Alejandro R. Dussaillant J.

Contact Address:	UK Centre for Ecology & Hydrology, Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB
Profession / Specialisation:	Civil & Environmental Engineer/Water Resources & Geohazards
Job Title:	Senior Hydrologist, Working with Natural Processes

Professional and Educational Qualifications

Civil & Environmental Engineering MEng	P. Universidad Católica, Chile	1996
Civil & Environmental Engineering PhD	University of Wisconsin-Madison, USA	2002

Summary of Professional Expertise

Alejandro is an engineering hydrologist at CEH's Water Quality & Catchment Processes group within the Water & Climate Science area. He has over 25 years' experience of applied research on hydro-geomorphic systems from basin to local scales, using novel monitoring, data analysis and modelling to understand fluvial and catchment processes. AD has worked on complex hydrological problems together with state agencies, industry and local communities. He has led projects on catchment science, floods and sediment transport, droughts and infiltration practices for groundwater recharge, and low-cost monitoring of rivers. AD´s role CEH-wide is to facilitate efforts on Working with Natural Processes, Nature-based Solutions and Natural Flood Management. He collaborates in the theme with partners in UK and the rest of Europe as well as Asia & America. AD has supervised/co-supervised PhD and MSc/MPhil students in the UK and abroad. He is a visiting researcher at www.ciep.cl in Chile and member of IAHS, EGU, BHS, RRC and BSG. AD presents research internationally to scientists and policy makers and has been reviewer of international journals and proposals. He has authored/co-authored several peer-reviewed papers, book chapters, national assessments, and reports for public & private entities. AD is currently contributor in the European Climate-Resilient Landscapes expert group.

Employment History

2022	-	now	**Senior Hydrologist**; UK Centre for Ecology & Hydrology
2008	-	now	**Research Associate**; Centro Investigación Ecosistemas de Patagonia, Chile
2017	-	2023	**Visiting Researcher**; Middlesex University London, UK
2017	-	2020	**Associate Professor**; Universidad de Aysén, Patagonia, Chile
2017	-	2018	**Pro-Vice-Chancellor for Research**; Universidad de Aysén, Patagonia, Chile
2016	-	2017	**Research Associate**; King's College London, UK
2010	-	2015	**Senior Lecturer**; Water & Env, Civil Engineering Dept, U Greenwich, UK
2008	-	2010	**Associate Professor**; Universidad de Concepcion, Chile
1996	-	2007	**Assistant Professor**; P. Universidad Catolica, Chile

Work Experience / Research Leadership (selected)

2024	-	2029	UKRI; CoI; £38m; Flood & Drought Research Infrastructure: innovation, flows
2026	-	2029	EU Horizon; CoI; £6m; HydroDataCube4EU; soil-water-climate tools
2026	-	2026	Defra/NE; PI; £100k; Agri-Environment Schemes flood mitigation (Phase 1)
2024	-	2028	EU Horizon; CoI; £15m; SpongeWorks: sustainable NbS for water retention
2023	-	2027	EU Horizon; CoPI; £3m; SpongeScapes: evidence-based NbS for resilience
2024	-	2026	WRE/TNC; CoI; £50k; NbS for Groundwater Recharge: design, monitoring
2024	-	2026	UN GEF; CoI; US$2m; uPcycle: world lakes phosphorus management
2022	-	2026	UK NC; CoI; NC International for Net Zero+: NbS in Malaysia & Thailand
2022	-	2026	NERC; CoI; £2.5m; Deplete & Retreat: The Future of Andean Water Towers
2022	-	2023	Defra/EA; PI; £50k; Water Quality Monitoring Innovation Scoping for the EA
2022	-	2023	ANID Chile; CoPI; £300k; Drought in Patagonia River-Aquifer Systems
2020	-	2022	ANID Chile; CoPI; £210k; Novel NRT Monitoring of Floods & Debris Flows
2019	-	2023	FIC Aysén Chile; PI; £236k; Simpson River Morphology & Gravel Mining
2018	-	2019	CLS-HSG Swiss Fund; Co-I; £19k; Dendrogeomorphology & glacial outbursts
2017	-	2019	NERC; CoI; £100k; Real-time low-cost monitoring hydro-geohazards in Chile

2016 - 2019	NERC; CoI; £500k; Patagonia Icefield Shrinkage impact on Coast EcosystemS
2016 - 2017	FIC RM Chile; Co-I; £200k; Groundwater Recharge by Rain Infiltration NbS
2015 - 2016	NERC; CoI; £52k; Lahar Floods by 2015 Calbuco Volcano Eruption, Chile
2011 - 2013	UoG; PI; £38k; Outburst Flood Analysis with sensor networks & modelling
2010 - 2014	UoG; PI; £52k; Raingarden bioretention system SuDS/NbS design
2010 - 2011	Heinrich Boll; PI; US$40k; Mountain Hazards in Chilean Patagonia Andes
2008 - 2009	World Bank; PI; US$44k; Sustainability of Hydro-Electricity in Chilean Andes
2005 - 2008	Lampadia Foundation; PI; US$90k; Raingarden bioretention system SuDS
1999 - 2002	US EPA; RA; US$1m; Raingarden bioretention system: models & field exprmt

Memberships of Committees, Boards, Etc

2025-2026	Member of European Climate Resilient Landscapes expert group
2010-2017	Editorial Board Member, Hydrological Processes journal
2011-2012	Editorial Board Member, Soil & Water Society journal

Selected Publications

Albert A, …, **Dussaillant, A**, et al 2026. Sponge landscapes: A framework for coordinating nature-based solutions across scales. https://doi.org/10.1016/j.nbsj.2026.100391

Dussaillant A, Sah N, Blake J, George C, Scarlett P, Dueñas-López MÁ, et al: Sponge Measures for Natural Flood Management in Agricultural Landscapes: Water Retention Effectiveness, Co/Dis-Benefits, and Hydro-Geomorphic Change in Nature-based Solutions in the Upper Thames, UK, EGU General Assembly 2026, EGU26-20783, https://doi.org/10.5194/egusphere-egu26-20783

Cooper R, Hiscock K, Brauns B, Ascott M, **Dussaillant A**, Sah N, Tosney J et al. Wensum NbS Monitoring Trials: Wendling Beck Runoff Attenuation Feature. Final Report, March 2026, 63pp.

Veness W, **Dussaillant A**, Coxon G, De Stercke S, Old G, Fry M, Evans J, Buytaert W 2025. User priorities for hydrological monitoring infrastructures supporting research and innovation, Hydrol. Earth Syst. Sci. https://doi.org/10.5194/hess-29-6201-2025

Fogarty C, Veness W, **Dussaillant A**, Buytaert W 2025. Mapping hydro-ecological citizen science activities to inform research infrastructure design (Chess Catchment, UK). Hydrol Res https://doi.org/10.2166/nh.2025.028

Dussaillant A et al. 2025. Monitoring Framework for Sponge Measures. EU SpongeWorks project, https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e52185b4cd&appId=PPGMS

Castelli G,..**Dussaillant A,**..Buytaert W, Ceperley N 2025 Co-creating water knowledge: a community perspective, Hydrol Sci J, https://doi.org/10.1080/02626667.2025.2571065

Gorsic S, Corona C, Munoz-Torrero Manchado A, Lopez-Saez J, Allen S, Ballesteros-Canovas J, **Dussaillant A**, Stoffel M 2025. Coupling tree-ring and geomorphic analyses to reconstruct the 1950s massive Glacier Lake Outburst Flood at Grosse Glacier, Chilean Patagonia. Sci Tot Env https://doi.org/10.1016/j.scitotenv.2025.178368

Colavitto B, Allen S, Winocur D, **Dussaillant A**, Guillet S, Muñoz-Torrero Manchado A, Gorsic S, Stoffel M 2024. A glacial lake outburst floods hazard assessment in the Patagonian Andes combining inventory data and case-studies. Sci Tot Env, https://doi.org/10.1016/j.scitotenv.2023.169703

Penning, E., Wittmann, C., Fribourg-Blanc, B., Dechelette, C., Sear, D., **Dussaillant, A**., 2024. From drainage to water retention - advancing a paradigm shift towards sponge landscapes for enhanced climate resilience. SpongeScapes. https://doi.org/10.5281/zenodo.14202903

Fribourg-Blanc, B., Penning, E., Wittmann, C. D., Pagliacci, F., Bonhoure, L., Almasi, P., Bettella, F., d'Agostino, V., Vasconcelos, L., **Dussaillant, A**., Piniewski, M., & Anderson, C. (2024). Critical Review of Existing Knowledge on Sponge Functions for Different Climatic Zones, Soils and Land Uses in Europe: SpongeScapes Deliverable 1.1. https://doi.org/10.5281/zenodo.15804176

Dussaillant A, Hutchins M, Laize C, O´Brien A, Qu Y 2023. Defra ENVWLB00626R Water Quality Innovative Monitoring Scoping Study. UKCEH Report for Environment Agency, 79pp.

Irarrázaval I, **Dussaillant A**, et al 2022. Monitoring ice-dynamics and morphological changes during proglacial lake development at Exploradores Glacier, Patagonia. Frontiers in Earth Science, https://doi.org/10.3389/feart.2022.791487

Benito G, Thorndycraft V, Medialdea A, Machado M, Sancho C, **Dussaillant A** 2021. Declining discharge of glacier outburst floods through the Holocene in central Patagonia. Quaternary Sciences Review https://doi.org/10.1016/j.quascirev.2021.106810

Aniya M, **Dussaillant A**, O´Kuinghttons J, Barcaza G, Bravo S 2020. GLOFs of Laguna Témpanos, Glaciar Steffen, Hielo Patagónico Norte, Chile, since 1974. Bull Glac R https://doi.org/10.5331/bgr.20R01

Quinn, R and **Dussaillant A**. 2018. Laboratory column investigation of heavy metal retention in bioretention systems. Hydrology Research https://doi.org/10.2166/nh.2018.277

Quinn R, **Dussaillant A**. 2014 Modeling heavy metal behavior in Sustainable Drainage Systems: a case study. CLEAN Soil Air Water, 42 (2): 160-168 https://doi.org/10.1002/clen.201300163

Quinn R, **Dussaillant A**. 2014 Predicting infiltration and pollutant retention in bioretention drainage systems: model development and validation. Hydrology Research https://doi.org/10.2166/nh.2014.146

Dussaillant A, Buytaert W, et al. 2012 Hydrological regime of remote catchments with extreme gradients under accelerated change: Baker basin, Patagonia. H Sc J https://doi.org/10.1080/02626667.2012.726993

Bastianon E, **Dussaillant A,** Bertoldi W. 2012 Glacial-lake outburst flood effects on Colonia River morphology, Chilean Patagonia. In *River Flow 2012.* Taylor & Francis: London; pp 573–579

Dussaillant A. 2011 Estimation of combined splash, interrill and rill erosion using a hillslope erosion numerical model. J. Soil & Water Cons https://doi.org/10.2489/jswc.66.2.142

Dussaillant A, Benito G, Buytaert W, Carling P, Meier C, Espinoza F. 2010 Repeated glacial-lake outburst floods in Patagonia: An increasing hazard? Nat Haz https://doi.org/10.1007/s11069-009-9479-8