Xavier Comas

List of Publications by Year in descending order

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47 papers	1,083 citations	361413 20 h-index	454955 30 g-index
47 all docs	47 docs citations	47 times ranked	1008 citing authors

#	Article	IF	Citations
1	Geophysical evidence for peat basin morphology and stratigraphic controls on vegetation observed in a Northern Peatland. Journal of Hydrology, 2004, 295, 173-184.	5.4	75
2	Low-frequency electrical properties of peat. Water Resources Research, 2004, 40, .	4.2	64
3	Imaging tropical peatlands in Indonesia using ground-penetrating radar (GPR) and electrical resistivity imaging (ERI): implications for carbon stock estimates and peat soil characterization. Biogeosciences, 2015, 12, 2995-3007.	3.3	62
4	Ecohydrologically important subsurface structures in peatlands revealed by groundâ€penetrating radar and complex conductivity surveys. Journal of Geophysical Research, 2008, 113, .	3.3	55
5	Seasonal geophysical monitoring of biogenic gases in a northern peatland: Implications for temporal and spatial variability in free phase gas production rates. Journal of Geophysical Research, 2008, 113, .	3.3	54
6	Stratigraphic controls on pool formation in a domed bog inferred from ground penetrating radar (GPR). Journal of Hydrology, 2005, 315, 40-51.	5.4	53
7	Spatial variability in biogenic gas accumulations in peat soils is revealed by ground penetrating radar (GPR). Geophysical Research Letters, 2005, 32, .	4.0	53
8	Evolution of biogenic gases in peat blocks inferred from noninvasive dielectric permittivity measurements. Water Resources Research, 2007, 43, .	4.2	46
9	In situ monitoring of free-phase gas accumulation and release in peatlands using ground penetrating radar (GPR). Geophysical Research Letters, 2007, 34, .	4.0	45
10	Pool patterning in a northern peatland: Geophysical evidence for the role of postglacial landforms. Journal of Hydrology, 2011, 399, 173-184.	5.4	38
11	Resistivityâ€based monitoring of biogenic gases in peat soils. Water Resources Research, 2007, 43, .	4.2	35
12	Atmospheric pressure drives changes in the vertical distribution of biogenic free-phase gas in a northern peatland. Journal of Geophysical Research, 2011, 116, .	3.3	35
13	Methane Dynamics in Peat: Importance of Shallow Peats and a Novel Reduced-Complexity Approach for Modeling Ebullition. Geophysical Monograph Series, 0, , 173-185.	0.1	35
14	Architecture of the deep critical zone in the RÃo Icacos watershed (Luquillo Critical Zone) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 227 Td (Processes and Landforms, 2016, 41, 1826-1840.	2.5	34
15	Heterogeneity of biogenic gas ebullition in subtropical peat soils is revealed using timeâ€lapse cameras. Water Resources Research, 2012, 48, .	4.2	30
16	Geophysical and hydrological evaluation of two bog complexes in a northern peatland: Implications for the distribution of biogenic gases at the basin scale. Global Biogeochemical Cycles, 2005, 19, n/a-n/a.	4.9	29
17	The effect of peat structure on the spatial distribution of biogenic gases within bogs. Hydrological Processes, 2014, 28, 5483-5494.	2.6	29
18	Variations in freeâ€phase gases in peat landforms determined by groundâ€penetrating radar. Journal of Geophysical Research, 2010, 115, .	3.3	28

#	Article	IF	Citations
19	Quantification of Peat Thickness and Stored Carbon at the Landscape Scale in Tropical Peatlands: A Comparison of Airborne Geophysics and an Empirical Topographic Method. Journal of Geophysical Research F: Earth Surface, 2019, 124, 3107-3123.	2.8	23
20	Estimating belowground carbon stocks in peatlands of the Ecuadorian pÃ¡ramo using groundâ€penetrating radar (GPR). Journal of Geophysical Research G: Biogeosciences, 2017, 122, 370-386.	3.0	22
21	Geophysical evidence for the lateral distribution of free phase gas at the peat basin scale in a large northern peatland. Journal of Geophysical Research, 2011, 116, .	3.3	21
22	The Stable Carbon Isotope Composition of Methane Produced and Emitted from Northern Peatlands. Geophysical Monograph Series, 0, , 187-203.	0.1	20
23	Integration of electrical resistivity imaging and ground penetrating radar to investigate solution features in the Biscayne Aquifer. Journal of Hydrology, 2014, 515, 129-138.	5.4	18
24	The Contribution of Ground Penetrating Radar to Water Resource Research. , 2009, , 203-246.		16
25	Do peatland microforms move through time? Examining the developmental history of a patterned peatland using groundâ€penetrating radar. Journal of Geophysical Research, 2012, 117, .	3.3	16
26	Estimating methane gas production in peat soils of the Florida Everglades using hydrogeophysical methods. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 1190-1202.	3.0	15
27	Investigating carbon flux variability in subtropical peat soils of the Everglades using hydrogeophysical methods. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 1506-1519.	3.0	13
28	The Effect of Fractures on Weathering of Igneous and Volcaniclastic Sedimentary Rocks in the Puerto Rican Tropical Rain Forest. Procedia Earth and Planetary Science, 2017, 17, 972-975.	0.6	11
29	Physical Controls on Ebullition Losses of Methane from Peatlands. Geophysical Monograph Series, 0, , 219-228.	0.1	10
30	Free phase gas processes in a northern peatland inferred from autonomous fieldâ€scale resistivity imaging. Water Resources Research, 2016, 52, 2996-3018.	4.2	10
31	Mapping CO2 fluxes of cypress swamp and marshes in the Greater Everglades using eddy covariance measurements and Landsat data. Remote Sensing of Environment, 2021, 262, 112523.	11.0	10
32	Estimating Belowground Carbon Stocks in Isolated Wetlands of the Northern Everglades Watershed, Central Florida, Using Ground Penetrating Radar and Aerial Imagery. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 2804-2816.	3.0	9
33	Methane Ebullition From Subtropical Peat: Testing an Ebullition Model Reveals the Importance of Pore Structure. Geophysical Research Letters, 2018, 45, 6992-6999.	4.0	9
34	Understanding Carbon Cycling in Northern Peatlands: Recent Developments and Future Prospects. Geophysical Monograph Series, 0, , 1-3.	0.1	8
35	Noninvasive Field-Scale Characterization of Gaseous-Phase Methane Dynamics in Peatlands using the Ground-Penetrating Radar Method. Geophysical Monograph Series, 0, , 159-171.	0.1	8
36	Methane Accumulation and Release from Deep Peat: Measurements, Conceptual Models, and Biogeochemical Significance. Geophysical Monograph Series, 0, , 145-158.	0.1	7

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37	Spatiotemporal variability in biogenic gas dynamics in a subtropical peat soil at the laboratory scale is revealed using highâ€resolution groundâ€penetrating radar. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 2219-2232.	3.0	7
38	Understanding fracture distribution and its relation to knickpoint evolution in the Rio Icacos watershed (Luquillo Critical Zone Observatory, Puerto Rico) using landscapeâ€scale hydrogeophysics. Earth Surface Processes and Landforms, 2019, 44, 877-885.	2.5	7
39	Using an object-based machine learning ensemble approach to upscale evapotranspiration measured from eddy covariance towers in a subtropical wetland. Science of the Total Environment, 2022, 831, 154969.	8.0	7
40	A Remote Sensing Technique to Upscale Methane Emission Flux in a Subtropical Peatland. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2020JG006002.	3.0	6
41	Changes in Physical Properties of Everglades Peat Soils Induced by Increased Salinity at the Laboratory Scale: Implications for Changes in Biogenic Gas Dynamics. Water Resources Research, 2020, 56, e2019WR026144.	4.2	3
42	Evidence for glacial geological controls on the hydrology of Maine (USA) peatlands. Geology, 2020, 48, 771-776.	4.4	3
43	Peat. Encyclopedia of Earth Sciences Series, 2016, , 476-480.	0.1	3
44	A Lumped Bubble Capacitance Model Controlled by Matrix Structure to Describe Layered Biogenic Gas Bubble Storage in Shallow Subtropical Peat. Water Resources Research, 2018, 54, 5487-5503.	4.2	1
45	Investigating carbon stocks and fluxes in subtropical peatlands using ground penetrating radar (GPR). , 2015, , .		0
46	Peat collapse in the southwestern Everglades: Understanding the matrix level response to salinization and its implications for biogenic gas fluxes from peat soils. , 2020, , .		0
47	Exploring the potential of ground-penetrating radar (GPR) to measure the extent of chronic disturbance in peatlands: Examples from acid mine drainage and peat fire. , 2020, , .		0