



Name

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

2023 - 2027 EU Horizon; Co-PI; £3m; SpongeScapes: NbS for water security

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; Co-I; £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; Rain garden 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; Rain garden bioretention system SuDS

1999 - 2002 US EPA; RA; US\$1m; Rain garden 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

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

Irrázaval I, **Dussailant 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, **Dussailant A** 2021. Declining discharge of glacier outburst floods through the Holocene in central Patagonia. *Quaternary Sciences Review* doi:10.1016/j.quascirev.2021.106810

Aniya M, **Dussailant A**, O'Kuinghtons 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 **Dussailant A**. Laboratory column investigation of heavy metal retention in bioretention systems. *Hydrology Research*, 2018 doi:10.2166/nh.2018.277

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

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

Dussailant 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

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

Dussailant 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

Dussailant 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
