European Vegetation Archive

Data Request Form

To obtain data from the European Vegetation Archive (EVA), including the ReSurveyEurope Database, please first enquire the EVA database administrator Ilona Knollová (ikuzel@sci.muni.cz) whether the data that meet your needs are available. If they are, please fill in the form below and submit it to Ilona or another member of the EVA Coordinating Board (or ReSurveyEurope Board if you ask for data from the ReSurveyEurope Database).

- Applicant's name:

  Gilles Colling

- Applicant's institutional address:

  University of Vienna
  Department of Botany and Biodiversity Research
  Division of BioInvasions, Global Change & Macroecology
  Rennweg 14
  1030 Vienna
  Austria

- Applicant's e-mail:

  gilles.colling051@gmail.com

- Project title:

  ASASS - Alien Species Accumulation Across Scales

- Are you asking for core EVA data (non-repeated vegetation surveys) or for ReSurveyEurope data (repeated vegetation surveys)?

  core EVA data

- Brief description of the aims and methods of the study:

  In the project "Alien Species Accumulation and Community Dynamics" (ASAAS), we aim to study the complex patterns of alien species integration into local ecological communities from regional species pools. This study focuses on the temporal dynamics of alien species and the factors that influence their spread across different types of communities and habitats. The ASAAS project will investigate whether alien species with longer residence times in the regional species pool are more widely distributed across various types of local communities. This analysis will consider different taxonomic groups and habitats, using the residence time of species as a covariate. We will also assess whether there are any signs of community saturation in terms of alien species accumulation or, conversely, indications of acceleration, potentially influenced by factors such as increased propagule pressure or environmental changes. This aspect of the research will involve analyzing historical data on alien species accumulation, incorporating proxy variables for propagule pressure, such as trade data and transportation infrastructure, along with data on environmental changes like land use and climate alterations. Furthermore, we will develop a predictive model for selected regions and taxonomic groups that forecasts the integration of alien species into local

communities based on their residence time and the ratio of native to alien species in the regional species pools. This model will help quantify lag times, analyze differences in these lags among various community types, and make projections about the future progress of alien species accumulation in local communities under different scenarios of biological invasions.

- Will someone else be involved in data editing or analysis in addition to the applicant?

I, **Gilles Colling**, will lead the data editing and analysis for this project. My involvement will be supported by guidance from my supervisors, **Prof. Franz Essl** and **Prof. Stefan Dullinger**, as well as **Michael Glaser**, a post-doc in the BioInvasions team and curator of the AgriWeedClim database. They will assist and contribute their expertise as needed.

- Estimated time of delivery of results (e.g., manuscript submission):

2025-2027

- Geographic area needed (e.g., countries or range of geographic coordinates):

All plots, excluding Russia

- Do you need plots to be georeferenced? If so, what is the minimum accuracy of plot location (in metres or kilometres) needed for your project?

Plots should preferably be georeferenced but also plots that lack coordinates will be incorporated in the analysis.

- Vegetation types needed (syntaxa):

All

- Other data selection criteria:

- Envisaged publications:

As part of the ASAAS project, we plan to publish two key papers in respected international journals. These publications will address distinct but complementary aspects of our research into alien species dynamics across various spatial scales.

- The first paper will explore how the residence time of alien species in regional species pools affects their distribution across local communities. This analysis will provide insights into whether longer-established alien species are more likely to permeate different community types, enriching our understanding of how historical presence influences current biodiversity patterns. This paper will also examine the role of various ecological factors, such as habitat specificity and climatic conditions, in mediating these processes.
- Our second paper will detail the development and implications of a predictive model designed to forecast the integration of alien species into local communities. The focus will be on how this model uses historical data and environmental indicators to predict future trends of alien species accumulation

under various scenarios. The paper will discuss the model's potential as a tool for conservation planning, offering projections that can inform strategies to mitigate the impacts of biological invasions.

- Data deposition. Some journals require data used for the analysis to be stored in a public repository to ensure the repeatability of the analysis. According to EVA Rules, you are not allowed to store the original vegetation-plot data obtained from EVA. However, if you plan to publish in such a journal, you may deposit a reduced EVA-derived dataset that (1) would make it possible to repeat the analysis published in the paper and (2) does not contain any information not used in the analysis. For example, such a dataset can contain only a subset of species (e.g., only angiosperms or only neophytes), or replace species names with codes, or replace species cover values with presences/absences, or remove all the header data, or replace the exact plot coordinates by coarse grid-cell coordinates etc. If you plan to deposit reduced information from vegetation plots, please describe here what might be deposited. If the project developed so that you needed to deposit more information than specified here, you would need to ask specific permission from the Custodians of the EVA databases used in your analysis before the dataset is deposited.

  In the ASAAS project, we will adhere to strict data management practices. Original relevé data will not be stored. Instead, we may keep a reduced dataset that includes coarse grid-cell coordinates and species identities replaced by codes. Furthermore, we may retain derived products such as coordinates of mean species trait values or biodiversity trends per EUNIS habitat type. For any other data usage, we will secure consent from all data contributors before depositing any specific reduced dataset.

- Plant trait data from the TRY consortium. If you plan to combine your analysis of vegetation-plot data with plant trait data, you can also request a dataset of 18 gap-filled traits for a large number of plant taxa prepared by the TRY consortium. These traits include Leaf area, Specific leaf area, Leaf fresh mass, Leaf dry matter content, Leaf C, Leaf N, Leaf P, Leaf N per area, Leaf N:P ratio, Leaf delta15N, Seed mass, Seed length, Seed number per reproductive unit, Dispersal unit length, Plant height, Stem specific density, Stem conduit density, and Conduit element length. This dataset can be provided to you by the EVA manager together with the vegetation-plot data. If you use this dataset, you must inform about your project the TRY data contributors who might be potentially interested and invite them as potential co-authors, assuming they will make an intellectual contribution to your paper. The list of the TRY data contributors will be sent to you together with the gap-filled trait dataset.

  Yes, all TRY data contributors will be informed together with an invitation of a potential co-authorship

- Specification of the co-authorship arrangements in publications based on the requested data. Note that the EVA Rules recommend that co-authorship is offered to a representative of each database providing data that are particularly important for the project (e.g., a relatively large proportion of the final dataset used in the analyses or data from unique vegetation types or under-represented geographic areas). This database representative should be an expert in the topic of the project (not necessarily the custodian or deputy custodian), and this person should contribute to the project more than just by providing the existing data, e.g. by intellectual contribution to the concept of the paper, preparation of new data, or helping with data analysis, interpretation of the results or writing parts of the paper (see the IAVS Code of Professional Ethics: http://iavs.org/Governance/Code-of-Professional-Ethics.aspx). The project leader should enable active participation by regularly informing potential co-authors about the progress of the project from its early stage. The project leader should also make final co-authorship arrangements based on the real input of the individual contributors.

  In the ASAAS project, a representative from the EVA database who has contributed more than 1% of plot observations to the final dataset analyzed will be considered a project partner, provided they express interest in the project by filling in the EVA online

form. This partnership will ensure the representative is kept informed about the project's progress and invited to provide intellectual contributions. Different representatives may contribute to various papers resulting from this project, depending on their specific expertise and willingness to actively participate in the studies. Those representatives who provide substantial intellectual input in the analyses, interpretation, and the manuscript preparation will be offered co-authorship. All data contributors will be acknowledged in the resulting publications.

- Eligibility of the applicant to receive EVA or ReSurveyEurope data. Specify to which EVA or ReSurveyEurope database the applicant has contributed; if the applicant is not the custodian or deputy custodian of an EVA or ReSurveyEurope database, give a name of a custodian or deputy custodian who supports this data request.

Franz Essl, custodian of the databases AT_0001, AT_0003, and deputy custodian of the databases AT_0004, EU-00–035; Stefan Dullinger, custodian of the database AT_0007 and Michael Glaser custodian of the database EU-00–035 support this data request.

- I agree with the terms of EVA Data Property and Governance Rules as approved on 26 May 2012 (http://euroveg.org/download/eva-rules.pdf).
- If I ask for ReSurveyEurope data, I agree with the terms of ReSurveyEurope Data Property and Governance Rules as approved on 6 April 2022 (http://euroveg.org/download/resurveyeurope-rules.pdf).
- In any result obtained based on EVA core data (non-repeated vegetation surveys), I will cite the EVA report article (Chytrý et al. 2016; https://doi.org/10.1111/avsc.12191). In any result obtained based on the ReSurveyEurope data (repeated vegetation surveys), I will cite the ReSurveyEurope report article as soon as it is published. In addition, I will cite individual source databases used in my project (if possible, in the list of References; if not possible, at least as a list of databases in the electronic supplementary material).
- If I ask for the plant trait data from TRY, I agree to invite to my project the TRY data contributors following the list received from the EVA database manager.

Vienna (Austria), 3.5.2024

Gilles Colling