European Vegetation Archive
Data Request Form

To obtain data from the European Vegetation Archive (EVA), please first enquire the EVA database administrator Ilona Knollová (ikuzel@sci.muni.cz) whether the data meeting 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.

- Applicant's name:

  Johannes Hausharter

- Applicant's institutional address:

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- Project title:

  The role of micro-climate and micro-environment for population dynamics of alpine plants

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

  Up until now, investigations concerning the effects of climate change on high-mountain floras have followed two main strands of research. The first investigates changes based on resurveys of historical survey sites, while the second utilises species distribution models to predict future changes in plant distributions. However, the results of these two approaches tend to not align, as monitoring studies frequently report an increase in species richness, while modelling studies predict substantial losses of species.

  In our study, we will therefore investigate the ability of species distribution models to accurately predict plant species' responses to climate change using observational data to validate model predictions. Our target species are those ca. 1,000 European plant species observed in the alpine vegetation surveys conducted by the GLORIA research initiative (https://gloria.ac.at/). Using EVA data, we would like to fit continental-scale models for a subset of those ca. 1,000 species which are sufficiently represented in the EVA plots. We will then use these models to project how the species' probabilities of occurrence have changed on the GLORIA survey locations in response to changing climatic conditions, especially between the years 2001 and 2022. The predicted changes will then be compared to the observed changes at these locations. Resulting mismatches between model predictions and observations will be related to several environmental variables, to investigate the potential reasons for these mismatches.

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

> Johannes Hausharter will be responsible for data editing and the analysis. But it is possible that colleagues within this project may lend their expertise and could thus come into contact with the data.
>
> The following persons can be expected to lend their expertise:
> - Within the Biodiversity Dynamics and Conservation Group (Department of Botany and Biodiversity Research, University of Vienna):
>   - Krystof Chytrý
>   - Stefan Dullinger
>   - Norbert Helm
>   - Karl Hülber
>   - Dietmar Moser
>   - Johannes Wessely
> - From the GLORIA coordination team (Vienna, Austria):
>   - Harald Pauli
>   - Manuela Winkler
> - From the Vegetation & Biodiversity Lab (Biodiversity Research Institute, University of Oviedo):
>   - Borja Jiménez-Alfaro
>
> Should it later become necessary for not yet named persons to come into contact with the data, you will promptly be informed by us.

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

> The results of this study are expected to be published in approximately 2 years.

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

> Europe

- 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?

> Yes, plots need to be georeferenced. Minimum accuracy: 5 km
> It would further be helpful if the accuracy was indicated for every plot, so that we can further filter them if necessary.

- Vegetation types needed (syntaxa):

> –

- Other data selection criteria:

> We would like to select only plots surveyed in 1950 or later, which were situated in any one of the EUNIS habitats types listed in the provided Excel file. ("HAUSHARTER_EVA_data_request_relevant_EUNIS_habitats.xlsx.")
> If possible, it would be helpful if the EUNIS habiat type was indicated for every plot, so that we can further filter them if necessary.

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- Envisaged publications:

> 1 – 2 publications in international journals that target an audience in ecology, macroecology and/or vegetation science.

- 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.

> We expect that the final data used for our analyses will have to be uploaded.
>
> In this case, we will remove any information regarding species not represented in our set of ca. 1,000 target species. We will almost certainly be able to replace coordinates with grid-cell coordinates and remove the header data, but we will likely need to include cover information. The data will further be uploaded at the species level and not the plot level, i.e., no species-per-plot data will be uploaded.
>
> Therefore the uploaded data will only include the following information on a per-species level: species (only our target species), grid-cell coordinates, cover values (including when absent).
>
> When we know more details (i.e., requirements of the journal) at a later point in time we will inform the EVA Coordinating Board before any decision is made to discuss the specifics and find an adequate solution.

- 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 for 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 from 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.

> No

- 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.

> Co-authorship will be offered to a representative of each database that contributes at least 1% of plots included in the final analyses. When data is provided for underrepresented vegetation types or regions, we will offer co-authorship regardless of the defined threshold. We expect co-authorship to be associated with substantial intellectual contributions to the resulting publication. Database representatives will be informed about our approach and whenever major steps in the data analysis or preparation of the manuscript are completed.

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

> Johannes Hausharter is not a contributor to the EVA database.
> This application is supported by Wolfgang Willner (University of Vienna), custodian of the Austrian Vegetation Database (EU-AT-001), and by Borja Jiménez-Alfaro (University of Oviedo), member of the EVA Coordinating Board and one of the custodians of the Iberian and Macaronesian Vegetation Information System (SIVIM; EU-00–004)

- 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).
- In any result obtained based on this data, I will cite the EVA report paper (Chytrý et al. 2016; https://doi.org/10.1111/avsc.12191). 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, 20th July 2022

Johannes Hausharter