# A J Adcroft

## List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/2113783/publications.pdf

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|---|---|---|---|
| 71 papers | 9,832 citations | 81743 39 h-index | 91712 69 g-index |
| 74 all docs | 74 docs citations | 74 times ranked | 7947 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A finite-volume, incompressible Navier Stokes model for studies of the ocean on parallel computers. Journal of Geophysical Research, 1997, 102, 5753-5766. | 3.3 | 1,968 |
| 2 | Hydrostatic, quasi-hydrostatic, and nonhydrostatic ocean modeling. Journal of Geophysical Research, 1997, 102, 5733-5752. | 3.3 | 1,089 |
| 3 | GFDLâ€™s ESM2 Global Coupled Climateâ€“Carbon Earth System Models. Part I: Physical Formulation and Baseline Simulation Characteristics. Journal of Climate, 2012, 25, 6646-6665. | 1.2 | 972 |
| 4 | GFDLâ€™s ESM2 Global Coupled Climateâ€“Carbon Earth System Models. Part II: Carbon System Formulation and Baseline Simulation Characteristics*. Journal of Climate, 2013, 26, 2247-2267. | 1.2 | 540 |
| 5 | Representation of Topography by Shaved Cells in a Height Coordinate Ocean Model. Monthly Weather Review, 1997, 125, 2293-2315. | 0.5 | 520 |
| 6 | Simulated Climate and Climate Change in the GFDL CM2.5 High-Resolution Coupled Climate Model. Journal of Climate, 2012, 25, 2755-2781. | 1.2 | 454 |
| 7 | Global ocean circulation during 1992â€“1997, estimated from ocean observations and a general circulation model. Journal of Geophysical Research, 2002, 107, 1-1. | 3.3 | 302 |
| 8 | The GFDL Earth System Model Version 4.1 (GFDLâ€ESM 4.1): Overall Coupled Model Description and Simulation Characteristics. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS002015. | 1.3 | 277 |
| 9 | Implementation of an Atmosphereâ€“Ocean General Circulation Model on the Expanded Spherical Cube. Monthly Weather Review, 2004, 132, 2845-2863. | 0.5 | 249 |
| 10 | Structure and Performance of GFDL's CM4.0 Climate Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 3691-3727. | 1.3 | 242 |
| 11 | OMIP contribution to CMIP6: experimental and diagnostic protocol for the physical component of the Ocean Model Intercomparison Project. Geoscientific Model Development, 2016, 9, 3231-3296. | 1.3 | 223 |
| 12 | Rescaled height coordinates for accurate representation of free-surface flows in ocean circulation models. Ocean Modelling, 2004, 7, 269-284. | 1.0 | 205 |
| 13 | The GFDL Global Ocean and Sea Ice Model OM4.0: Model Description and Simulation Features. Journal of Advances in Modeling Earth Systems, 2019, 11, 3167-3211. | 1.3 | 195 |
| 14 | Internal Wave Breaking at Concave and Convex Continental Slopes*. Journal of Physical Oceanography, 2003, 33, 2224-2246. | 0.7 | 168 |
| 15 | Volume, heat, and freshwater transports of the global ocean circulation 1993â€“2000, estimated from a general circulation model constrained by World Ocean Circulation Experiment (WOCE) data. Journal of Geophysical Research, 2003, 108, 7-1. | 3.3 | 141 |
| 16 | Challenges and Prospects in Ocean Circulation Models. Frontiers in Marine Science, 2019, 6, . | 1.2 | 133 |
| 17 | Routes to energy dissipation for geostrophic flows in the Southern Ocean. Nature Geoscience, 2013, 6, 48-51. | 5.4 | 132 |
| 18 | Spurious dianeutral mixing and the role of momentum closure. Ocean Modelling, 2012, 45-46, 37-58. | 1.0 | 116 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Parameterizing the fresh-water flux from land ice to ocean with interactive icebergs in a coupled climate model. Ocean Modelling, 2010, 34, 111-124. | 1.0 | 104 |
| 20 | Evaluation of global oceanâ€“sea-ice model simulations based on the experimental protocols of the Ocean Model Intercomparison Project phase 2 (OMIP-2). Geoscientific Model Development, 2020, 13, 3643-3708. | 1.3 | 99 |
| 21 | SPEAR: The Next Generation GFDL Modeling System for Seasonal to Multidecadal Prediction and Projection. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001895. | 1.3 | 94 |
| 22 | Parameterization of ocean eddies: Potential vorticity mixing, energetics and Arnoldâ€™s first stability theorem. Ocean Modelling, 2010, 32, 188-204. | 1.0 | 85 |
| 23 | A New Treatment of the Coriolis Terms in C-Grid Models at Both High and Low Resolutions. Monthly Weather Review, 1999, 127, 1928-1936. | 0.5 | 83 |
| 24 | Impact of geothermal heating on the global ocean circulation. Geophysical Research Letters, 2001, 28, 1735-1738. | 1.5 | 83 |
| 25 | Conservation of properties in a free-surface model. Ocean Modelling, 2004, 6, 221-244. | 1.0 | 78 |
| 26 | Simulations of underwater plumes of dissolved oil in the Gulf of Mexico. Geophysical Research Letters, 2010, 37, . | 1.5 | 72 |
| 27 | The vertical structure of ocean heat transport. Geophysical Research Letters, 2005, 32, . | 1.5 | 70 |
| 28 | The effects of Antarctic iceberg calvingâ€size distribution in a global climate model. Journal of Geophysical Research: Oceans, 2016, 121, 5773-5788. | 1.0 | 62 |
| 29 | The KPP Boundary Layer Scheme for the Ocean: Revisiting Its Formulation and Benchmarking Oneâ€Dimensional Simulations Relative to LES. Journal of Advances in Modeling Earth Systems, 2018, 10, 2647-2685. | 1.3 | 62 |
| 30 | Comparing Ocean Surface Boundary Vertical Mixing Schemes Including Langmuir Turbulence. Journal of Advances in Modeling Earth Systems, 2019, 11, 3545-3592. | 1.3 | 62 |
| 31 | Atmosphereâ€“Ocean Modeling Exploiting Fluid Isomorphisms. Monthly Weather Review, 2004, 132, 2882-2894. | 0.5 | 61 |
| 32 | Parameterization of eddy fluxes based on a mesoscale energy budget. Ocean Modelling, 2015, 92, 28-41. | 1.0 | 61 |
| 33 | Energy budget-based backscatter in an eddy permitting primitive equation model. Ocean Modelling, 2015, 94, 15-26. | 1.0 | 59 |
| 34 | Toward an Energetically Consistent, Resolution Aware Parameterization of Ocean Mesoscale Eddies. Journal of Advances in Modeling Earth Systems, 2019, 11, 2844-2860. | 1.3 | 58 |
| 35 | On methods for solving the oceanic equations of motion in generalized vertical coordinates. Ocean Modelling, 2006, 11, 224-233. | 1.0 | 56 |
| 36 | How slippery are piecewise-constant coastlines in numerical ocean models?. Tellus, Series A: Dynamic Meteorology and Oceanography, 1998, 50, 95-108. | 0.8 | 44 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Reconciling estimates of the free surface height in Lagrangian vertical coordinate ocean models with mode-split time stepping. Ocean Modelling, 2009, 29, 15-26. | 1.0 | 43 |
| 38 | How Sensitive Are Coarse General Circulation Models to Fundamental Approximations in the Equations of Motion?. Journal of Physical Oceanography, 2004, 34, 306-319. | 0.7 | 42 |
| 39 | Next-generation regional ocean projections for living marine resource management in a changing climate. ICES Journal of Marine Science, 2021, 78, 1969-1987. | 1.2 | 42 |
| 40 | Simulating Water Residence Time in the Coastal Ocean: A Global Perspective. Geophysical Research Letters, 2019, 46, 13910-13919. | 1.5 | 41 |
| 41 | A high-order finite volume remapping scheme for nonuniform grids: The piecewise quartic method (PQM). Journal of Computational Physics, 2008, 227, 7394-7422. | 1.9 | 40 |
| 42 | Geothermal heating and its influence on the meridional overturning circulation. Journal of Geophysical Research, 2001, 106, 31141-31154. | 3.3 | 35 |
| 43 | A finite volume discretization of the pressure gradient force using analytic integration. Ocean Modelling, 2008, 22, 106-113. | 1.0 | 34 |
| 44 | Influence of Ocean and Atmosphere Components on Simulated Climate Sensitivities. Journal of Climate, 2013, 26, 231-245. | 1.2 | 30 |
| 45 | GFDL's SPEAR Seasonal Prediction System: Initialization and Ocean Tendency Adjustment (OTA) for Coupled Model Predictions. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002149. | 1.3 | 27 |
| 46 | A Primer on the Vertical Lagrangianâ€Remap Method in Ocean Models Based on Finite Volume Generalized Vertical Coordinates. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001954. | 1.3 | 26 |
| 47 | Sensitivity of Twenty-First-Century Global-Mean Steric Sea Level Rise to Ocean Model Formulation. Journal of Climate, 2013, 26, 2947-2956. | 1.2 | 25 |
| 48 | Energy Flux into Internal Lee Waves: Sensitivity to Future Climate Changes Using Linear Theory and a Climate Model. Journal of Climate, 2015, 28, 2365-2384. | 1.2 | 23 |
| 49 | Representation of topography by porous barriers and objective interpolation of topographic data. Ocean Modelling, 2013, 67, 13-27. | 1.0 | 22 |
| 50 | Application of Discrete Element Methods to Approximate Sea Ice Dynamics. Journal of Advances in Modeling Earth Systems, 2018, 10, 2228-2244. | 1.3 | 22 |
| 51 | High-order regriddingâ€“remapping schemes for continuous isopycnal and generalized coordinates in ocean models. Journal of Computational Physics, 2009, 228, 8665-8692. | 1.9 | 19 |
| 52 | Modeling tabular icebergs submerged in the ocean. Journal of Advances in Modeling Earth Systems, 2017, 9, 1948-1972. | 1.3 | 17 |
| 53 | Climate Sensitivity of GFDL's CM4.0. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001838. | 1.3 | 17 |
| 54 | Formulating the equations of ocean models. Geophysical Monograph Series, 2008, , 281-317. | 0.1 | 16 |

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|---|---|---|---|
| 55 | Dynamics of a dense gravity current flowing over a corrugation. Ocean Modelling, 2011, 38, 71-84. | 1.0 | 14 |
| 56 | Diagnosing Subgrid Mesoscale Eddy Fluxes With and Without Topography. Journal of Advances in Modeling Earth Systems, 2019, 11, 3995-4015. | 1.3 | 14 |
| 57 | Attribution of horizontal and vertical contributions to spurious mixing in an Arbitrary Lagrangianâ€“Eulerian ocean model. Ocean Modelling, 2017, 119, 45-56. | 1.0 | 12 |
| 58 | Investigation of the Surface and Circulation Impacts of Cloud-Brightening Geoengineering. Journal of Climate, 2012, 25, 7527-7543. | 1.2 | 8 |
| 59 | A framework for parameterization of heterogeneous ocean convection. Ocean Modelling, 2014, 82, 1-14. | 1.0 | 8 |
| 60 | Parameterizing the Impact of Unresolved Temperature Variability on the Largeâ€Scale Density Field: Part 1. Theory.. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002185. | 1.3 | 6 |
| 61 | A Generalâ€Coordinate, Nonlocal Neutral Diffusion Operator. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001992. | 1.3 | 5 |
| 62 | Parameterizing Tabularâ€Iceberg Decay in an Ocean Model. Journal of Advances in Modeling Earth Systems, 2022, 14, . | 1.3 | 5 |
| 63 | A Potential Energy Analysis of Ocean Surface Mixed Layers. Journal of Geophysical Research: Oceans, 2022, 127, . | 1.0 | 4 |
| 64 | Atlantic watermass and circulation response to persistent freshwater forcing in two coupled general circulation models. Climate Dynamics, 2014, 42, 59-68. | 1.7 | 3 |
| 65 | Modeling Ice Shelf Cavities and Tabular Icebergs Using Lagrangian Elements. Journal of Geophysical Research: Oceans, 2019, 124, 3378-3392. | 1.0 | 3 |
| 66 | Comment on â€œClimate control requires a dam at the Strait of Gibraltarâ€. Eos, 1997, 78, 507. | 0.1 | 2 |
| 67 | An order-invariant real-to-integer conversion sum. Parallel Computing, 2014, 40, 140-143. | 1.3 | 2 |
| 68 | The Effects of Ice Floeâ€Floe Interactions on Pressure Ridging in Sea Ice. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002336. | 1.3 | 2 |
| 69 | A personal supercomputer for climate research. , 1999, , . | | 1 |
| 70 | Parameterizing the Impact of Unresolved Temperature Variability on the Largeâ€Scale Density Field: 2. Modeling. Journal of Advances in Modeling Earth Systems, 2022, 14, . | 1.3 | 1 |
| 71 | Improved surface mass balance closure in ocean hindcast simulations. Journal of Advances in Modeling Earth Systems, 0, , . | 1.3 | 1 |