StÃ©phane P Vannitsem

List of Publications by Year
in descending order

79 papers	1,771 citations	279798 23 h-index	330143 37 g-index
116 all docs	116 docs citations	116 times ranked	1414 citing authors

#	Article	IF	Citations
1	Statistical Postprocessing for Weather Forecasts: Review, Challenges, and Avenues in a Big Data World. Bulletin of the American Meteorological Society, 2021, 102, E681-E699.	3.3	106
2	Modeling of rainfall time series using two-state renewal processes and multifractals. Journal of Geophysical Research, 1998, 103, 23181-23193.	3.3	91
3	Lyapunov Vectors and Error Growth Patterns in a T21L3 Quasigeostrophic Model. Journals of the Atmospheric Sciences, 1997, 54, 347-361.	1.7	86
4	Skill of Medium-Range Hydrological Ensemble Predictions. Journal of Hydrometeorology, 2005, 6, 729-744.	1.9	82
5	The Structure of Climate Variability Across Scales. Reviews of Geophysics, 2020, 58, e2019RG000657.	23.0	71
6	One-Way Nested Regional Climate Simulations and Domain Size. Journal of Climate, 2005, 18, 229-233.	3.2	63
7	Postprocessing of Ensemble Precipitation Predictions with Extended Logistic Regression Based on Hindcasts. Monthly Weather Review, 2012, 140, 874-888.	1.4	59
8	Dynamics of Prediction Errors under the Combined Effect of Initial Condition and Model Errors. Journals of the Atmospheric Sciences, 2009, 66, 766-778.	1.7	51
9	Ensemble postâ€processing using memberâ€byâ€member approaches: theoretical aspects. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 807-818.	2.7	51
10	Statistical and dynamical properties of covariant lyapunov vectors in a coupled atmosphere-ocean modelâ€”multiscale effects, geometric degeneracy, and error dynamics. Journal of Physics A: Mathematical and Theoretical, 2016, 49, 224001.	2.1	46
11	Short-Term Dynamics of Model Errors. Journals of the Atmospheric Sciences, 2002, 59, 2594-2604.	1.7	44
12	The CORDEX.be initiative as a foundation for climate services in Belgium. Climate Services, 2018, 11, 49-61.	2.5	44
13	Accounting for Model Error in Variational Data Assimilation: A Deterministic Formulation. Monthly Weather Review, 2010, 138, 3369-3386.	1.4	41
14	Postâ€processing of mediumâ€range probabilistic hydrological forecasting: impact of forcing, initial conditions and model errors. Hydrological Processes, 2015, 29, 1434-1449.	2.6	41
15	Predictability of large-scale atmospheric motions: Lyapunov exponents and error dynamics. Chaos, 2017, 27, 032101.	2.5	40
16	State and parameter estimation with the extended Kalman filter: an alternative formulation of the model error dynamics. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 435-451.	2.7	35
17	Low-frequency variability and heat transport in a low-order nonlinear coupled oceanâ€“atmosphere model. Physica D: Nonlinear Phenomena, 2015, 309, 71-85.	2.8	35
18	Short-range predictability of the atmosphere: Mechanisms for superexponential error growth. Quarterly Journal of the Royal Meteorological Society, 1995, 121, 705-722.	2.7	33

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19	Dynamical Properties of MOS Forecasts: Analysis of the ECMWF Operational Forecasting System. Weather and Forecasting, 2008, 23, 1032-1043.	1.4	32
20	A 24-variable low-order coupled oceanâ€“atmosphere model: OA-QG-WS v2. Geoscientific Model Development, 2014, 7, 649-662.	3.6	29
21	Bias correction and post-processing under climate change. Nonlinear Processes in Geophysics, 2011, 18, 911-924.	1.3	27
22	The Modular Arbitrary-Order Ocean-Atmosphere Model: MAOOAMÂv1.0. Geoscientific Model Development, 2016, 9, 2793-2808.	3.6	26
23	Exploring the Lyapunov instability properties of high-dimensional atmospheric and climate models. Nonlinear Processes in Geophysics, 2018, 25, 387-412.	1.3	26
24	Adaptive Kalman Filtering for Postprocessing Ensemble Numerical Weather Predictions. Monthly Weather Review, 2017, 145, 4837-4854.	1.4	24
25	Improving forecasts of El NiÃ±o diversity: a nonlinear forcing singular vector approach. Climate Dynamics, 2020, 55, 739-754.	3.8	24
26	Attractor dimension of time-averaged climate observables: insights from a low-order ocean-atmosphere model. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 71, 1554413.	1.7	23
27	Post-processing through linear regression. Nonlinear Processes in Geophysics, 2011, 18, 147-160.	1.3	23
28	Dynamical Properties of Model Output Statistics Forecasts. Monthly Weather Review, 2008, 136, 405-419.	1.4	22
29	Assimilation of sea surface temperature, sea ice concentration and sea ice drift in a model of the Southern Ocean. Ocean Modelling, 2015, 93, 22-39.	2.4	22
30	Spatial dependences among precipitation maxima over Belgium. Nonlinear Processes in Geophysics, 2007, 14, 621-630.	1.3	21
31	The maximum likelihood ensemble filter performances in chaotic systems. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 61, 587.	1.7	21
32	A unified linear Model Output Statistics scheme for both deterministic and ensemble forecasts. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 1801-1815.	2.7	20
33	Model error and sequential data assimilation: A deterministic formulation. Quarterly Journal of the Royal Meteorological Society, 2008, 134, 1297-1313.	2.7	17
34	Stochastic parametrization of subgridâ€scale processes in coupled oceanâ€“atmosphere systems: benefits and limitations of response theory. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 881-896.	2.7	17
35	Causal dependences between the coupled oceanâ€“atmosphere dynamics over the tropical Pacific, the North Pacific and the North Atlantic. Earth System Dynamics, 2018, 9, 1063-1083.	7.1	17
36	Testing for Dynamical Dependence: Application to the Surface Mass Balance Over Antarctica. Geophysical Research Letters, 2019, 46, 12125-12135.	4.0	17

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37	Causal Links Between Arctic Sea Ice and Its Potential Drivers Based on the Rate of Information Transfer. Geophysical Research Letters, 2022, 49, .	4.0	17
38	Statistical properties of the temperature maxima in an intermediate order Quasi-Geostrophic model. Tellus, Series A: Dynamic Meteorology and Oceanography, 2007, 59, 80-95.	1.7	16
39	Ensemble forecast postâ€processing over Belgium: comparison of deterministicâ€like and ensemble regression methods. Meteorological Applications, 2011, 18, 94-104.	2.1	16
40	The role of the ocean mixed layer on the development of the North Atlantic Oscillation: A dynamical system's perspective. Geophysical Research Letters, 2015, 42, 8615-8623.	4.0	16
41	Predictability experiments on a simplified thermal convection model: The role of spatial scales. Journal of Geophysical Research, 1994, 99, 10377.	3.3	15
42	Dynamics and predictability of a low-order wind-driven oceanâ€“atmosphere coupled model. Climate Dynamics, 2014, 42, 1981-1998.	3.8	15
43	TREATMENT OF THE ERROR DUE TO UNRESOLVED SCALES IN SEQUENTIAL DATA ASSIMILATION. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2011, 21, 3619-3626.	1.7	14
44	Evidence of coupling in oceanâ€atmosphere dynamics over the North Atlantic. Geophysical Research Letters, 2017, 44, 2016-2026.	4.0	14
45	On Temporal Scale Separation in Coupled Data Assimilation with the Ensemble Kalman Filter. Journal of Statistical Physics, 2020, 179, 1161-1185.	1.2	13
46	Dynamics of fine-scale variables versus averaged observables in a T21L3 quasi-geostrophic model. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 2201-2226.	2.7	11
47	Stochastic modelling and predictability: analysis of a low-order coupled oceanâ€“atmosphere model. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130282.	3.4	11
48	On the use of near-neutral Backward Lyapunov Vectors to get reliable ensemble forecasts in coupled oceanâ€“atmosphere systems. Climate Dynamics, 2020, 55, 1125-1139.	3.8	11
49	A Probabilistic Approach to Forecast the Uncertainty with Ensemble Spread. Monthly Weather Review, 2016, 144, 451-468.	1.4	10
50	Molecular dynamics simulations of passive transport in two-dimensional Rayleigh-BÃ©nard convection. Physical Review E, 1995, 51, 5564-5570.	2.1	9
51	Comparison of stochastic parameterizations in the framework of a coupled oceanâ€“atmosphere model. Nonlinear Processes in Geophysics, 2018, 25, 605-631.	1.3	9
52	qgs: A flexible Python framework of reduced-order multiscale climate models. Journal of Open Source Software, 2020, 5, 2597.	4.6	9
53	Dynamical Dependencies at Monthly and Interannual Time Scales in the Climate System: Study of the North Pacific and Atlantic Regions. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 74, 141-158.	1.7	9
54	Toward a phase-space cartography of the short- and medium-range predictability of weather regimes. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 53, 56.	1.7	8

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55	Toward a phase-space cartography of the short- and medium-range predictability of weather regimes. Tellus, Series A: Dynamic Meteorology and Oceanography, 2001, 53, 56-73.	1.7	8
56	Multiscale fractal dimension analysis of a reduced order model of coupled oceanâ€“atmosphere dynamics. Earth System Dynamics, 2021, 12, 837-855.	7.1	8
57	Assessment of calibration assumptions under strong climate changes. Geophysical Research Letters, 2016, 43, 1314-1322.	4.0	7
58	Postprocessing of Long-Range Forecasts. , 2018, , 267-290.		7
59	Extratropical Lowâ€Frequency Variability With ENSO Forcing: A Reducedâ€Order Coupled Model Study. Journal of Advances in Modeling Earth Systems, 2021, 13, e2021MS002530.	3.8	7
60	Deterministic Treatment of Model Error in Geophysical Data Assimilation. Springer INdAM Series, 2016, , 175-213.	0.5	7
61	The Role of Scales in the Dynamics of Parameterization Uncertainties. Journals of the Atmospheric Sciences, 2006, 63, 1659-1671.	1.7	6
62	Stochastic Parameterization of Subgrid-Scale Processes: A Review of Recent Physically Based Approaches. , 2018, , 55-85.		6
63	Dynamics of fine scale variables versus averaged observables in a simplified thermal convection model. Journal of Geophysical Research, 1995, 100, 16367.	3.3	5
64	Intrinsic dynamics of the Eta regional model: role of the domain size. Meteorologische Zeitschrift, 2002, 11, 403-408.	1.0	5
65	Correcting for model changes in statistical postprocessing â€“ an approach based on response theory. Nonlinear Processes in Geophysics, 2020, 27, 307-327.	1.3	5
66	Short time augmented extended Kalman filter for soil analysis: a feasibility study. Atmospheric Science Letters, 2012, 13, 268-274.	1.9	4
67	Uncertain Forecasts From Deterministic Dynamics. , 2018, , 1-13.		4
68	An Improved Formula to Describe Error Growth in Meteorological Models. , 1994, , 45-56.		4
69	ERROR GROWTH DYNAMICS IN SPATIALLY EXTENDED SYSTEMS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1996, 06, 2223-2235.	1.7	3
70	Aperiodic mean-field evolutions in coupled map lattices. Physical Review E, 1998, 57, 4921-4932.	2.1	3
71	Dynamics, statistics and predictability of a simple limited-area forecasting model. Tellus, Series A: Dynamic Meteorology and Oceanography, 1999, 51, 222-232.	1.7	3
72	Routes to longâ€term atmospheric predictability in reducedâ€order coupled oceanâ€“atmosphere systems: Impact of the ocean basin boundary conditions. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 2791-2805.	2.7	3

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73	Identifying efficient ensemble perturbations for initializing subseasonalâ€toâ€seasonal prediction. Journal of Advances in Modeling Earth Systems, 0, , .	3.8	3
74	Dynamics, statistics and predictability of a simple limited-area forecasting model. Tellus, Series A: Dynamic Meteorology and Oceanography, 1999, 51, 222-232.	1.7	2
75	Intrinsic Error Growth in a Large-Domain Eta Regional Model. Monthly Weather Review, 2003, 131, 2697-2704.	1.4	2
76	Large ensemble of downscaled historical daily snowfall from an earth system model to 5.5â€‰km resolution over Dronning Maud Land, Antarctica. Earth System Science Data, 2022, 14, 1901-1916.	9.9	2
77	Simulating model uncertainty of subgrid-scale processes by sampling model errors at convective scales. Nonlinear Processes in Geophysics, 2020, 27, 187-207.	1.3	1
78	Reliable Probabilities Through Statistical Post-processing of Ensemble Forecasts. Springer Proceedings in Complexity, 2013, , 347-352.	0.3	0
79	Preface: Advances in post-processing and blending of deterministic and ensemble forecasts. Nonlinear Processes in Geophysics, 2020, 27, 519-521.	1.3	0