

# Werner Aeschbach

## List of Publications by Year in descending order

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91  
papers

5,168  
citations

81900

39  
h-index

88630

70  
g-index

96  
all docs

96  
docs citations

96  
times ranked

4129  
citing authors

#	ARTICLE	IF	CITATIONS
1	Regional strategies for the accelerating global problem of groundwater depletion. <i>Nature Geoscience</i> , 2012, 5, 853-861.	12.9	603
2	Palaeotemperature reconstruction from noble gases in ground water taking into account equilibration with entrapped air. <i>Nature</i> , 2000, 405, 1040-1044.	27.8	287
3	Interpretation of dissolved atmospheric noble gases in natural waters. <i>Water Resources Research</i> , 1999, 35, 2779-2792.	4.2	282
4	Noble Gases in Lakes and Ground Waters. <i>Reviews in Mineralogy and Geochemistry</i> , 2002, 47, 615-700.	4.8	261
5	Groundwater recharge history and hydrogeochemical evolution in the Minqin Basin, North West China. <i>Applied Geochemistry</i> , 2006, 21, 2148-2170.	3.0	210
6	A Mass Spectrometric System for the Analysis of Noble Gases and Tritium from Water Samples. <i>Environmental Science &amp; Technology</i> , 2000, 34, 2042-2050.	10.0	209
7	The Demographics of Water: A Review of Water Ages in the Critical Zone. <i>Reviews of Geophysics</i> , 2019, 57, 800-834.	23.0	197
8	Cool Glacial Temperatures and Changes in Moisture Source Recorded in Oman Groundwaters. <i>Science</i> , 2000, 287, 842-845.	12.6	154
9	Kinetic Model of Gas Bubble Dissolution in Groundwater and Its Implications for the Dissolved Gas Composition. <i>Environmental Science &amp; Technology</i> , 2003, 37, 1337-1343.	10.0	123
10	A comparison of groundwater dating with $^{81}\text{Kr}$ , $^{36}\text{Cl}$ and $^4\text{He}$ in four wells of the Great Artesian Basin, Australia. <i>Earth and Planetary Science Letters</i> , 2003, 211, 237-250.	4.4	119
11	A paleotemperature record derived from dissolved noble gases in groundwater of the Aquia Aquifer (Maryland, USA). <i>Geochimica Et Cosmochimica Acta</i> , 2002, 66, 797-817.	3.9	111
12	Infiltration of river water to a shallow aquifer investigated with $^3\text{H}/^3\text{He}$ , noble gases and CFCs. <i>Journal of Hydrology</i> , 1999, 220, 169-185.	5.4	110
13	Modeling excess air and degassing in groundwater by equilibrium partitioning with a gas phase. <i>Water Resources Research</i> , 2008, 44, .	4.2	102
14	Climate and Groundwater Recharge During the Last Glaciation in an Ice-Covered Region. , 1998, 282, 731-734.		97
15	Analysis of deep-water exchange in the Caspian Sea based on environmental tracers. <i>Deep-Sea Research Part I: Oceanographic Research Papers</i> , 2000, 47, 621-654.	1.4	97
16	Constraining the age distribution of highly mixed groundwater using $^{39}\text{Ar}$ : A multiple environmental tracer ( $^3\text{H}/^3\text{He}$ , $^{85}\text{Kr}$ , $^{39}\text{Ar}$ , and $^{14}\text{C}$ ) study in the semiconfined Fontainebleau Sands Aquifer (France). <i>Water Resources Research</i> , 2007, 43, .	4.2	94
17	Experimental investigations on the formation of excess air in quasi-saturated porous media. <i>Geochimica Et Cosmochimica Acta</i> , 2002, 66, 4103-4117.	3.9	88
18	Injection of mantle type helium into Lake Van (Turkey): the clue for quantifying deep water renewal. <i>Earth and Planetary Science Letters</i> , 1994, 125, 357-370.	4.4	80

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19	Improving noble gas based paleoclimate reconstruction and groundwater dating using $^{20}\text{Ne}/^{22}\text{Ne}$ ratios. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 587-600.	3.9	79
20	A $^3\text{H}/^3\text{He}$ Study of Ground Water Flow in a Fractured Bedrock Aquifer. <i>Ground Water</i> , 1998, 36, 661-670.	1.3	72
21	Quantification of gas fluxes from the subcontinental mantle: The example of Laacher See, a maar lake in Germany. <i>Geochimica Et Cosmochimica Acta</i> , 1996, 60, 31-41.	3.9	71
22	Dating cave drip water by tritium. <i>Journal of Hydrology</i> , 2010, 394, 396-406.	5.4	67
23	Accumulation of mantle gases in a permanently stratified volcanic lake (Lac Pavin, France). <i>Geochimica Et Cosmochimica Acta</i> , 1999, 63, 3357-3372.	3.9	65
24	Widespread six degrees Celsius cooling on land during the Last Glacial Maximum. <i>Nature</i> , 2021, 593, 228-232.	27.8	65
25	Dating of "young" groundwaters using environmental tracers: advantages, applications, and research needs. <i>Isotopes in Environmental and Health Studies</i> , 2010, 46, 259-278.	1.0	64
26	Constraints on origin and evolution of Red Sea brines from helium and argon isotopes. <i>Earth and Planetary Science Letters</i> , 2001, 184, 671-683.	4.4	63
27	Using $^{81}\text{Kr}$ and noble gases to characterize and date groundwater and brines in the Baltic Artesian Basin on the one-million-year timescale. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 205, 187-210.	3.9	59
28	The physical structure and dynamics of a deep, meromictic crater lake (Lac Pavin, France). <i>Hydrobiologia</i> , 2002, 487, 111-136.	2.0	57
29	A new tool for palaeoclimate reconstruction: Noble gas temperatures from fluid inclusions in speleothems. <i>Earth and Planetary Science Letters</i> , 2008, 269, 408-415.	4.4	57
30	A record of temperature and monsoon intensity over the past 40 kyr from groundwater in the North China Plain. <i>Chemical Geology</i> , 2009, 259, 168-180.	3.3	57
31	Noble Gas Thermometry in Groundwater Hydrology. <i>Advances in Isotope Geochemistry</i> , 2013, , 81-122.	1.4	55
32	Characterizing the recharge regime of the strongly exploited aquifers of the North China Plain by environmental tracers. <i>Water Resources Research</i> , 2010, 46, .	4.2	51
33	Tracing and quantifying groundwater inflow into lakes using a simple method for radon-222 analysis. <i>Hydrology and Earth System Sciences</i> , 2007, 11, 1621-1631.	4.9	49
34	Exceptional mixing events in meromictic Lake Lugano (Switzerland/Italy), studied using environmental tracers. <i>Limnology and Oceanography</i> , 2009, 54, 1113-1124.	3.1	49
35	Reconstruction of drip-water $\delta^{18}\text{O}$ based on calcite oxygen and clumped isotopes of speleothems from Bunker Cave (Germany). <i>Climate of the Past</i> , 2013, 9, 377-391.	3.4	47
36	Sub sea floor boiling of Red Sea brines: new indication from noble gas data. <i>Geochimica Et Cosmochimica Acta</i> , 2000, 64, 1567-1575.	3.9	45

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37	Density structure and tritium-helium age of deep hypolimnetic water in the northern basin of Lake Lugano. <i>Aquatic Sciences</i> , 1992, 54, 205-218.	1.5	44
38	<sup>36</sup> Cl in modern groundwater dated by a multi-tracer approach ( <sup>3</sup> H/ <sup>3</sup> He, SF <sub>6</sub> , CFC-12 and <sup>85</sup> Kr): a case study in quaternary sand aquifers in the Odense Pilot River Basin, Denmark. <i>Applied Geochemistry</i> , 2005, 20, 599-609.	3.0	43
39	Groundwater dating with Atom Trap Trace Analysis of <sup>39</sup> Ar. <i>Geophysical Research Letters</i> , 2014, 41, 6758-6764.	4.0	42
40	Localising and quantifying groundwater inflow into lakes using high-precision <sup>222</sup> Rn profiles. <i>Journal of Hydrology</i> , 2012, 450-451, 70-81.	5.4	39
41	Trace elements in recent groundwater of an artesian flow system and comparison with snow: enrichments, depletions, and chemical evolution of the water. <i>Journal of Environmental Monitoring</i> , 2010, 12, 208-217.	2.1	38
42	Rapid deep-water renewal in Lake Issyk-Kul (Kyrgyzstan) indicated by transient tracers. <i>Limnology and Oceanography</i> , 2002, 47, 1210-1216.	3.1	36
43	Bottomwater formation due to hydrothermal activity in Frolikha Bay, Lake Baikal, eastern Siberia. <i>Geochimica Et Cosmochimica Acta</i> , 1996, 60, 961-971.	3.9	33
44	A new groundwater radiocarbon correction approach accounting for palaeoclimate conditions during recharge and hydrochemical evolution: The Ledo-Paniselian Aquifer, Belgium. <i>Applied Geochemistry</i> , 2010, 25, 437-455.	3.0	30
45	A time series of environmental tracer data from deep meromictic Lake Lugano, Switzerland. <i>Limnology and Oceanography</i> , 2007, 52, 257-273.	3.1	29
46	A 40-ka record of temperature and permafrost conditions in northwestern Europe from noble gases in the Ledo-Paniselian Aquifer (Belgium). <i>Journal of Quaternary Science</i> , 2010, 25, 1038-1044.	2.1	29
47	Use of multiple age tracers to estimate groundwater residence times and long-term recharge rates in arid southern Oman. <i>Applied Geochemistry</i> , 2016, 74, 67-83.	3.0	29
48	<sup>39</sup> Ar dating with small samples provides new key constraints on ocean ventilation. <i>Nature Communications</i> , 2018, 9, 5046.	12.8	29
49	Density-driven exchange between the basins of Lake Lucerne (Switzerland) traced with the <sup>3</sup> H- <sup>3</sup> He method. <i>Limnology and Oceanography</i> , 1996, 41, 707-721.	3.1	28
50	Noble gas and isotope geochemistry in western Canadian Arctic watersheds: tracing groundwater recharge in permafrost terrain. <i>Hydrogeology Journal</i> , 2013, 21, 79-91.	2.1	28
51	A new software tool for the analysis of noble gas data sets from (ground)water. <i>Environmental Modelling and Software</i> , 2018, 103, 120-130.	4.5	27
52	Analysis of dissolved noble gases in the porewater of lacustrine sediments. <i>Limnology and Oceanography: Methods</i> , 2003, 1, 51-62.	2.0	26
53	Factors controlling terrigenous SF <sub>6</sub> in young groundwater of the Odenwald region (Germany). <i>Applied Geochemistry</i> , 2013, 33, 318-329.	3.0	26
54	Noble Gas and Major Element Constraints on the Water Dynamics in an Alpine Floodplain. <i>Ground Water</i> , 2001, 39, 841-852.	1.3	24

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55	Accumulation of natural SF <sub>6</sub> in the sedimentary aquifers of the North China Plain as a restriction on groundwater dating. <i>Isotopes in Environmental and Health Studies</i> , 2010, 46, 279-290.	1.0	24
56	Isotopic methods and their hydrogeochemical context in the investigation of palaeowaters. <i>Geological Society Special Publication</i> , 2001, 189, 193-212.	1.3	22
57	Origin and Flow Dynamics of Perennial Groundwater in Continuous Permafrost Terrain using Isotopes and Noble Gases: Case Study of the Fishing Branch River, Northern Yukon, Canada. <i>Permafrost and Periglacial Processes</i> , 2012, 23, 91-106.	3.4	18
58	Viability of public spaces in cities under increasing heat: A transdisciplinary approach. <i>Sustainable Cities and Society</i> , 2020, 59, 102215.	10.4	18
59	Towards the realization of atom trap trace analysis for <sup>39</sup> Ar. <i>New Journal of Physics</i> , 2010, 12, 065031.	2.9	17
60	Preface: Insights from environmental tracers in groundwater systems. <i>Hydrogeology Journal</i> , 2011, 19, 1-3.	2.1	17
61	Response of noble gas partial pressures in soil air to oxygen depletion. <i>Chemical Geology</i> , 2013, 339, 283-290.	3.3	17
62	Dating glacier ice of the last millennium by quantum technology. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 8781-8786.	7.1	15
63	Identification of He sources and estimation of He ages in groundwater of the North China Plain. <i>Applied Geochemistry</i> , 2015, 63, 182-189.	3.0	13
64	European climate variations over the past half a millennium reconstructed from groundwater. <i>Geophysical Research Letters</i> , 2009, 36, .	4.0	12
65	Properties of the closed-system equilibration model for dissolved noble gases in groundwater. <i>Chemical Geology</i> , 2013, 339, 291-300.	3.3	12
66	Radiokrypton dating finally takes off. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 6856-6857.	7.1	12
67	Hyperfine spectroscopy of the 1s5s <sup>2</sup> p <sup>9</sup> transition of A39r. <i>Review of Scientific Instruments</i> , 2009, 80, 113109.	1.3	9
68	Noble gas concentrations in fluid inclusions as tracer for the origin of coarse-crystalline cryogenic cave carbonates. <i>Chemical Geology</i> , 2014, 368, 54-62.	3.3	9
69	Origin and formation of methane in groundwater of glacial origin from the Cambrian-Vendian aquifer system in Estonia. <i>Geochimica Et Cosmochimica Acta</i> , 2019, 251, 247-264.	3.9	9
70	Dating of glacial palaeogroundwater in the Ordovician-Cambrian aquifer system, northern Baltic Artesian Basin. <i>Applied Geochemistry</i> , 2019, 102, 64-76.	3.0	8
71	Assessing the use of <sup>3</sup> H- <sup>3</sup> He dating to determine the subsurface transit time of cave drip waters. <i>Isotopes in Environmental and Health Studies</i> , 2010, 46, 299-311.	1.0	7
72	Paleoclimate Signals and Groundwater Age Distributions From 39 Public Water Works in the Netherlands; Insights From Noble Gases and Carbon, Hydrogen and Oxygen Isotope Tracers. <i>Water Resources Research</i> , 2021, 57, e2020WR029058.	4.2	7

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73	Palaeowaters from the Glatt Valley, Switzerland. Geological Society Special Publication, 2001, 189, 155-162.	1.3	5
74	A comment on "Helium sources in passive margin aquifers" new evidence for a significant mantle $^3\text{He}$ source in aquifers with unexpectedly low in situ $^3\text{He}/^4\text{He}$ production" by M. C. Castro [Earth Planet. Sci. Lett. 222 (2004) 897-913]. Earth and Planetary Science Letters, 2005, 240, 827-829.	4.4	5
75	New perspectives for noble gases in oceanography. Journal of Geophysical Research: Oceans, 2016, 121, 6550-6554.	2.6	5
76	Noble gases reveal the complex groundwater mixing pattern and origin of salinization in the Azraq Oasis, Jordan. Applied Geochemistry, 2016, 66, 114-128.	3.0	5
77	A palaeoclimatic record from the Ledo-Paniselian Aquifer in Belgium " Indications for groundwater recharge and flow in a periglacial environment. Quaternary International, 2020, 547, 127-144.	1.5	5
78	Rebuttal of "On global forces of nature driving the Earth's climate. Are humans involved?" by L. F. Khilyuk and G. V. Chilingar. Environmental Geology, 2007, 52, 1007-1009.	1.2	4
79	Clean coal and sparkling water. Nature, 2009, 458, 583-584.	27.8	4
80	$^{87}\text{Sr}/^{86}\text{Sr}$ Ratios in Shallow and Deep Aquifers and Thermal Water from the Eastern Boundary Fault of the Northern Upper Rhine Graben at the Heidelberg Basin, Germany. Procedia Earth and Planetary Science, 2017, 17, 108-111.	0.6	3
81	Intrusion of Saline Water into a Coastal Aquifer Containing Palaeogroundwater in the Viimsi Peninsula in Estonia. Geosciences (Switzerland), 2019, 9, 47.	2.2	3
82	Extending Noble Gas Solubilities in Water to Higher Temperatures for Environmental Application. Journal of Chemical & Engineering Data, 2022, 67, 1164-1173.	1.9	2
83	Correction to "Noble gases and radiocarbon in natural gas hydrates" by Gisela Winckler, Werner Aeschbach-Hertig, Johannes Holocher, Rolf Kipfer, Ingeborg Levin, Christian Poss, Gregor Rehder, Erwin Suess, and Peter Schlosser. Geophysical Research Letters, 2002, 29, 25-1-25-1.	4.0	1
84	Reproducibility and accuracy of noble gas measurements on water samples in the microlitre range. Rapid Communications in Mass Spectrometry, 2014, 28, 42-48.	1.5	1
85	Ascending Deep Fluids into Shallow Aquifer at Hydraulically Active Segments of the Western Boundary Fault of the Rhine Graben, Germany: Constraints from $^{87}\text{Sr}/^{86}\text{Sr}$ ratios. Procedia Earth and Planetary Science, 2017, 17, 81-84.	0.6	1
86	$^{87}\text{Sr}/^{86}\text{Sr}$ Ratios in Thermal Water from the Southern Upper Rhine Graben, Germany. Procedia Earth and Planetary Science, 2017, 17, 364-367.	0.6	1
87	High temperature noble gas thermometry in Lake Kivu, East Africa. Science of the Total Environment, 2022, 837, 155859.	8.0	1
88	Response to the comment by G. Favreau, A. Guero, and J. Seidel on "Improving noble gas based paleoclimate reconstruction and groundwater dating using $^{20}\text{Ne}/^{22}\text{Ne}$ ratios" (2003) Geochim. Cosmochim. Acta, 67, 587-600 1 Associate editor: B. Marty. Geochimica Et Cosmochimica Acta, 2004, 68, 1437-1438.	3.9	0
89	$^{87}\text{Sr}/^{86}\text{Sr}$ Ratios in Shallow and Deep Aquifers from the Southern Upper Rhine Graben, Germany. Procedia Earth and Planetary Science, 2017, 17, 626-629.	0.6	0
90	Understanding the mechanisms of groundwater recharge and flow in periglacial environments: New insights from the Ledo-Paniselian aquifer in Belgium. Journal of Contaminant Hydrology, 2021, 241, 103819.	3.3	0

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91	Multi-Tracer Groundwater Dating in Southern Oman using Bayesian Modelling. Water Resources Research, 0, , .	4.2	0