Alejandro R. Dussaillant J.

Contact Address:	UK Centre for Ecology & Hydrology (UKCEH) Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB
Profession / Specialisation:	Civil & Environmental Engineer/Water Resources & Geohazards
Job Title:	Senior Hydrologist, WWNP/NBS coordinator

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 UKCEH's Hydrological Processes & Extremes group within the Hydro-Climate Risks 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 is to facilitate efforts on Working with Natural Processes / Nature-based Solutions UKCEH-wide. He collaborates in the theme with partners in UK, Netherlands, Germany, France, Italy, Greece, Austria, Poland, Slovenia, etc. He has supervised & co-supervised PhD and MSc/MPhil students in the UK and abroad. AD is a visiting scholar at www.ciep.cl and www.uaysen.cl in Chile, and Middlesex University in UK. He presents his research including internationally to scientists and policy makers. AD has authored & co-authored several peer-reviewed papers, book chapters, national assessments, and reports for public/private entities.

Employment History

2022	-	Present	**Senior Hydrologist**; UK Centre for Ecology & Hydrology
2017	-	Present	**Visiting Researcher**; Middlesex University London, UK
2017	-	2020	**Associate Professor**; 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

Work Experience / Research Leadership

2024	-	2029	UKRI; Co-I; £38m; Flood & Drought Research Infrastructure: innovation
2024	-	2028	EU Horizon; Co-PI; £15m; SpongeWorks: sustainable NbS for water retention
2023	-	2027	EU Horizon; Co-PI; £3m; SpongeScapes: evidence-based NbS for resilience
2024	-	2025	UN GEF; Co-I; US$2m; uPcycle: world lakes phosphorus management
2022	-	2026	UK NC; Co-I; NC International for Net Zero+: NbS in Malaysia & Thailand
2022	-	2026	NERC; Co-I; £2.5m; Deplete and Retreat: Future of Andean Water Towers
2022	-	2023	Defra; PI; £50k; Water Quality Monitoring Innovation Scoping for the EA
2022	-	2023	ANID Chile; Co-PI; £300k; Drought in Patagonia River-Aquifer Systems
2020	-	2022	ANID Chile; Co-PI; £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; Co-I; £100k; Real-time low-cost monitoring hydro-geohazards in Chile
2016	-	2018	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; Co-I; £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: modelling & field expt

Memberships of Committees, Boards, Etc

2010-2017	Editorial Board Member, Hydrological Processes journal
2011-2012	Editorial Board Member, Soil & Water Society journal

Selected Publications

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. Science of the Total Environment, doi: 10.1016/j.scitotenv.2023.169703

Dussaillant A, Hutchins M, Laize C, O´Brien A, Qu Y (2023). Defra ENVWLB00626R Innovation Scoping Study. UKCEH Report for Environment Agency, 79pp.

Irarrázaval I, **Dussaillant A**, Iribarren P, Vivero S, Mariethoz G 2022. Monitoring ice-dynamics and morphological changes during proglacial lake development at Exploradores Glacier, Patagonia. Frontiers in Earth Science, doi:10.3389/feart.2022.791487

Benito G, Thorndycraft V, Medialdea A, Machado M, Sancho C, **Dussaillant A** 2021. Declining dis charge of glacier outburst floods through the Holocene in central Patagonia. Quaternary Sciences Review doi: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 Res 38: 13-24 doi:10.5331/bgr.20R01

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

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

Quinn R, **Dussaillant A**. Predicting infiltration and pollutant retention in bioretention drainage systems: model development and validation. Hydrol Res 45 (6): 855-67, 2014 doi:10.2166/nh.2014.146

Dussaillant A, Buytaert W, et al. Hydrological regime of remote catchments with extreme gradients under accelerated change: Baker basin, Patagonia. Hydrol Sci J 57(8): 1530-42, 2012 doi:10.1080/02626667.2012.726993

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

Dussaillant A. Estimation of combined splash, interrill and rill erosion using a hillslope erosion numerical model: An application to dry lands of Chile. J. Soil & Water Cons 66 (2): 142-7, 2011 doi:10.2489/jswc.66.2.142

Dussaillant A, Benito G, Buytaert W, Carling P, Meier C, Espinoza F. Repeated glacial-lake outburst floods in Patagonia: An increasing hazard? Natural Hazards 54 (2): 469-481, 2010 doi:10.1007/s11069-009-9479-8