



Allan T. Souza

PhD in Marine and Environmental Sciences

Profile

Postdoctoral researcher at the Institute for Atmospheric and Earth System Research (INAR), University of Helsinki. My research interests include the climate drivers on species distribution and population dynamics, the impacts of biological invasions on ecosystems and wildlife management. Additionally, I am heavily involved in research data stewardship, ensuring the quality, accessibility, and usability of environmental data, facilitating data-driven research and informed decision-making.

Work Experience

Jan 2023 - Present

Postdoctoral researcher / data scientist / data steward

Institute for Atmospheric and Earth System Research INAR, Forest Sciences, Faculty of Agriculture and Forestry, University of Helsinki, Finland

Jan 2017 - Dec 2022

Postdoctoral researcher / Researcher

Institute of Hydrobiology, Biology Centre, České Budějovice, Czechia

Jan 2016 - Dec 2016

Postdoctoral researcher

University of Azores, Ponta Delgada, Portugal

Jan 2014 - Dec 2015

Science management and development

CIIMAR Centre of Marine and Environmental Research, Porto, Portugal

Education

2022 - 2023 | Certificate course - Data steward

University of Vienna, Austria

Research data management, open science and open research.

2008 - 2013 | PhD in Marine and Environmental Sciences

University of Porto, Portugal

Abundance, structure and distributional patterns of core secondary producers in a temperate estuary: Driving factors and climate change scenario simulations.

2005 - 2007 | MSc. in Biological Sciences - Zoology

Universidade Federal da Paraíba, João Pessoa, Brazil

Habitat use, territorial and feeding behavior of *Stegastes rocasensis* (Emery, 1972) at Fernando de Noronha - PE, Southwestern Atlantic.

2001 - 2005 | BSc in Biological Sciences - Marine Biology

Universidade Federal Fluminense, Rio de Janeiro, Brazil

Thesis: Action of the octocoral's *Renilla mülleri* (Koliker, 1872) sclerites as physical defense against predators.

Contact



Institute for Atmospheric and Earth System Research INAR
Forest Sciences, Faculty of Agriculture and Forestry
P.O. Box 27, 00014
University of Helsinki, Finland



allan.souza@helsinki.fi



+358 403822758



[0000-0002-1851-681X](https://orcid.org/0000-0002-1851-681X)



www.researchgate.net/profile/Allan-Souza-5



[16426487700](https://scopus.com/authid/detail.url?authorID=16426487700)



[LinkedIn_/allantsouza/](https://www.linkedin.com/in/allantsouza/)



allantsouza.netlify.app



Scientific metrics



Peer reviewed papers

• Scopus **78**

• ResearchGate **89**

Citations

• Scopus **1398**

• ResearchGate **1769**

H-index

• Scopus **21**

• ResearchGate **23**



Research fields

- Ecology
- Nature conservation
- Biological invasions
- Climate change
- Fisheries
- Behavioral ecology
- Research infrastructures
- Human & nature interactions



Languages

Portuguese	★★★★★
English	★★★★★
Spanish	★★★★
German	★★★



Skills



Data stewardship ★★★★★

- Data governance
- Research Data Management
- FAIR data
- Data quality assurance
- Data curation
- Data documentation
- Data processing
- Data visualization
- Data analysis



Programming languages

- R ★★★★★
- Git ★★★★★
- Python ★★★
- SQL ★★★



References

Jaana Back, Professor

University of Helsinki

Email : jaana.back@helsinki.fi

Martina Ilarri, Researcher

CIIMAR – Centre of Marine and Environmental Research, Portugal

Email : martinailarri@gmail.com

Projects

eLTER EnRich – Bridging phases towards the Integrated European Long-Term Ecosystem, critical zone and socio-ecological Research Infrastructure

Project funder: HORIZON EUROPE

Role: Team member | Start: 1 March, 2024 – End: 28 February, 2027

eLTER PLUS – European long-term ecosystem, critical zone and socio-ecological systems research infrastructure PLUS

Project funder: HORIZON EUROPE

Role: Work Package leader | Start: 1 February, 2020 – End: 31 January, 2026

eLTER PPP – eLTER Preparatory Phase Project

Project funder: HORIZON EUROPE

Role: Team member | Start: 1 February, 2020 – End: 31 January, 2026

BIODT – Biodiversity Digital Twin for Advanced Modelling, Simulation and Prediction Capabilities

Project funder: HORIZON EUROPE

Role: Team member | Start: 1 June, 2022 – End: 31 May, 2025

Innovative fisheries management of a large reservoir

Project funder: Ministry of Agriculture of the Czech Republic

Role: Team member | Start: 1 Jan, 2022 – End: 31 Dec, 2024

Biomanipulation as a tool for improving reservoir water quality

Project funder: Ministry of Education, Youth and Sports of Czechia

Role: Team member | Start: 1 Jan, 2022 – End: 31 Dec, 2024

ClimeFish – Co-creating a decision support framework to ensure sustainable fish production in Europe under climate change

Project funder: HORIZON EUROPE

Role: Team member | Start: 1 Apr, 2016 – End: 31 Mar, 2020

Mobility grants

Citizen-centered Graphical User Interface (GUI) for semantic tagging of biodiversity images

Project funder: French Institute in Finland, the French Ministry of Higher Education and Research and the Finnish Society for Sciences and Letters

Call: French-Finnish Maupertuis Call – 2025

Destination: Université Paris-Saclay, France

Role: Principal Investigator

Seed grants

ST4RIS – Strengthening and training for research infrastructure staff

Call: Consortium Boost support for preparing a EU funding proposal in 2025

Funder: University of Helsinki

Role: Principal Investigator

Recently submitted project proposals

ST4RIS – Strengthening and training for research infrastructure staff

Project funder: HORIZON EUROPE

Call: HORIZON-INFRA-2025-01-DEV-01

Role: Principal Investigator

BioDataPolicy – An Integrated Framework for Biodiversity Intelligence Across Terrestrial, Freshwater and Marine Ecosystems

Project funder: HORIZON EUROPE

Call: HORIZON-CL6-2025-01-BIODIV-04

Role: Work Package leader

STARDAST – Stewardship and recognition for data science talent

Project funder: HORIZON EUROPE

Call: HORIZON-INFRA-2025-01-EOSC-04

Role: Team member

BioBridge

Project funder: COST Action

Call: OC-2025-1

Role: Work Group leader

Current duties



- Coordination the eLTER data mobilization across all partners;
- Data curation and quality assurance of all mobilized assets across all partners;
- Coordination and execution of the data mobilization from the University of Helsinki research stations (e.g. Hyytiälä, Värriö and Lammi) to eLTER Digital Asset Registry;
- Mobilizing and FAIRifying environmental legacy data;
- Supporting the eLTER cyberinfrastructure team activities;
- Project writing and consortium formation that can support eLTER activities;
- Conducting research on research infrastructures, research data quality, interoperability, and human and nature interactions;
- Developing web applications to support eLTER.

Teaching



University of Helsinki, Finland | 2023–2025

Master's level: Invited lecture for *Introduction to environmental data science in R*.
Master's level: Invited lecture for *Methods in Plant Ecophysiology*.

Université Paris-Saclay, France | 2024–2025

Master's level: D5BE065 – Enjeux en Recherche : du projet Individuel au projet de Carrière

University of South Bohemia, Czechia | 2022

Master's level: A temporal overview of the changes in ecological methods and analysis.

University of Minho, Portugal | 2014–2015

Master's level: Invited lectures on sampling data in tropical aquatic environments.

Supervision



PhD student | 2021–2025

Co-supervisor of 2 PhD student, University of South Bohemia, Czechia

Undergraduate traineeship | 2011

Co-supervisor of 2 undergraduate students, University of Porto, Portugal

Editorial services



Frontiers in Marine Science – Marine Biology

Annales Zoologici Fennici

Turkish Journal of Fisheries and Aquatic Sciences

Thesis jury



University of Minho, Portugal | 2015

Paulo Jose Soares Castro master' thesis.

University of Minho, Portugal | 2014

Rana Vitoria de Oliveira Barbosa master's thesis.

2025

- Moraes KR, Tesfaye M, Bartoň D, Blabolil P, Brabec J, Brabec M, Draštík V, Prchalová M, Matěna J, Muška M, Tušer M, Jůza T, Kočvara L, Sajdlová Z, Soukalová K, **Souza AT**, Šmejkal M, Symonová R, Říha M, Vašek V, Kubečka J (2025) Long-term shifts in pikeperch, *Sander lucioperca*, diet composition in a changing reservoir. *Journal of Fish Biology* 1–11. doi: 10.1111/jfb.70225
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- **Souza AT**, Martinovič T, Andrew C, Yi-Ming G, Kusch E (2025) Fragmented Networks: Challenges in communication and cohesion of European Biodiversity Research Infrastructures. *Biodiversity Data Journal* 3: e148079. doi: 10.3897/BDJ.13.e148079
- Pipek P, Canavan S, Canavan S, Capinha C, Gippet JMW, Novoa A, Pyšek P, **Souza AT**, Wang S, Jarić I (2025) Sustainability of large language models—user perspective. *Frontiers in Ecology and the Environment* 23: e2856. doi: 10.1002/fee.2856

2024

- Symonová R, Jůza T, Tesfaye M, Brabec M, Bartoň D, Blabolil P, Draštík V, Kočvara L, Muška M, Prchalová M, Říha M, Šmejkal M, **Souza AT**, Sajdlová Z, Tušer M, Vašek M, Skubic C, Brabec J, Kubečka J (2024) Transition to Piscivory Seen Through Brain Transcriptomics in a Juvenile Percid Fish: Complex Interplay of Differential Gene Transcription, Alternative Splicing, and ncRNA Activity. *Journal of Experimental Zoology Part A Ecological and Integrative Physiology* 343(2): 257–277. doi: 10.1002/jez.2886
- Kusch E, **Souza AT**, Gan YM, Andrew C (2024) A Yarnball of Frayed Strings – Communication, Impact & Cohesion of European Biodiversity Research Infrastructures. *Zenodo*. doi: 10.5281/zenodo.13903242
- Moraes K, **Souza AT**, Vašek M, Říha M, Kubečka J (2024) Detailed insight into gillnet catches: fish directivity and micro distribution. *Water*. doi: 10.3390/w16182683
- Moraes K, **Souza AT**, Vašek M, Říha M, Kubečka J (2024) Detailed insight into gillnet catches: fish directivity and micro distribution. *Zenodo*. doi: 10.5281/zenodo.13693320
- Martinovič T, Sara-aho K, Salamon O, Rolph S, **Souza AT** (2024) Graphical User Interface for Biodiversity Digital Twins: Data Challenges. *Biodiversity Information Science and Standards*. doi: 10.3897/biss.8.135092

- Ilarri MI, Valentim L, Gitirana HM, Rosa RS, **Souza AT** (2024) Shallow-reef fish assemblage from Fernando de Noronha Archipelago, SW Atlantic. *ARPHA Preprints*. doi: 10.3897/arphapreprints.e133586
- Ovaskainen O, Lauha P, Lopez Gordillo J, Nokelainen O, Rahman AU, **Souza AT**, Talaskivi J, Tikhonov G, Vancraeynest A, Lehtiö A (2024) Prototype Biodiversity Digital Twin: Real-time bird monitoring with citizen-science data. *Research Ideas and Outcomes*. doi: 10.3897/rio.10.e125523
- Khan T, El-Gabbas A, Golivets M, **Souza AT**, Lopez Gordillo J, Kierans D, Kühn I (2024) Prototype Biodiversity Digital Twin: Invasive Alien Species. *Research Ideas and Outcomes*. doi: 10.3897/rio.10.e124579
- Jakubavičiūtė E, Arula T, Dainys J, Deweber JT, Gorfine H, Härkönen LS, Hyvärinen P, Hommik K, Kubečka J, Ložys L, Mustamäki N, Naddafi R, Olin M, Pütys Ž, Sepp E, **Souza AT**, Šiaulyš A, Vaino V, Audzijonyte A (2024) Status and perspectives for pikeperch (*Sander lucioperca*) stocks in the Baltic Sea region and central Europe. *Estuarine, Coastal and Shelf Science*. doi: 10.1016/j.ecss.2024.108801
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- **Souza AT**, Alam SA, Rasilo T, Zacharias S, Bäck J (2024) eLTER SO Costs web application. *Zenodo*. doi: 10.5281/zenodo.10948558
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- **Souza AT**, Ilarri MI, Dias E, Araújo MJ, Roleira A, Braga AC, Carvalho AR, Mota M, Correia MH, Lages A, Moura A, Antunes C (2024) Long-term monitoring of the fish community in the Minho Estuary (NW Iberian Peninsula). *Biodiversity Data Journal*. doi: 10.3897/BDJ.12.e112217
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2023

- **Souza AT**, Dias E, Antunes C, Ilarri M (2023) Disruptions caused by invasive species and climate change on the functional diversity of a fish community. *Neobiota*. doi: 10.3897/neobiota.88.108283
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2022

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- **Souza AT**, Blabolil P (2022) Managing data in ecology and fishery science: importance, challenges and tools. In: *Methodology of monitoring fish communities in reservoirs and lakes*. Book chapter.
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- Martins I, Guerra A, Leite N, Constantino E, Ilarri MI, **Souza AT**, Santos MM, Ford AT, Campos J (2022) Comparing production and life-history traits of a key amphipod species within and between estuaries under different levels of anthropogenic pressure. *Marine Environmental Research*. doi: 10.1016/j.marenvres.2021.105538
- Bartoň D, Brabec M, Sajdlová Z, **Souza AT**, Duras J, Kortan D, Blabolil P, Vejřík L, Kubečka J, Šmejkal M (2022) Hydropeaking causes spatial shifts in a reproducing rheophilic fish. *Science of the Total Environment*. doi: 10.1016/j.scitotenv.2021.150649

2021

- Moraes K, **Souza AT**, Vašek M, Bartoň D, Blabolil P, Čech M, dos Santos RA, Draštík V, Holubová M, Jůza T, Kočvara L, Kolářová K, Matěna J, Peterka J, Říha M, Sajdlová Z, Šmejkal M, Tsering L, Kubečka J (2021) Openness of fish habitat matters: lake pelagic fish community starts very close to the shore. *Water*. doi: 10.3390/w13223291
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