

# Andrew W Woods

## List of Publications by Year in descending order

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139  
papers

4,999  
citations

87843

38  
h-index

106281

65  
g-index

142  
all docs

142  
docs citations

142  
times ranked

2987  
citing authors

#	ARTICLE	IF	CITATIONS
1	Transitions between explosive and effusive eruptions of silicic magmas. <i>Nature</i> , 1994, 370, 641-644.	13.7	277
2	Gravity-driven flows in porous layers. <i>Journal of Fluid Mechanics</i> , 1995, 292, 55-69.	1.4	241
3	The dynamics and thermodynamics of large ash flows. <i>Bulletin of Volcanology</i> , 1996, 58, 175-193.	1.1	217
4	Turbulent Plumes in Nature. <i>Annual Review of Fluid Mechanics</i> , 2010, 42, 391-412.	10.8	212
5	Particle fallout, thermal disequilibrium and volcanic plumes. <i>Bulletin of Volcanology</i> , 1991, 53, 559-570.	1.1	132
6	Continuum approach to car-following models. <i>Physical Review E</i> , 2000, 61, 1056-1066.	0.8	130
7	On buoyancy-driven natural ventilation of a room with a heated floor. <i>Journal of Fluid Mechanics</i> , 2001, 441, 293-314.	1.4	126
8	Analytical model for solidification of the Earth's core. <i>Nature</i> , 1992, 356, 329-331.	13.7	125
9	The decompression of volcanic jets in a crater during explosive volcanic eruptions. <i>Earth and Planetary Science Letters</i> , 1995, 131, 189-205.	1.8	124
10	On the formation of eruption columns following explosive mixing of magma and surface-water. <i>Journal of Geophysical Research</i> , 1996, 101, 5561-5574.	3.3	111
11	Exsolved volatiles in magma reservoirs. <i>Journal of Volcanology and Geothermal Research</i> , 2018, 368, 13-30.	0.8	100
12	Solidification of an alloy cooled from above Part 1. Equilibrium growth. <i>Journal of Fluid Mechanics</i> , 1990, 216, 323-342.	1.4	99
13	Moist convection and the injection of volcanic ash into the atmosphere. <i>Journal of Geophysical Research</i> , 1993, 98, 17627-17636.	3.3	98
14	On the slow draining of a gravity current moving through a layered permeable medium. <i>Journal of Fluid Mechanics</i> , 2001, 444, 23-47.	1.4	88
15	The dynamics and thermodynamics of volcanic clouds: Theory and observations from the april 15 and april 21, 1990 eruptions of redoubt volcano, Alaska. <i>Journal of Volcanology and Geothermal Research</i> , 1994, 62, 273-299.	0.8	87
16	The interaction of ash flows with ridges. <i>Bulletin of Volcanology</i> , 1998, 60, 38-51.	1.1	85
17	The formation of drops through viscous instability. <i>Journal of Fluid Mechanics</i> , 1995, 289, 351-378.	1.4	76
18	Car-following model of multispecies systems of road traffic. <i>Physical Review E</i> , 1997, 55, 2203-2214.	0.8	69

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19	Control of magma volatile content and chamber depth on the mass erupted during explosive volcanic eruptions. <i>Journal of Geophysical Research</i> , 1997, 102, 10273-10290.	3.3	69
20	Disequilibrium and macrosegregation during solidification of a binary melt. <i>Nature</i> , 1989, 340, 357-362.	13.7	68
21	Thermal disequilibrium at the top of volcanic clouds and its effect on estimates of the column height. <i>Nature</i> , 1992, 355, 628-630.	13.7	65
22	A model of the plumes above basaltic fissure eruptions. <i>Geophysical Research Letters</i> , 1993, 20, 1115-1118.	1.5	65
23	Mixing by a turbulent plume in a confined stratified region. <i>Journal of Fluid Mechanics</i> , 1993, 250, 277-305.	1.4	59
24	Triggering basaltic volcanic eruptions by bubble-melt separation. <i>Nature</i> , 1997, 385, 518-520.	13.7	59
25	Melting and dissolving. <i>Journal of Fluid Mechanics</i> , 1992, 239, 429.	1.4	58
26	Gravity currents: entrainment, stratification and self-similarity. <i>Journal of Fluid Mechanics</i> , 2015, 784, 130-162.	1.4	57
27	Solidification of an alloy cooled from above Part 2. Non-equilibrium interfacial kinetics. <i>Journal of Fluid Mechanics</i> , 1990, 217, 331-348.	1.4	56
28	Turbulent gravitational convection from a point source in a non-uniformly stratified environment. <i>Journal of Fluid Mechanics</i> , 1998, 360, 229-248.	1.4	56
29	LIQUID AND VAPOR FLOW IN SUPERHEATED ROCK. <i>Annual Review of Fluid Mechanics</i> , 1999, 31, 171-199.	10.8	54
30	An analogue experimental model of depth fluctuations in lava lakes. <i>Bulletin of Volcanology</i> , 2006, 69, 51-56.	1.1	53
31	On convection in a volatile-saturated magma. <i>Earth and Planetary Science Letters</i> , 1999, 168, 301-310.	1.8	51
32	Capillary entry pressure and the leakage of gravity currents through a sloping layered permeable rock. <i>Journal of Fluid Mechanics</i> , 2009, 618, 361-379.	1.4	50
33	A note on non-Boussinesq plumes in an incompressible stratified environment. <i>Journal of Fluid Mechanics</i> , 1997, 345, 347-356.	1.4	48
34	The ventilation of buildings and other mitigating measures for COVID-19: a focus on wintertime. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2021, 477, 20200855.	1.0	47
35	On magma chamber evolution during slow effusive eruptions. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	45
36	The vaporization of a liquid front moving through a hot porous rock. <i>Journal of Fluid Mechanics</i> , 1993, 251, 563-579.	1.4	44

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37	Particle aggregation in volcanic eruption columns. <i>Journal of Geophysical Research</i> , 2001, 106, 26425-26441.	3.3	41
38	Plumes with non-monotonic mixing behaviour. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1995, 79, 173-199.	0.4	40
39	Natural ventilation of a building with heating at multiple levels. <i>Building and Environment</i> , 2007, 42, 1417-1430.	3.0	40
40	Suppression of large-scale magma mixing by melt-volatile separation. <i>Earth and Planetary Science Letters</i> , 2002, 204, 47-60.	1.8	38
41	Natural ventilation of a room with vents at multiple levels. <i>Building and Environment</i> , 2004, 39, 505-521.	3.0	38
42	The effect of drainage on the capillary retention of CO <sub>2</sub> in a layered permeable rock. <i>Journal of Fluid Mechanics</i> , 2009, 618, 349-359.	1.4	36
43	Mafic enclaves record syn-eruptive basalt intrusion and mixing. <i>Earth and Planetary Science Letters</i> , 2018, 484, 30-40.	1.8	36
44	Valve-like dynamics of gas flow through a packed crystal mush and cyclic strombolian explosions. <i>Scientific Reports</i> , 2019, 9, 821.	1.6	33
45	Blocked natural ventilation: the effect of a source mass flux. <i>Journal of Fluid Mechanics</i> , 2003, 495, 119-133.	1.4	32
46	Transient natural ventilation of a room with a distributed heat source. <i>Journal of Fluid Mechanics</i> , 2007, 591, 21-42.	1.4	32
47	A comparison of winter pre-heating requirements for natural displacement and natural mixing ventilation. <i>Energy and Buildings</i> , 2009, 41, 1306-1312.	3.1	32
48	Particle recycling and oscillations of volcanic eruption columns. <i>Journal of Geophysical Research</i> , 2000, 105, 2829-2842.	3.3	31
49	On transitions in natural ventilation flow driven by changes in the wind. <i>Building and Environment</i> , 2009, 44, 666-673.	3.0	31
50	On the flow of buoyant fluid injected into a confined, inclined aquifer. <i>Journal of Fluid Mechanics</i> , 2011, 672, 109-129.	1.4	31
51	Solidification of an alloy cooled from above. Part 3. Compositional stratification within the solid. <i>Journal of Fluid Mechanics</i> , 1990, 218, 337.	1.4	30
52	The instability of a vaporization front in hot porous rock. <i>Nature</i> , 1994, 367, 450-453.	18.7	30
53	Boundary-driven mixing. <i>Journal of Fluid Mechanics</i> , 1991, 226, 625-654.	1.4	28
54	Dynamics of co-ignimbrite plumes generated from pyroclastic flows of Mount St. Helens (7 August) <small>Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5</small>	1.1	28

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55	Transient natural ventilation of a space with localised heating. <i>Building and Environment</i> , 2010, 45, 2778-2789.	3.0	28
56	Mixing in continuous gravity currents. <i>Journal of Fluid Mechanics</i> , 2017, 818, .	1.4	28
57	The mixing in a room by a localized finite-mass-flux source of buoyancy. <i>Journal of Fluid Mechanics</i> , 2002, 471, 33-50.	1.4	27
58	The control of naturally ventilated buildings subject to wind and buoyancy. <i>Journal of Fluid Mechanics</i> , 2006, 557, 451.	1.4	27
59	Buoyancy-driven flow in a confined aquifer with a vertical gradient of permeability. <i>Journal of Fluid Mechanics</i> , 2018, 848, 411-429.	1.4	27
60	Vortex generation by line plumes in a rotating stratified fluid. <i>Journal of Fluid Mechanics</i> , 1999, 388, 289-313.	1.4	26
61	Natural convection and dispersion in a tilted fracture. <i>Journal of Fluid Mechanics</i> , 1992, 241, 59-74.	1.4	25
62	On the influence of magma chambers in controlling the evolution of explosive volcanic eruptions. <i>Journal of Volcanology and Geothermal Research</i> , 1998, 86, 67-78.	0.8	25
63	Observations and models of volcanic eruption columns. <i>Geological Society Special Publication</i> , 1998, 145, 91-114.	0.8	22
64	On the mixing of a confined stratified fluid by a turbulent buoyant plume. <i>Journal of Fluid Mechanics</i> , 2009, 623, 149-165.	1.4	22
65	Gravity-driven reacting flows in a confined porous aquifer. <i>Journal of Fluid Mechanics</i> , 2007, 588, 29-41.	1.4	21
66	The growth of compositionally stratified solid above a horizontal boundary. <i>Journal of Fluid Mechanics</i> , 1989, 199, 29-53.	1.4	20
67	Particle recycling in volcanic plumes. <i>Bulletin of Volcanology</i> , 2002, 64, 31-39.	1.1	20
68	Controls on the dissolution of CO <sub>2</sub> plumes in structural traps in deep saline aquifers. <i>Geophysical Research Letters</i> , 2012, 39, .	1.5	20
69	The effect of vertically varying permeability on tracer dispersion. <i>Journal of Fluid Mechanics</i> , 2019, 860, 384-407.	1.4	20
70	The control of chamber geometry on triggering volcanic eruptions. <i>Earth and Planetary Science Letters</i> , 1997, 151, 155-166.	1.8	19
71	Mixing in axisymmetric gravity currents. <i>Journal of Fluid Mechanics</i> , 2015, 782, .	1.4	19
72	Strombolian eruptions and dynamics of magma degassing at Yasur Volcano (Vanuatu). <i>Journal of Volcanology and Geothermal Research</i> , 2020, 398, 106869.	0.8	19

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73	Dissolution-driven convection in a reactive porous medium. <i>Journal of Fluid Mechanics</i> , 2005, 535, 255-285.	1.4	18
74	The mixing of airborne contaminants by the repeated passage of people along a corridor. <i>Journal of Fluid Mechanics</i> , 2020, 903, .	1.4	18
75	The nucleation, growth and settling of crystals from a turbulently convecting fluid. <i>Journal of Fluid Mechanics</i> , 1994, 273, 83-107.	1.4	17
76	Vaporizing gravity currents in a superheated porous medium. <i>Journal of Fluid Mechanics</i> , 1998, 377, 151-168.	1.4	17
77	On the dynamics of starting plumes. <i>Journal of Fluid Mechanics</i> , 2017, 833, .	1.4	17
78	Thermal inertia and reversing buoyancy in flow in porous media. <i>Geophysical Research Letters</i> , 2003, 30, .	1.5	16
79	Self-similar dynamics of liquid injected into partially saturated aquifers. <i>Journal of Fluid Mechanics</i> , 2006, 566, 345.	1.4	16
80	On the selection of viscosity to suppress the Saffmanâ€Taylor instability in a radially spreadingâ€Annulus. <i>Journal of Fluid Mechanics</i> , 2015, 782, 127-143.	1.4	16
81	On mixing a density interface by a bubbleâ€plume. <i>Journal of Fluid Mechanics</i> , 2016, 802, .	1.4	16
82	dissolution in a background hydrologicalâ€flow. <i>Journal of Fluid Mechanics</i> , 2016, 789, 768-784.	1.4	16
83	On convection and mixing driven by sedimentation. <i>Journal of Fluid Mechanics</i> , 1995, 285, 165.	1.4	15
84	On the transport of heavy particles through an upward displacement-ventilated space. <i>Journal of Fluid Mechanics</i> , 2015, 772, 478-507.	1.4	15
85	Multiphase plumes in a stratified ambient. <i>Journal of Fluid Mechanics</i> , 2019, 869, 292-312.	1.4	15
86	The vaporization of a liquid front moving through a hot porous rock. Part 2. Slow injection. <i>Journal of Fluid Mechanics</i> , 1997, 343, 303-316.	1.4	14
87	A model of overturn of CO2 laden lakes triggered by bottom mixing. <i>Journal of Volcanology and Geothermal Research</i> , 2010, 192, 151-158.	0.8	14
88	Dispersion in two-dimensional turbulent buoyant plumes. <i>Journal of Fluid Mechanics</i> , 2015, 774, .	1.4	14
89	On turbulent particle fountains. <i>Journal of Fluid Mechanics</i> , 2016, 793, .	1.4	14
90	Interfacial turbulent mixing in stratified magma reservoirs. <i>Journal of Volcanology and Geothermal Research</i> , 1996, 73, 157-175.	0.8	13

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91	Compressible magma flow in a two-dimensional elastic-walled dike. <i>Earth and Planetary Science Letters</i> , 2006, 246, 241-250.	1.8	13
92	Dispersal of buoyancy-driven flow in porous media with inclined baffles. <i>Journal of Fluid Mechanics</i> , 2011, 689, 517-528.	1.4	12
93	An experimental model of episodic gas release through fracture of fluid confined within a pressurized elastic reservoir. <i>Geophysical Research Letters</i> , 2017, 44, 751-759.	1.5	12
94	The formation and evolution of stratification during transient mixing ventilation. <i>Journal of Fluid Mechanics</i> , 2011, 670, 66-84.	1.4	11
95	Control of the permeability of a porous media using a thermally sensitive polymer. <i>AIChE Journal</i> , 2014, 60, 1193-1201.	1.8	11
96	The topographic control of planetary-scale flow. <i>Journal of Fluid Mechanics</i> , 1993, 247, 603-621.	1.4	10
97	Control of viscous instability by variation of injection rate in a fluid with time-dependent rheology. <i>Journal of Fluid Mechanics</i> , 2017, 829, 214-235.	1.4	10
98	Three-dimensional buoyancy-driven flow along a fractured boundary. <i>Journal of Fluid Mechanics</i> , 2013, 728, 279-305.	1.4	9
99	Stokes settling and particle-laden plumes: implications for deep-sea mining and volcanic eruption plumes. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2020, 378, 20190532.	1.6	9
100	The control of magma crystallinity on the fluctuations in gas composition at open vent basaltic volcanoes. <i>Scientific Reports</i> , 2020, 10, 14862.	1.6	9
101	Experiments on the sedimentation front in steady particle-driven gravity currents. <i>Journal of Fluid Mechanics</i> , 2020, 889, .	1.4	9
102	Experiments on buoyant plumes in a rotating channel. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1998, 89, 1-22.	0.4	8
103	Some fluid mechanical constraints on crystallization and recharge within sills. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20180007.	1.6	8
104	On particle separation from turbulent particle plumes in a cross-flow. <i>Journal of Fluid Mechanics</i> , 2022, 932, .	1.4	8
105	Experimental insights on the development of buoyant plumes injected into a porous media. <i>Geophysical Research Letters</i> , 2016, 43, 709-718.	1.5	7
106	On the use of seismic data to monitor the injection of CO <sub>2</sub> into a layered aquifer. <i>Earth and Planetary Science Letters</i> , 2013, 368, 132-143.	1.8	6
107	Buoyancy-driven dispersion in a layered porous rock. <i>Journal of Fluid Mechanics</i> , 2015, 767, 226-239.	1.4	6
108	Natural ventilation driven by periodic gusting of wind. <i>Journal of Fluid Mechanics</i> , 2011, 679, 58-76.	1.4	5

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109	On the competition between lateral convection and upward displacement in a multi-zone naturally ventilated space. <i>Journal of Fluid Mechanics</i> , 2012, 707, 393-404.	1.4	5
110	On the transport of heavy particles through a downward displacement-ventilated space. <i>Journal of Fluid Mechanics</i> , 2015, 774, 192-223.	1.4	5
111	Dispersion and dissolution of a buoyancy driven gas plume in a layered permeable rock. <i>Water Resources Research</i> , 2016, 52, 2682-2697.	1.7	5
112	Shear dispersion in a porous medium. Part 1. An intrusion with a steady shape. <i>Journal of Fluid Mechanics</i> , 2020, 899, .	1.4	5
113	On the use of plume models to estimate the flux in volcanic gas plumes. <i>Nature Communications</i> , 2021, 12, 2719.	5.8	5
114	On vapour flow in a hot porous layer. <i>Journal of Fluid Mechanics</i> , 1995, 293, 1-23.	1.4	4
115	Multiple steady states in exchange flows across faults and the dissolution of. <i>Journal of Fluid Mechanics</i> , 2015, 769, 229-241.	1.4	4
116	The instability of a moving interface in a narrow tapering channel of finite length. <i>Journal of Fluid Mechanics</i> , 2017, 831, 252-270.	1.4	4
117	Turbulent bubble fountains. <i>Journal of Fluid Mechanics</i> , 2018, 836, 277-303.	1.4	4
118	Particle fountains in a confined environment. <i>Journal of Fluid Mechanics</i> , 2018, 855, 28-42.	1.4	4
119	Evidence for a universal saturation profile for radial viscous fingers. <i>Scientific Reports</i> , 2019, 9, 7780.	1.6	4
120	Boundary-induced shear and tracer transport in heterogeneous porous rock. <i>Journal of Fluid Mechanics</i> , 2021, 908, .	1.4	4
121	Reply to comment by C. Textor and G. G. J. Ernst on "Particle aggregation in volcanic eruption columns". <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	3
122	Quasi-steady states in natural displacement ventilation driven by periodic gusting of wind. <i>Journal of Fluid Mechanics</i> , 2012, 707, 1-23.	1.4	3
123	Sustained explosive activity. , 0, , 153-172.		3
124	Experiments on mixing in wakes in shallow water. <i>Journal of Fluid Mechanics</i> , 2016, 804, 351-369.	1.4	3
125	Gravity-driven flow in a horizontal annulus. <i>Journal of Fluid Mechanics</i> , 2017, 830, 479-493.	1.4	3
126	Immiscible capillary flows in non-uniform channels. <i>Journal of Fluid Mechanics</i> , 2021, 925, .	1.4	3



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127	Instability of co-flow in a Hele-Shaw cell with cross-flow varying thickness. <i>Journal of Fluid Mechanics</i> , 2021, 927, .	1.4	3
128	Dynamics of deep-submarine volcanic eruptions. <i>Scientific Reports</i> , 2022, 12, 3276.	1.6	3
129	Curved saplings at Mount St Helens. <i>Nature</i> , 1992, 355, 594-594.	13.7	2
130	Topographic viscous fingering: fluid–fluid displacement in a channel of non-uniform gap width. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20150427.	1.6	2
131	On the dynamics of a thin viscous film spreading between a permeable horizontal plate and an elastic sheet. <i>Journal of Fluid Mechanics</i> , 2018, 841, 989-1011.	1.4	2
132	A note on analytic solutions for entraining stratified gravity currents. <i>Journal of Fluid Mechanics</i> , 2018, 836, 260-276.	1.4	2
133	Shear generation in a confined, composite layer of cross-bedded porous rock. <i>Journal of Fluid Mechanics</i> , 2020, 899, .	1.4	2
134	On particle fountains in a stratified environment. <i>Journal of Fluid Mechanics</i> , 2021, 917, .	1.4	2
135	Buoyancy driven flow from a waning source through a porous leaky aquifer. <i>Journal of Structural Geology</i> , 2010, 32, 1827-1833.	1.0	1
136	Shear dispersion in a porous medium. Part 2. An intrusion with a growing shape. <i>Journal of Fluid Mechanics</i> , 2020, 899, .	1.4	1
137	Capillary trapping in a vertically heterogeneous porous layer. <i>Journal of Fluid Mechanics</i> , 2021, 910, .	1.4	1
138	An alternative approach to delivering safe, sustainable surgical theatre environments. <i>Buildings and Cities</i> , 2022, 3, 316-333.	1.1	1
139	The impact of source fluctuations in a filling box with interior diffusive mixing. <i>Journal of Fluid Mechanics</i> , 2022, 944, .	1.4	0