfall event in July 2010 in Western Japan. Atmospheric Science Letters, 2019, 20, e880.	1.9	4
11	Convergence of Convective Updraft Ensembles With Respect to the Grid Spacing of Atmospheric Models. Geophysical Research Letters, 2019, 46, 14817-14825.	4.0	9
12	Large dependency of charge distribution in a tropical cyclone inner core upon aerosol number concentration. Progress in Earth and Planetary Science, 2019, 6, .	3.0	8
13	Assimilating All-Sky Himawari-8 Satellite Infrared Radiances: A Case of Typhoon Soudelor (2015). Monthly Weather Review, 2018, 146, 213-229.	1.4	104
14	Aerosol effects on cloud water amounts were successfully simulated by a global cloud-system resolving model. Nature Communications, 2018, 9, 985.	12.8	73
15	Single Precision in the Dynamical Core of a Nonhydrostatic Global Atmospheric Model: Evaluation Using a Baroclinic Wave Test Case. Monthly Weather Review, 2018, 146, 409-416.	1.4	23
16	Numerical Convergence of Shallow Convection Cloud Field Simulations: Comparison Between Doubleâ€Moment Eulerian and Particleâ€Based Lagrangian Microphysics Coupled to the Same Dynamical Core. Journal of Advances in Modeling Earth Systems, 2018, 10, 1495-1512.	3.8	23
17	Online Model Parameter Estimation With Ensemble Data Assimilation in the Real Global Atmosphere: A Case With the Nonhydrostatic Icosahedral Atmospheric Model (NICAM) and the Global Satellite Mapping of Precipitation Data. Journal of Geophysical Research D: Atmospheres, 2018, 123, 7375-7392.	3.3	20
18	Decomposition of the large-scale atmospheric state driving downscaling: a perspective on dynamical downscaling for regional climate study. Progress in Earth and Planetary Science, 2018, 5, .	3.0	5

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19	Multi-scale Simulations of Atmospheric Pollutants Using a Non-hydrostatic Icosahedral Atmospheric Model. Springer Remote Sensing/photogrammetry, 2018, , 277-302.	0.4	4
20	Evaluation of summertime surface ozone in Kanto area of Japan using a semi-regional model and observation. Atmospheric Environment, 2017, 153, 163-181.	4.1	20
21	A grid refinement study of trade wind cumuli simulated by a Lagrangian cloud microphysical model: the superâ€droplet method. Atmospheric Science Letters, 2017, 18, 359-365.	1.9	12
22	A flexible I/O arbitration framework for netCDFâ€based big data processing workflows on highâ€end supercomputers. Concurrency Computation Practice and Experience, 2017, 29, e4161.	2.2	10
23	CONeP: A cost-effective online nesting procedure for regional atmospheric models. Parallel Computing, 2017, 65, 21-31.	2.1	7
24	Outcomes and challenges of global high-resolution non-hydrostatic atmospheric simulations using the K computer. Progress in Earth and Planetary Science, 2017, 4, .	3.0	23
25	Contributions of changes in climatology and perturbation and the resulting nonlinearity to regional climate change. Nature Communications, 2017, 8, 2224.	12.8	14
26	The Effect of Water Vapor on Tropical Cyclone Genesis: A Numerical Experiment of a Non-Developing Disturbance Observed in PALAU2010. Journal of the Meteorological Society of Japan, 2017, 95, 35-47.	1.8	11
27	The Near-Real-Time SCALE-LETKF System: A Case of the September 2015 Kanto-Tohoku Heavy Rainfall. Scientific Online Letters on the Atmosphere, 2017, 13, 1-6.	1.4	34
28	A 4D-Var inversion system based on the icosahedral grid model (NICAM-TM 4D-Var v1.0) â€“ Part 1: Offline forward and adjoint transport models. Geoscientific Model Development, 2017, 10, 1157-1174.	3.6	27
29	Performance evaluation of a throughput-aware framework for ensemble data assimilation: the case of NICAM-LETKF. Geoscientific Model Development, 2016, 9, 2293-2300.	3.6	21
30	Resolution Dependence of the Diurnal Cycle of Precipitation Simulated by a Global Cloud-System Resolving Model. Scientific Online Letters on the Atmosphere, 2016, 12, 272-276.	1.4	28
31	Performance Analysis and Optimization of Nonhydrostatic ICosahedral Atmospheric Model (NICAM) on the K Computer and TSUBAME2.5. , 2016, , .		14
32	â€œBig Data Assimilationâ€•Revolutionizing Severe Weather Prediction. Bulletin of the American Meteorological Society, 2016, 97, 1347-1354.	3.3	71
33	â€œBig Data Assimilationâ€•Toward Post-Petascale Severe Weather Prediction: An Overview and Progress. Proceedings of the IEEE, 2016, 104, 2155-2179.	21.3	54
34	Toward a General I/O Arbitration Framework for netCDF Based Big Data Processing. Lecture Notes in Computer Science, 2016, , 293-305.	1.3	5
35	Martian dust devil statistics from highâ€resolution largeâ€eddy simulations. Geophysical Research Letters, 2016, 43, 4180-4188.	4.0	17
36	Impact of highâ€resolution sea surface temperature and urban data on estimations of surface air temperature in a regional climate. Journal of Geophysical Research D: Atmospheres, 2016, 121, 10,486.	3.3	4

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37	Automatic generation of efficient codes from mathematical descriptions of stencil computation. , 2016, , .		3
38	Precursors of deep moist convection in a subkilometer global simulation. Journal of Geophysical Research D: Atmospheres, 2016, 121, 12,080.	3.3	5
39	Unrealistically pristine air in the Arctic produced by current global scale models. Scientific Reports, 2016, 6, 26561.	3.3	29
40	Resolution dependence of deep convections in a global simulation from over 10-kilometer to sub-kilometer grid spacing. Progress in Earth and Planetary Science, 2016, 3, .	3.0	32
41	Does convection vary in different cloud disturbances?. Atmospheric Science Letters, 2015, 16, 305-309.	1.9	19
42	Impacts of cloud microphysics on trade wind cumulus: which cloud microphysics processes contribute to the diversity in a large eddy simulation?. Progress in Earth and Planetary Science, 2015, 2, .	3.0	90
43	Horizontal Distance of Each Cumulus and Cloud Broadening Distance Determine Cloud Cover. Scientific Online Letters on the Atmosphere, 2015, 11, 75-79.	1.4	5
44	Impact of Tropical Disturbance on the Indian Summer Monsoon Onset Simulated by a Global Cloud-System-Resolving Model. Scientific Online Letters on the Atmosphere, 2015, 11, 80-84.	1.4	5
45	Application of a global nonhydrostatic model with a stretched-grid system to regional aerosol simulations around Japan. Geoscientific Model Development, 2015, 8, 235-259.	3.6	33
46	Influence of grid aspect ratio on planetary boundary layer turbulence in large-eddy simulations. Geoscientific Model Development, 2015, 8, 3393-3419.	3.6	100
47	A linear thermal stability analysis of discretized fluid equations. Theoretical and Computational Fluid Dynamics, 2015, 29, 155-169.	2.2	2
48	Potential of Retrieving Shallow-Cloud Life Cycle from Future Generation Satellite Observations through Cloud Evolution Diagrams: A Suggestion from a Large Eddy Simulation. Scientific Online Letters on the Atmosphere, 2014, 10, 10-14.	1.4	12
49	A hypothesis and a case-study projection of an influence of MJO modulation on boreal-summer tropical cyclogenesis in a warmer climate with a global non-hydrostatic model: a transition toward the central Pacific?. Frontiers in Earth Science, 2014, 2, .	1.8	3
50	Gradient Wind Balance in Tropical Cyclones in High-Resolution Global Experiments. Monthly Weather Review, 2014, 142, 1908-1926.	1.4	20
51	The Non-hydrostatic Icosahedral Atmospheric Model: description and development. Progress in Earth and Planetary Science, 2014, 1, .	3.0	274
52	High cloud increase in a perturbed SST experiment with a global nonhydrostatic model including explicit convective processes. Journal of Advances in Modeling Earth Systems, 2014, 6, 571-585.	3.8	35
53	Maddenâ€“Julian Oscillation prediction skill of a new-generation global model demonstrated using a supercomputer. Nature Communications, 2014, 5, 3769.	12.8	97
54	Scalable rank-mapping algorithm for an icosahedral grid system on the massive parallel computer with a 3-D torus network. Parallel Computing, 2014, 40, 362-373.	2.1	6

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55	Improved smoothness and homogeneity of icosahedral grids using the spring dynamics method. Journal of Computational Physics, 2014, 258, 208-226.	3.8	10
56	Simultaneous evaluation of ice cloud microphysics and nonsphericity of the cloud optical properties using hydrometeor video sonde and radiometer sonde in situ observations. Journal of Geophysical Research D: Atmospheres, 2014, 119, 6681-6701.	3.3	21
57	Revolutionizing Climate Modeling with Project Athena: A Multi-Institutional, International Collaboration. Bulletin of the American Meteorological Society, 2013, 94, 231-245.	3.3	75
58	Deep moist atmospheric convection in a subkilometer global simulation. Geophysical Research Letters, 2013, 40, 4922-4926.	4.0	172
59	Possible Impact of a Tropical Cyclone on the Northward Migration of the Baiu Frontal Zone. Scientific Online Letters on the Atmosphere, 2013, 9, 89-93.	1.4	5
60	Multi-GPU Implementation of the NICAM Atmospheric Model. Lecture Notes in Computer Science, 2013, , 175-184.	1.3	11
61	Response of Upper Clouds in Global Warming Experiments Obtained Using a Global Nonhydrostatic Model with Explicit Cloud Processes. Journal of Climate, 2012, 25, 2178-2191.	3.2	40
62	Quantitative Assessment of Diurnal Variation of Tropical Convection Simulated by a Global Nonhydrostatic Model without Cumulus Parameterization. Journal of Climate, 2012, 25, 5119-5134.	3.2	33
63	The Intra-Seasonal Oscillation and its control of tropical cyclones simulated by high-resolution global atmospheric models. Climate Dynamics, 2012, 39, 2185-2206.	3.8	50
64	Simulating the diurnal cycle of rainfall in global climate models: resolution versus parameterization. Climate Dynamics, 2012, 39, 399-418.	3.8	190
65	Why do Super Clusters and Madden Julian Oscillation Exist over the Equatorial Region?. Scientific Online Letters on the Atmosphere, 2012, 8, 33-36.	1.4	6
66	Sampling error of daily mean surface wind speed and air specific humidity due to Sun-synchronous satellite sampling and its reduction by multi-satellite sampling. International Journal of Remote Sensing, 2011, 32, 3389-3404.	2.9	13
67	Sensitivity of Hadley Circulation to Physical Parameters and Resolution through Changing Upper-Tropospheric Ice Clouds Using a Global Cloud-System Resolving Model. Journal of Climate, 2011, 24, 2666-2679.	3.2	17
68	A Three-Dimensional Icosahedral Grid Advection Scheme Preserving Monotonicity and Consistency with Continuity for Atmospheric Tracer Transport. Journal of the Meteorological Society of Japan, 2011, 89, 255-268.	1.8	53
69	Comparison of Explicitly Simulated and Downscaled Tropical Cyclone Activity in a Highâ€Resolution Global Climate Model. Journal of Advances in Modeling Earth Systems, 2010, 2, .	3.8	25
70	Projection of changes in tropical cyclone activity and cloud height due to greenhouse warming: Global cloudâ€systemâ€resolving approach. Geophysical Research Letters, 2010, 37, .	4.0	63
71	Importance of the subgrid-scale turbulent moist process: Cloud distribution in global cloud-resolving simulations. Atmospheric Research, 2010, 96, 208-217.	4.1	100
72	Change of Tropical Cyclone and Seasonal Climate State in a Global Warming Experiment with a Global Cloud-System-Resolving Model. , 2010, , 25-37.		0

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73	Analysis of Spurious Surface Temperature at the Atmosphereâ€“Land Interface and a New Method to Solve the Surface Energy Balance Equation. Journal of Hydrometeorology, 2009, 10, 833-844.	1.9	2
74	A Simulated Preconditioning of Typhoon Genesis Controlled by a Boreal Summer Madden-Julian Oscillation Event in a Global Cloud-system-resolving Model. Scientific Online Letters on the Atmosphere, 2009, 5, 65-68.	1.4	38
75	Nonhydrostatic icosahedral atmospheric model (NICAM) for global cloud resolving simulations. Journal of Computational Physics, 2008, 227, 3486-3514.	3.8	548
76	Global cloudâ€systemâ€resolving simulation of aerosol effect on warm clouds. Geophysical Research Letters, 2008, 35, .	4.0	58
77	A New Approach to Atmospheric General Circulation Model: Global Cloud Resolving Model NICAM and its Computational Performance. SIAM Journal of Scientific Computing, 2008, 30, 2755-2776.	2.8	22
78	Convectively Coupled Equatorial Waves Simulated on an Aquaplanet in a Global Nonhydrostatic Experiment. Journals of the Atmospheric Sciences, 2008, 65, 1246-1265.	1.7	29
79	New Microphysical Schemes with Five and Six Categories by Diagnostic Generation of Cloud Ice. Journal of the Meteorological Society of Japan, 2008, 86A, 121-142.	1.8	183
80	Precipitation Statistics Comparison Between Global Cloud Resolving Simulation with NICAM and TRMM PR Data. , 2008, , 99-112.		14
81	A Stretched Icosahedral Grid by a New Grid Transformation. Journal of the Meteorological Society of Japan, 2008, 86A, 107-119.	1.8	56
82	Multiscale Organization of Convection Simulated with Explicit Cloud Processes on an Aquaplanet. Journals of the Atmospheric Sciences, 2007, 64, 1902-1921.	1.7	58
83	Mountain-Wave-Like Spurious Waves Associated with Simulated Cold Fronts due to Inconsistencies between Horizontal and Vertical Resolutions. Monthly Weather Review, 2007, 135, 2629-2641.	1.4	15
84	A short-duration global cloud-resolving simulation with a realistic land and sea distribution. Geophysical Research Letters, 2007, 34, .	4.0	49
85	Climatology of a nonhydrostatic global model with explicit cloud processes. Geophysical Research Letters, 2007, 34, .	4.0	29
86	A global cloud-resolving simulation: Preliminary results from an aqua planet experiment. Geophysical Research Letters, 2005, 32, .	4.0	193
87	A climate sensitivity test using a global cloud resolving model under an aqua planet condition. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	65
88	A new dynamical framework of nonhydrostatic global model using the icosahedral grid. Fluid Dynamics Research, 2004, 34, 357-400.	1.3	351
89	A Comparison Study of Computational Performace between a Spectral Transform Model and a Gridpoint Model. , 2004, , 333-340.		0
90	Computational Performance of the Dynamical Part of a Next Generation Climate Model using an Icosahedral Grid on the Earth Simulator. , 2003, , 63-69.		2

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91	Development of a Nonhydrostatic General Circulation Model using an Icosahedral Grid. , 2003, , 115-122.		3
92	An Optimization of the Icosahedral Grid Modified by Spring Dynamics. Journal of Computational Physics, 2002, 183, 307-331.	3.8	81
93	Shallow Water Model on a Modified Icosahedral Geodesic Grid by Using Spring Dynamics. Journal of Computational Physics, 2001, 174, 579-613.	3.8	171
94	A Stretched Icosahedral Grid for the Global Cloud Resolving Model. , 1996, , 177-182.		0