Jens Hartmann

List of Publications by Year
in descending order

120 papers	11,964 citations	41344 49 h-index	27406 106 g-index
147 all docs	147 docs citations	147 times ranked	12904 citing authors

#	Article	IF	Citations
1	Hydrothermal and magmatic contributions to surface waters in the Aso caldera, southern Japan: Implications for weathering processes in volcanic areas. Chemical Geology, 2022, 588, 120612.	3.3	7
2	Reassessing riverine carbon dioxide emissions from the Indian subcontinent. Science of the Total Environment, 2022, 816, 151610.	8.0	3
3	Oxygen isotopic alteration rate of continental crust recorded by detrital zircon and its implication for deep-time weathering. Earth and Planetary Science Letters, 2022, 578, 117292.	4.4	2
4	Is the climate change mitigation effect of enhanced silicate weathering governed by biological processes?. Global Change Biology, 2022, 28, 711-726.	9.5	32
5	Carbon Accounting for Enhanced Weathering. Frontiers in Climate, 2022, 4, .	2.8	14
6	Enhanced Weathering Using Basalt Rock Powder: Carbon Sequestration, Co-benefits and Risks in a Mesocosm Study With Solanum tuberosum. Frontiers in Climate, 2022, 4, .	2.8	25
7	Empirical estimates of regional carbon budgets imply reduced global soil heterotrophic respiration. National Science Review, 2021, 8, nwaa145.	9.5	70
8	Sulfate sulfur isotopes and major ion chemistry reveal that pyrite oxidation counteracts CO2 drawdown from silicate weathering in the Langtang-Trisuli-Narayani River system, Nepal Himalaya. Geochimica Et Cosmochimica Acta, 2021, 294, 43-69.	3.9	41
9	Substantial decrease in CO2 emissions from Chinese inland waters due to global change. Nature Communications, 2021, 12, 1730.	12.8	71
10	Potential CO2 removal from enhanced weathering by ecosystem responses to powdered rock. Nature Geoscience, 2021, 14, 545-549.	12.9	69
11	Transfer and transformations of oxygen in rivers as catchment reflectors of continental landscapes: A review. Earth-Science Reviews, 2021, 220, 103729.	9.1	16
12	Sulfate sulfur isotopes and major ion chemistry reveal that pyrite oxidation counteracts CO₂ drawdown from silicate weathering in the Langtang-Trisuli-Narayani River system, Nepal Himalaya. , 2021, , .		0
13	Delineating the Continuum of Dissolved Organic Matter in Temperate River Networks. Global Biogeochemical Cycles, 2020, 34, e2019GB006495.	4.9	29
14	Depth of Solute Generation Is a Dominant Control on Concentrationâ€Discharge Relations. Water Resources Research, 2020, 56, e2019WR026695.	4.2	38
15	Impacts of enhanced weathering on biomass production for negative emission technologies and soil hydrology. Biogeosciences, 2020, 17, 2107-2133.	3.3	24
16	A model for evaluating continental chemical weathering from riverine transports of dissolved major elements at a global scale. Global and Planetary Change, 2020, 192, 103226.	3.5	9
17	Chemical Weathering of Loess and Its Contribution to Global Alkalinity Fluxes to the Coastal Zone During the Last Glacial Maximum, Midâ€Holocene, and Present. Geochemistry, Geophysics, Geosystems, 2020, 21, e2020GC008922.	2.5	11
18	Oceanic CO₂ outgassing and biological production hotspots induced by pre-industrial river loads of nutrients and carbon in a global modeling approach. Biogeosciences, 2020, 17, 55-88.	3.3	51

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19	Global distribution of carbonate rocks and karst water resources. Hydrogeology Journal, 2020, 28, 1661-1677.	2.1	315
20	Enhanced Weathering and related element fluxes â€“ a cropland mesocosm approach. Biogeosciences, 2020, 17, 103-119.	3.3	68
21	Global climate control on carbonate weathering intensity. Chemical Geology, 2019, 527, 118762.	3.3	82
22	Temperature and CO_2 dependency of global carbonate weathering fluxes â€“ Implications for future carbonate weathering research. Chemical Geology, 2019, 527, 118874.	3.3	27
23	Catchment chemostasis revisited: Water quality responds differently to variations in weather and climate. Hydrological Processes, 2019, 33, 3056-3069.	2.6	81
24	Widespread diminishing anthropogenic effects on calcium in freshwaters. Scientific Reports, 2019, 9, 10450.	3.3	84
25	Global patterns and dynamics of climateâ€“groundwater interactions. Nature Climate Change, 2019, 9, 137-141.	18.8	244
26	Highly Oxidizing Aqueous Environments on Early Mars Inferred From Scavenging Pattern of Trace Metals on Manganese Oxides. Journal of Geophysical Research E: Planets, 2019, 124, 1282-1295.	3.6	19
27	Aging of basalt volcanic systems and decreasing CO₂ consumption by weathering. Earth Surface Dynamics, 2019, 7, 191-197.	2.4	11
28	Ideas and perspectives: Synergies from co-deployment of negative emission technologies. Biogeosciences, 2019, 16, 2949-2960.	3.3	27
29	Ecosystem controlled soil-rock pCO_2 and carbonate weathering â€“ Constraints by temperature and soil water content. Chemical Geology, 2019, 527, 118634.	3.3	37
30	Plate tectonics, carbon, and climate. Science, 2019, 364, 126-127.	12.6	7
31	Terrestrial Sediments of the Earth: Development of a Global Unconsolidated Sediments Map Database (GUM). Geochemistry, Geophysics, Geosystems, 2018, 19, 997-1024.	2.5	33
32	Increasing biomass demand enlarges negative forest nutrient budget areas in wood export regions. Scientific Reports, 2018, 8, 5280.	3.3	31
33	Compiling and Mapping Global Permeability of the Unconsolidated and Consolidated Earth: GLobal HYdrogeology MaPS 2.0 (GLHYMPS 2.0). Geophysical Research Letters, 2018, 45, 1897-1904.	4.0	82
34	Potential and costs of carbon dioxide removal by enhanced weathering of rocks. Environmental Research Letters, 2018, 13, 034010.	5.2	152
35	GOLUM-CNP v1.0: a data-driven modeling of carbon, nitrogen and phosphorus cycles in major terrestrial biomes. Geoscientific Model Development, 2018, 11, 3903-3928.	3.6	32
36	Earthquake-induced structural deformations enhance long-term solute fluxes from active volcanic systems. Scientific Reports, 2018, 8, 14809.	3.3	33

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37	Negative emissionsâ€”Part 3: Innovation and upscaling. Environmental Research Letters, 2018, 13, 063003.	5.2	224
38	Negative emissionsâ€”Part 1: Research landscape and synthesis. Environmental Research Letters, 2018, 13, 063001.	5.2	498
39	Negative emissionsâ€”Part 2: Costs, potentials and side effects. Environmental Research Letters, 2018, 13, 063002.	5.2	823
40	Seasonal variations of biogeochemical matter export along the Langtang-Narayani river system in central Himalaya. Geochimica Et Cosmochimica Acta, 2018, 238, 208-234.	3.9	8
41	Reviews and syntheses: Anthropogenic perturbations to carbon fluxes in Asian river systems â€“ concepts, emerging trends, and research challenges. Biogeosciences, 2018, 15, 3049-3069.	3.3	55
42	The World Karst Aquifer Mapping project: concept, mapping procedure and map of Europe. Hydrogeology Journal, 2017, 25, 771-785.	2.1	235
43	Olivine Dissolution in Seawater: Implications for CO₂ Sequestration through Enhanced Weathering in Coastal Environments. Environmental Science & Technology, 2017, 51, 3960-3972.	10.0	139
44	A review of CO₂ and associated carbon dynamics in headwater streams: A global perspective. Reviews of Geophysics, 2017, 55, 560-585.	23.0	198
45	Glacial weathering, sulfide oxidation, and global carbon cycle feedbacks. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 8716-8721.	7.1	130
46	A Global Data Analysis for Representing Sediment and Particulate Organic Carbon Yield in Earth System Models. Water Resources Research, 2017, 53, 10674-10700.	4.2	17
47	Reviews and syntheses: An empirical spatiotemporal description of the global surfaceâ€“atmosphere carbon fluxes: opportunities and data limitations. Biogeosciences, 2017, 14, 3685-3703.	3.3	58
48	Temperature dependence of basalt weathering. Earth and Planetary Science Letters, 2016, 443, 59-69.	4.4	126
49	Coupling of carbon and silicon geochemical cycles in rivers and lakes. Scientific Reports, 2016, 6, 35832.	3.3	13
50	Differential weathering of basaltic and granitic catchments from concentrationâ€“discharge relationships. Geochimica Et Cosmochimica Acta, 2016, 190, 265-293.	3.9	113
51	Seasonal response of airâ€“water CO₂ exchange along the landâ€“ocean aquatic continuum of the northeast North American coast.. Biogeosciences, 2015, 12, 1447-1458.	3.3	34
52	Submarine groundwater discharge from tropical islands: a review. Grundwasser, 2015, 20, 53-67.	1.4	81
53	Silicon isotope composition of dissolved silica in surface waters of the Elbe Estuary and its tidal marshes. Biogeochemistry, 2015, 124, 61-79.	3.5	4
54	Spatial patterns in CO₂ evasion from the global river network. Global Biogeochemical Cycles, 2015, 29, 534-554.	4.9	223

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55	Inorganic Carbon Fluxes in the Inner Elbe Estuary, Germany. Estuaries and Coasts, 2015, 38, 192-210.	2.2	19
56	Environmental Impactsâ€"Freshwater Biogeochemistry. Regional Climate Studies, 2015, , 307-336.	1.2	1
57	A full greenhouse gases budget of Africa: synthesis, uncertainties, and vulnerabilities. Biogeosciences, 2014, 11, 381-407.	3.3	162
58	Spatial Variations in Pore-Water Biogeochemistry Greatly Exceed Temporal Changes During Baseflow Conditions in a Boreal River Valley Mire Complex, Northwest Russia. Wetlands, 2014, 34, 1171-1182.	1.5	14
59	Climateâ€driven changes in chemical weathering and associated phosphorus release since 1850: Implications for the land carbon balance. Geophysical Research Letters, 2014, 41, 3553-3558.	4.0	35
60	Chemistry of the heavily urbanized Bagmati River system in Kathmandu Valley, Nepal: export of organic matter, nutrients, major ions, silica, and metals. Environmental Earth Sciences, 2014, 71, 911-922.	2.7	32
61	Silica fluxes in the inner Elbe Estuary, Germany. Biogeochemistry, 2014, 118, 389-412.	3.5	13
62	The Overlooked Compartment of the Critical-zone-complex, Considering the Evolution of Future Geogenic Matter Fluxes: Agricultural Topsoils. Procedia Earth and Planetary Science, 2014, 10, 339-342.	0.6	0
63	A geostatistical framework for predicting variations in strontium concentrations and isotope ratios in Alaskan rivers. Chemical Geology, 2014, 389, 1-15.	3.3	70
64	A Brief Overview of the GLObal RIver Chemistry Database, GLORICH. Procedia Earth and Planetary Science, 2014, 10, 23-27.	0.6	111
65	Carbon Dioxide Efficiency of Terrestrial Enhanced Weathering. Environmental Science & Technology, 2014, 48, 4809-4816.	10.0	119
66	Global chemical weathering and associated P-release â€" The role of lithology, temperature and soil properties. Chemical Geology, 2014, 363, 145-163.	3.3	215
67	Salt marshes in the silica budget of the North Sea. Continental Shelf Research, 2014, 82, 31-36.	1.8	1
68	A glimpse beneath earth's surface: GLobal HYdrogeology MaPS (GLHYMPS) of permeability and porosity. Geophysical Research Letters, 2014, 41, 3891-3898.	4.0	199
69	A Comprehensive Study of Silica Pools and Fluxes in Wadden Sea Salt Marshes. Estuaries and Coasts, 2013, 36, 1150-1164.	2.2	14
70	Global carbon dioxide emissions from inland waters. Nature, 2013, 503, 355-359.	27.8	1,670
71	Modelling Estuarine Biogeochemical Dynamics: From the Local to the Global Scale. Aquatic Geochemistry, 2013, 19, 591-626.	1.3	54
72	Enhanced chemical weathering as a geoengineering strategy to reduce atmospheric carbon dioxide, supply nutrients, and mitigate ocean acidification. Reviews of Geophysics, 2013, 51, 113-149.	23.0	323

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73	What controls the spatial patterns of the riverine carbonate system? â€" A case study for North America. Chemical Geology, 2013, 337-338, 114-127.	3.3	47
74	Silica Dynamics of Tidal Marshes in the Inner Elbe Estuary, Germany. Silicon, 2013, 5, 75-89.	3.3	11
75	Impact of grazing management on silica export dynamics of Wadden Sea saltmarshes. Estuarine, Coastal and Shelf Science, 2013, 127, 1-11.	2.1	14
76	Anthropogenic perturbation of the carbon fluxes from land to ocean. Nature Geoscience, 2013, 6, 597-607.	12.9	937
77	Retention of dissolved silica within the fluvial system of the conterminous USA. Biogeochemistry, 2013, 112, 637-659.	3.5	16
78	Abrupt shifts of the Saharaâ€"Sahel boundary during Heinrich stadials. Climate of the Past, 2013, 9, 1181-1191.	3.4	71
79	Global multi-scale segmentation of continental and coastal waters from the watersheds to the continental margins. Hydrology and Earth System Sciences, 2013, 17, 2029-2051.	4.9	157
80	The new global lithological map database GLiM: A representation of rock properties at the Earth surface. Geochemistry, Geophysics, Geosystems, 2012, 13, .	2.5	575
81	Assessing the nonconservative fluvial fluxes of dissolved organic carbon in North America. Journal of Geophysical Research, 2012, 117, .	3.3	57
82	The European land and inland water CO₂, CO, CH₄ and N₂O balance between 2001 and 2005. Biogeosciences, 2012, 9, 3357-3380.	3.3	53
83	The carbon budget of terrestrial ecosystems in East Asia over the last two decades. Biogeosciences, 2012, 9, 3571-3586.	3.3	103
84	Carbon dynamics in the freshwater part of the Elbe estuary, Germany: Implications of improving water quality. Estuarine, Coastal and Shelf Science, 2012, 107, 112-121.	2.1	51
85	The geochemical composition of the terrestrial surface (without soils) and comparison with the upper continental crust. International Journal of Earth Sciences, 2012, 101, 365-376.	1.8	44
86	Mapping permeability over the surface of the Earth. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	236
87	Coupling spatial geochemical and lithological information to distinguish silicate and non-silicate chemical weathering fluxes. Applied Geochemistry, 2011, 26, S281-S284.	3.0	1
88	Compatibility of space and time for modeling fluvial fluxes â€" A comparison. Applied Geochemistry, 2011, 26, S295-S297.	3.0	2
89	Chemical weathering rates of silicate-dominated lithological classes and associated liberation rates of phosphorus on the Japanese Archipelagoâ€"Implications for global scale analysis. Chemical Geology, 2011, 287, 125-157.	3.3	58
90	Atmospheric CO2 consumption by chemical weathering in North America. Geochimica Et Cosmochimica Acta, 2011, 75, 7829-7854.	3.9	59

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91	Changes in dissolved silica mobilization into river systems draining North America until the period 2081â€"2100. Journal of Geochemical Exploration, 2011, 110, 31-39.	3.2	19
92	Global spatial distribution of natural riverine silica inputs to the coastal zone. Biogeosciences, 2011, 8, 597-620.	3.3	174
93	Increasing dissolved silica trends in the Rhine River: an effect of recovery from high P loads?. Limnology, 2011, 12, 63-73.	1.5	26
94	Reply to Schuiling et al.: Different processes at work. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, .	7.1	4
95	Predicting riverine dissolved silica fluxes to coastal zones from a hyperactive region and analysis of their first-order controls. International Journal of Earth Sciences, 2010, 99, 207-230.	1.8	50
96	Geoengineering potential of artificially enhanced silicate weathering of olivine. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20228-20233.	7.1	202
97	Lithological composition of the North American continent and implications of lithological map resolution for dissolved silica flux modeling. Geochemistry, Geophysics, Geosystems, 2010, 11, .	2.5	21
98	Dissolved silica mobilization in the conterminous USA. Chemical Geology, 2010, 270, 90-109.	3.3	67
99	Water input requirements of the rapidly shrinking Dead Sea. Die Naturwissenschaften, 2009, 96, 637-643.	1.6	20
100	Bicarbonate-fluxes and CO2-consumption by chemical weathering on the Japanese Archipelago â€" Application of a multi-lithological model framework. Chemical Geology, 2009, 265, 237-271.	3.3	74
101	Global CO2-consumption by chemical weathering: What is the contribution of highly active weathering regions?. Global and Planetary Change, 2009, 69, 185-194.	3.5	241
102	Global patterns of dissolved silica export to the coastal zone: Results from a spatially explicit global model. Global Biogeochemical Cycles, 2009, 23, .	4.9	103
103	What is the maximum potential for CO2 sequestration by â€œstimulatedâ€•weathering on the global scale?. Die Naturwissenschaften, 2008, 95, 1159-1164.	1.6	43
104	Method of evaluating nutrient loads through the atmosphere onto lakes. Desalination, 2008, 226, 190-199.	8.2	4
105	The impact of Eurasian dust storms and anthropogenic emissions on atmospheric nutrient deposition rates in forested Japanese catchments and adjacent regional seas. Global and Planetary Change, 2008, 61, 117-134.	3.5	23
106	GEOCHEMISTRY OF THE RIVER RHINE AND THE UPPER DANUBE: RECENT TRENDS AND LITHOLOGICAL INFLUENCE ON BASELINES. Journal of Environmental Science for Sustainable Society, 2007, 1, 39-46.	0.1	33
107	Multi-Criteria Decision Support Systems for Flood Hazard Mitigation and Emergency Response in Urban Watersheds. Journal of the American Water Resources Association, 2007, 43, 346-358.	2.4	80
108	Managing Surface Water Contamination in Nagoya, Japan: An Integrated Water Basin Management Decision Framework. Water Resources Management, 2006, 20, 411-430.	3.9	18

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109	Long-term seismotectonic influence on the hydrochemical composition of a spring located at Koryaksky-Volcano, Kamchatka: deduced from aggregated earthquake information. International Journal of Earth Sciences, 2006, 95, 649-664.	1.8	20
110	The influence of seismotectonics on precursory changes in groundwater composition for the 1995 Kobe earthquake, Japan. Hydrogeology Journal, 2006, 14, 1307-1318.	2.1	25
111	Identifying potential repositories for radioactive waste: multiple criteria decision analysis and critical infrastructure systems. International Journal of Critical Infrastructures, 2005, 1, 404.	0.2	11
112	Using PRTR database for the assessment of surface water risk and improvement of monitoring in Japan. International Journal of Critical Infrastructures, 2005, 1, 155.	0.2	1
113	Natural disasters and nuclear critical infrastructure negotiations: conflict resolution in Turkey. International Journal of Critical Infrastructures, 2005, 1, 367.	0.2	1
114	Difference information criterion for the analysis of a seismotectonic influence on a radon time-series at the KSM site, Japan. Geophysical Journal International, 2005, 160, 891-900.	2.4	11
115	Weather and seasonal climate prediction for flood planning in the Yangtze River Basin. Stochastic Environmental Research and Risk Assessment, 2005, 19, 428-437.	4.0	20
116	Hydrogeological and Gasgeochemical Earthquake Precursors ? A Review for Application. Natural Hazards, 2005, 34, 279-304.	3.4	142
117	A statistical procedure for the analysis of seismotectonically induced hydrochemical signals: A case study from the Eastern Carpathians, Romania. Tectonophysics, 2005, 405, 77-98.	2.2	30
118	Biogeochemical Output and Typology of Rivers Draining Patagonia's Atlantic Seaboard. Journal of Coastal Research, 2005, 214, 835-844.	0.3	44
119	Short Communication: Aging of basalt volcanic systems and decreasing CO₂ consumption by weathering. , 0, , .		1
120	Running out of gas: Zircon 18O-Hf-U/Pb evidence for Snowball Earth preconditioned by low degassing. Geochemical Perspectives Letters, 0, , 41-46.	5.0	5