

Curriculum Vitæ étendu

Nom et adresse **Benjamin Amann, Postdoctorant**
73 avenue Robespierre, La Rochelle
benjamin.amann.france@gmail.com

Né le 08.01.1988, Belfort (France)

Langues Anglais – C1
Allemand – A2.2
Espagnol – Bases

ORCID ID 0000-0002-0101-0433



<https://benjaminamann.wixsite.com/amannb>

Diplômes & Formations académiques

- 2014, Déc. 19 **Thèse en Climate Sciences, Géographie Physique** (*summa cum laude*)
Oeschger Centre for Climate Change Research, Bern – Switzerland
Ph.D. thesis (EN): “Varved lake sediments as archives for high-resolution millennial-long climate reconstructions: from sedimentation processes to paleoclimatology”
- 2013 **12th International NCCR Climate Summer School**
“From climate reconstructions to climate predictions”, Grindelwald - Switzerland
- 2012 **11th International NCCR Climate Summer School**
“The Water Cycle in a Changing Climate. Observations, Scenarios, Impacts”
Monte Verità, Ticino - Switzerland
- 2011 **Advanced level course - Analysis of Environmental Changes**
Umeå University, Umeå - Sweden
- 2009 – 2011 **Master Hydrologie, Hydrochimie, Sols, Environment (H2SE)**
Université Paul Sabatier III, Equipe Biogéochimie de EcoLab, Toulouse – France
Umeå University, Department of Ecology & Environmental Sciences – Sweden
M.Sc. thesis (EN): “Tracing early atmospheric metal pollution from mining in central Sweden: multi-element analysis of a peat record from Borrnessen”
- 2006 – 2009 **Licence Physique-Chimie**
Université des Sciences et Techniques, Besançon - France

Parcours professionnel

- 2021 – 2024 **Ingénieur de Recherche** – LIENSs CNRS / La Rochelle University
PEPR FairCarbon: CarboNium (8 mois, contrat débuté 02.2024)
TIGA PIA3 LRTZC (1 an)
ANR PAMPAS (8 mois)
- 2018 – 2021 **Postdoctorant** – RCMG, Ghent University, Belgium
BOF Ghent University Research Fund (18 mois)
- 2017 **ATER Geosciences** – Université de Pau et des Pays de l’Adour
Hydrogéologie, Climatologie, Sciences du sol, Hydrologie, Hydrochimie (1 an)
- 2016 **Assistant Professor Climate Change course** – Queen’s University, Kingston, Canada
1^{er} semestre, niveau master, 130 étudiants (6 mois)
- 2015 **Postdoctorant** – Queen’s University, Kingston ON, Canada
Early PostdocMobility Grant Funding Swiss NSF (18 mois)
- 2011 **Ph.D. Candidate** – Oeschger Centre for Climate Change Research, Switzerland
Funding Swiss NSF 200020-134945/1 (3yrs)

- 2024 – 2025 **PEPR FairCarbon, projet ciblé CarboNium**
Dynamique du Carbone dans le continuum terrestre - aquatique : Soutien aux infrastructures, 2M€
 PI: Laure Gandois (EcoLab)
- 2022 - 2023 **TIGA PIA3 LRTZC_France**
La Rochelle Territoire Zéro Carbone, 3.2M€
 Gouvernance participative
- 2021 - 2022 **ANR PAMPAS_France**
Evolution de l'identité PAtrimoniale des Marais des Pertuis charentais en réponse à l'Aléa de Submersion marine
 Fonds ANR, 785k€
 PIs: Thomas Lacoue-Labarthe, Nathalie Long, Marie Vagner (LIENSs)
- 2018 - 2020 **HYDROPROX_Belgique**
Developing inorganic geochemical proxies for accurate paleohydrological reconstructions from Chilean fjord sediments
 UGent BOF Starting Grant, 200k€
 PI: Sebastien Bertrand (RCMG, Ghent University - Belgium)
- 2017 - 2018 **ANR PHYTOMET_France**
Phytoplankton metallomics: effect of Ocean acidification on iron sequestration
 Fonds ANR, 550k€
 PI: Marie-Pierre Isaure (IPREM - Pau, France)
- 2015 - 2017 **SEAL-ARC_Canada**
Sea-level history and past climate variability inferred from the varved sediments of a hypersaline coastal Arctic lake
 SNSF Early Postdoc.Mobility Fellowship, 73k CHF
 PI: Benjamin Amann (EVEX, Queen's University - Kingston ON, Canada)
- 2015 - 2017 **ArcticNet (membre actif)_Canada**
Water Security and Quality in a Changing Arctic_NSERC Phase 4
- 2011 - 2015 **CLIMPOL (membre actif)_Suisse**
Climate of northern Poland during the last 1000 years: Constraining the future with the past
 Swiss Contribution, 821k CHF
 PIs: Martin Grosjean (Bern University), Wojciech Tylmann (University of Gdańsk)
- 2011 - 2014 **LAKE VIS-RS_Suisse**
Improving climate reconstructions from lake sediments using Visible Reflectance Spectroscopy data
 Swiss National Science Foundation SNSF, 198k CHF
 PI: Martin Grosjean (OCCR, UniBern - Switzerland)
- 2009 - 2011 **Projet de Master II, Programme d'échange Suède/France**
Tracing early atmospheric metal pollution from mining in Central Sweden: multi-element analysis of a peat record from Borrnessen
 Bourse Mobilité - Région Midi Pyrénées (co-tutelle), 500 €
 Supervisors: Richard Bindler (Umeå University, Suède), François de Vleeschouwer & Gaël Leroux (ECOLAB, Toulouse)

Expérience en Enseignement

- 2023 **Vacataire cours Géologie et Océanographie** – La Rochelle Université
M1 Géosciences et Géophysique du Littoral
- 2019 **Invited speaker Advanced sedimentology** – Ghent University, Belgium
“The power of natural rhythmic archives. Case studies for paleoenvironmental and paleoclimatic reconstructions”_2nd year M.Sc. level
- 2018 **Invited speaker Advanced sedimentology** – Ghent University, Belgium
“Natural rhythmic archive: Varved lake sediments. Case studies for paleoenvironmental and paleoclimatic reconstructions”_2nd year M.Sc. level
- 2017 **ATER Geosciences 100%** – Université de Pau et des Pays de l’Adour
Hydrogéologie, Climatologie, Sciences du sol, Hydrologie, Hydrochimie
- 2016 **Assistant Professor ‘Climate Change’ course** – Queen’s University, Kingston, Canada
Fall semester_M.Sc. level, 130 students
- 2014 **Instructeur terrain/labo en Paléolimnologie** – University of Bern, Switzerland
Niveau M1, M2_3 jours sur deux saisons estivales

Encadrement étudiants

06. 2021 **Co-encadrant Master I** – La Rochelle Université, France
“Evolution du schorre dans l’anse de l’Aiguillon depuis 1950”, Laura Olivier
06. 2021 **Co-encadrant Master I** – La Rochelle Université, France
“Suivi et quantification des évolutions du trait de végétation des marais littoraux à partir d’images satellitaires et photographies aériennes”, Jasson Mora Mussio
09. 2020 **Ph.D. thesis reviewer and jury member** – Ghent University, Belgium
“Towards the construction of a multi-lake paleoseismic record in south-central Alaska: a trembling tale of landslides and turbidites”, Dr. Praet Nore
08. 2019 **M.Sc. thesis reviewer and jury member** – Ghent University, Belgium
“Lake sediment records of late Holocene proglacial floods from the San Lorenzo Icefield (Patagonia)”, M.Sc. Stijn Albers
08. 2019 **M.Sc. thesis reviewer and jury member** – ‘OCEANS AND LAKES’ Interuniversity Master in Marine-Lacustrine Science and Management (Antwerp, Ghent, Brussels)
“Fjord sediment records of Patagonian river discharge during the last centuries”, M.Sc. Nguyen Minh Nhut
06. 2019 **B.Sc. thesis supervisor** – Ghent University, Belgium
“Evaluating the intensity of late Holocene proglacial floods in Patagonia based on the grain size of floodplain sediments”, B.Sc. Sarah Stammen
08. 2018 **M.Sc. thesis reviewer and jury member** – ‘OCEANS AND LAKES’ Interuniversity Master in Marine-Lacustrine Science and Management (Antwerp, Ghent, Brussels)
“Evolution of San Lorenzo proglacial floods (Patagonia) during the late Holocene: are they related to glacier variability?”, M.Sc. Alejandro Rojas Aldana

J'ai rejoint le processus de révision des revues suivantes :

- Quaternary Science Reviews*_IF: 4.797 (2016)
- Earth Surface Processes and Landforms*_IF: 3.697 (2016)
- International Journal of Climatology*_IF: 3.601 (2016)
- Climate of the Past*_IF: 3.543 (2016)
- MDPI *Applied Sciences*_IF: 2.679 (2020)
- Quaternary Research*_IF: 2.195 (2016)
- Journal of Paleolimnology*_IF: 2.168 (2016)
- Geological Society of Sweden*_IF: 1.142 (2016)

J'ai également participé activement à: IPCC review of the First Order Draft of the *Sixth Assessment Report (AR6) Climate Change 2021: The Physical Science Basis* from the Working Group I.

Séminaires invités & Activités de vulgarisation

- 2022 **Journées Littoral et Mer, Fondation de France** – Terrain et tables rondes
Adaptation des villes et territoires côtiers face au changement climatique : quel devenir ? Exemple de dépoldériation : La Prée Mizottière, Baie de l'Aiguillon
- 2022 **Les écosystèmes du carbone bleu, SurfRider Association** – Coordination scientifique
Comment SurfRider peut s'emparer de l'axe valorisation du carbone bleu
- 2019 **BELQUA National Committee**, Bruxelles, Belgique
Training course in Quaternary Geochronology - Invited expert in varve chronology
EDYTEM Seminar series, Le Bourget-du-Lac
"From sediment processes to paleoclimatology and flood history – A varved sediment tool"
Geology Research Seminars, Ghent, Belgique
"Varved lake sediments to track past seasonal climatic changes - A hint from the Canadian High Arctic"
- 2017 **PEARL Limnology Seminar Series**, Kingston, Canada
"Varved lake sediments for millennial-long hydroclimate reconstructions: a hint from the European Alps"

ORAUX

- 2023 **Colloque de restitution de l'ANR PAMPAS**, Aquarium de La Rochelle
Chair de session Le patrimoine des marais littoraux, point de vue actuel.
Animateur et contributeur de la table ronde : l'enjeu du carbone dans les marais
- 2022 **ASF Congrès Français de Sédimentologie**, Brest
"Sediment and carbon accumulation rates in saltmarshes of the Pertuis Charentais, France: a combined approach between sedimentological and LiDAR data"
- 2021 **Colloque Pluridisciplinaire : Restauration et reconnexion des marais littoraux**, Brest
"Marais côtiers des Pertuis Charentais : un piège de carbone à long terme ?"
Rencontres Scientifiques, La Mer Monte, Narbonne
"Le rôle des marais littoraux dans la protection des côtes"
- 2019 **INQUA 2019**, Dublin, Irlande
"Spatio-temporal variability of modern sediment composition in Baker fjord (Chilean Patagonia, 48°S): pre-requisite for paleohydrological reconstructions"
- 2018 **European Conference on Permafrost EUCOP2018**, Chamonix-Mt Blanc
"Seasonality matters: Past winter climate from the Canadian High Arctic"
- 2017 **Paleolimnology Symposium PALS 2017**, Sainte-Catharines, Canada
"When seasonality matters: a quantitative winter climate reconstruction using clastic varves from the Canadian High Arctic"
Arctic Workshop 2017, Buffalo NY, États-Unis
"A 400-yr temperature reconstruction from the High Arctic using varved lake sediments"
- 2015 **PAGES Climate2k International conference**, Gdańsk, Pologne
"Spring temperature reconstruction from the sediments of Lake Zabinskie, Poland"
- 2014 **1st Spörer Minimum workshop**, Bern, Suisse
"The Spörer minimum represented in lake sediments: case studies from the Alps and Poland"
4th Climpol workshop, Gdańsk, Pologne
"Sedimentary pigments & VIS-RS data – Potential for a 1000yr climate reconstruction"
- 2013 **11th Swiss Geoscience Meeting**, Lausanne, Suisse
"Scanning reflectance spectroscopy (380-730nm) for Paleoenvironmental and climatic changes assessment"
Climpol workshop, Jeziorowskie, Pologne
"Geochemical proxies: calibration with climate data" [Oral1], "Sedimentary pigments and VIS-RS data" [Oral2]
- 2012 **10th Swiss Geoscience Meeting**, Bern, Suisse
"Varved Lake Oeschinen: quantitative assessment of climate signal in the sediments"
3rd Varve Working Group Workshop, Manderscheid, Allemagne
"Quantitative summer precipitation and rainstorms from varved Lake Oeschinen, Swiss Alps: calibration and validation AD 1920-1986"

POSTER

- 2019 **INQUA 2019**, Dublin, Ireland
"Holocene environmental changes in the western Canadian High Arctic (Boundary Lake, Melville Island, 74°N – 109°W)"
- 2017 **Swiss Polar Institute, Crans-Montana Conference**, Crans Montatana, Suisse
"When seasonality matters: climate reconstructions from the Canadian High Arctic & the European Alps over the last millennium using lake sediments"
- 2016 **AGU Fall meeting**, San Francisco, États Unis
"A 400-year reconstruction of winter conditions using varved lake sediments, Canadian High Arctic: a step forward in the data coverage for the most sensitive season to climate change"
- EGU General Assembly**, Vienne, Autriche
"Varved sediments of Lake Oeschinen, NW Alps: filling the gap in the flood frequency-precipitation relationship for the last millennium" [Poster1]
"Multiple climatic signals inferred from the varved sediments of a coastal lake in the Canadian High Arctic" [Poster2]
- Queen's Northern Research Symposium**, Kingston, Canada
"Winter climate conditions in the Canadian High Arctic over the last 400 years using varved lake sediments"
- 2014 **EGU General Assembly**, Vienne, Autriche
"Quantitative high-resolution rainfall reconstruction back to AD 750 from the varved sediments of Lake Oeschinen, northern Swiss Alps" [#1] "Spring-temperature variability and eutrophication history inferred from sedimentary pigments in the varved sediments of Lake Żabińskie, NE Poland" [#2]
- 15th Swiss Global Change Day**, Bern, Suisse
"Varved lake sediments for quantitative climate research"

List of publications

Scopus: *h*-index 8, citations 257
Google Scholar: *h*-index 12, citations 413

Peer-reviewed (13)

- Amann, B.**, Chaumillon, E., Schmidt, S., Olivier, L., Jupin, J., Perello, M.C., Walsh, J.P. (2023). Multi-annual and multi-decadal evolution of sediment accretion in a saltmarsh of the French Atlantic coast: implications for carbon sequestration. *Estuarine, Coastal and Shelf Science* 293, 108467. <https://doi.org/10.1016/j.ecss.2023.108467>
- Amann, B.**, Bertrand, S., Alvarez-Garreton, C., Reid, B. (2022). Seasonal variations in fjord sediment grain size: A pre-requisite for hydrological and climate reconstructions in partially glaciated watersheds (Baker River, Patagonia). *Journal of Geophysical Research: Earth Surface*. <https://doi.org/10.1029/2021JF006391>
- Wilhelm, B., **Amann, B.**, Corella, J. P., Rapuc, W., Giguët-Covex, C., Merz, B., Storen, E. (2022). Reconstructing paleoflood occurrence and magnitude from lake sediments, the updated cooking book. *Quaternary* 5, 9. <https://doi.org/10.3390/quat5010009>
- Wilhelm, B., Rapuc, W., **Amann, B.**, Anselmetti, F., Arnaud, F., Blanchet, J., Brauer, A., Czymzik, M., Giguët-Covex, C., Gilli, A., Glur, L., Grosjean, M., Irmeler, R., Nicolle, M., Sabatier, P., Swierczynski, T., Wirth, S. (2022). Impact of warmer climate periods on flood hazard in the European Alps. *Nature Geoscience*. <https://doi.org/10.1038/s41561-021-00878-y>
- Troch, M., Bertrand, S., **Amann, B.**, Liu, D., Placencia, J.A., Lange, C.B. (2021). Sediment Provenance in the Baker-Martínez Fjord System (Chile, 48°S) Indicated by Magnetic Susceptibility and Inorganic Geochemistry. *Frontiers in Marine Science*, 612309. <https://doi.org/10.3389/fmars.2021.612309>
- Piret, L., Bertrand, S., Hawkings, J., Kylander, M. E., Torrejon, F., **Amann, B.**, Wadham, J. (2021). High-resolution fjord sediment record of a receding glacier with growing intermediate proglacial lake (Steffen Fjord, Chilean Patagonia). *Earth Surface Processes and Landforms* 46, 239–251. <https://doi.org/10.1002/esp.5015>
- Schulte, L., Wetter, O., Wilhelm, B., Juan Carlos Peña, J. C., **Amann, B.**, Wirth, S. B., Carvalho, F., Gómez-Bolea, A. (2019). Integration of multi-archive datasets for the development of a four-dimensional paleoflood model of alpine catchments. *Global and Planetary Change* 180, 66–88. <https://doi.org/10.1016/j.gloplacha.2019.05.011>
- Amann, B.**, Boreux, M.P., Lamoureux, S.F. (2017). Winter temperature conditions (1670–2010) reconstructed from varved sediments, western Canadian High Arctic. *Quaternary Science Reviews* 172, 1–14. <https://doi.org/10.1016/j.quascirev.2017.07.013>
- Camenisch, C., Keller, K., Salvisberg, M., **Amann, B.**, et al. (2016). The 1430s: a cold period of extraordinary internal climate variability during the early Spörer Minimum with social and economic impacts in north-western and central Europe. *Climate of the Past* 12, 2107–2126. <https://doi.org/10.5194/cp-12-2107-2016>
- Amann, B.**, Szidat, S., Grosjean, M. (2015). A millennial-long record of warm season precipitation and flood frequency for the North-western Alps inferred from varved lake sediments: implications for the future. *Quaternary Science Reviews* 115, 89–100. <https://doi.org/10.1016/j.quascirev.2015.03.002>
- Amann, B.**, Lobsiger, S., Fischer, D., Tylmann, W., Bonk, A., Filipiak, J., Grosjean, M. (2014a). Spring temperature variability and eutrophication history inferred from sedimentary pigments in the varved sediments of Lake Żabińskie, north-eastern Poland, AD 1907–2008. *Global and Planetary Change* 123, 86–96. <https://doi.org/10.1016/j.gloplacha.2014.10.008>
- Amann, B.**, Mauchle, F., Grosjean, M. (2014b). Quantitative high-resolution warm season rainfall recorded in varved sediments of Lake Oeschinen, northern Swiss Alps: calibration and validation AD 1901–2008. *Journal of Paleolimnology* 51, 375–391. <https://doi.org/10.1007/s10933-013-9761-3>
- Bonk, A., Tylmann, W., **Amann, B.**, Enters, D., Grosjean, M. (2014). Modern limnology and varve-formation processes in Lake Żabińskie, northeastern Poland: comprehensive process studies as a key to understand the sediment record. *Journal of Limnology* 74, 358–370. <https://doi.org/10.4081/jlimnol.2014.1117>

Miscellaneous (3)

- Amann, B.**, Chaumillon, E., Bertin, X., Polsenaere, P. (in press 2024). Les prés salés : protection douce des côtes et puits de carbone. Ouvrage collectif : l'innovation en sciences de l'écologie et de l'environnement. INEE, CNRS Editions
- Moreau R., **Amann, B.** (2023). Les écosystèmes du carbone bleu : un levier pour atténuer le changement climatique? SurfRider Foundation magazine. <https://www.surfrider.fr/sinformer/actualites/les-ecosystemes-carbone-bleu-levier-attenuer-changement-climatique/>
- Amann, B.**, Bertin, X., Chaumillon, E., 2021. Le rôle des marais littoraux dans la protection des côtes. Actes des rencontres scientifiques, La Mer Monte. Parc Naturel Régional de la Narbonnaise en Méditerranée
- Grosjean, M., **Amann, B.**, Butz, C., Rein, B., Tylmann, W. (2014). Hyperspectral imaging : a novel, non-destructive method for investigating sub-annual sediment structures and composition. Past Global Changes PAGES Magazine 22, 10–11. <https://doi.org/10.22498/pages.22.1.10>

Datasets (5)

- Amann, B.**, Bertrand, S., Alvarez Garreton, C., Reid, B. (2020). Total sediment flux, grain size distributions and proportions of grain-size end members in sediment traps MO17 and MO18 (head of Martínez Channel, Chilean Patagonia), Version 1.0. Interdisciplinary Earth Data Alliance (IEDA). <https://doi.org/10.26022/IEDA/111794>.
- Isaure, M.P., **Amann, B.**, Hegedus, S. (2021). Iron sequestration in phytoplankton – a key parameter in climate global change [dataset]. European Synchrotron Radiation Facility. <https://data.esrf.fr/doi/10.15151/ESRF-ES-105142453>
- Amann, B.**, Lamoureux, S.F., Boreux, M. (2018). 340-yr winter temperature reconstruction, Chevalier Bay, Melville Island, Canadian High Arctic. PANGAEA. <https://doi.org/10.1594/PANGAEA.895170>
- Amann, B.**, Szidat, S., Grosjean, M. (2018). 1000 year-long flood frequency record for the North-western Alps (Lake Oeschinen). PANGAEA. <https://doi.org/10.1594/PANGAEA.895061>
- Amann, B.**, Szidat, S., Grosjean, M. (2018). 1000 year-long summer precipitation record for the North-western Alps (Lake Oeschinen). PANGAEA. <https://doi.org/10.1594/PANGAEA.895062>

In preparation (2)

- Amann, B.**, Chaumillon, E., Schmidt, S., Bertin, X., Perello, M.C., Pignon-Mussaud, C., (in prep 03.2024). River proximity and coastal geomorphology drives blue carbon accumulation in temperate macrotidal wetlands. Nature communications.
- Amann, B.**, Polsenaere, P., Bertin, X., Dupuy, C., Bergeon, L., Lorrain-Soligon, L., Brichoux, F., Koeler, M., Petillon, J., Aguogué, H., Chaumillon, E., Mayen, J., Arnaud, M., Dedinger, C., Pignon-Mussaud, C., Cazals, C. (in prep 05.2024). Impact of marine floods on coastal marsh ecosystem: from short-term events to climate change through a multidisciplinary approach. Science of the Total Environment.