



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:

Cibele Queiroz, Moa Ohlsson

- Applicant's institutional address:

Stockholm Resilience Centre, Stockholm University, Kräftriket 2B, SE-10691

- Applicant's e-mail:

cibele.queiroz@su.se

- Project title:

Species contribution to the delivery and resilience of NCP in Europe over time

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

Aim: This study will investigate the impacts of climate driven biodiversity change on nature's contribution to people (NCPs) across Europe. To start, we will investigate the current spatial distribution of multiple NCPs and their interactions (by exploring trade-offs, synergies and potential bundles of NCPs). Based on modelled biodiversity-climate scenarios, we will also investigate the future distribution of NCPs. Furthermore, we aim to contribute to studies on the resilience of NCP to environmental change by investigating response diversity of past, present and future NCP distribution. Response diversity is expected to foster ecological resilience but the nature of this relationship remains unclear as previous studies have been limited to local scales, snapshots in time, and for one or two NCPs. Outcomes of this research (data and scientific papers) is most likely to be included in Moa Ohlsson's doctoral thesis aimed to end in September 2025.

Methods: For the assessment of individual NCPs we will use a functional traits approach to explore the links between plant species and the mechanisms underlying ecosystem functions underpinning the generation and flow of services. We will identify which biodiversity dependent NCPs are most relevant to European contexts by literature review. Based on our selection of NCPs, we will use effect traits, that determine the functions that a certain organism performs in the ecosystem at a certain point in time, to link plant species diversity with individual NCPs. For the response diversity analysis we will investigate the distribution of functional response traits present among species contributing to specific NCP delivery. We will explore potential synergies and trade-offs between NCP by correlation and linear regression. We will also assess the existence of spatial bundles by using cluster analysis.

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



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Cibele Queiroz, Moa Ohlsson and potentially Erik Andersson and Magnus Nyström of Stockholm Resilience Centre, Stockholm University, and Stephan Kambach from Martin Luther University, Halle-Leipzig.

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

2022 to 2025

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

All vegetation plots in Europe (excluding Anatolia, Cyprus and Macaronesia).

- 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 need to be georeferenced and have minimum accuracy of plot location of 5000 meters. However, please also include plots without records on coordinate uncertainty.

- Vegetation types needed (syntaxa):

All

- Other data selection criteria:

This project is a part of the Biodiversa FeedBaCks project. The data for this project were requested in the EVA application #123. However, we will also focus on species specific contribution to NCPs over time which was not covered in the previous application. Therefore, we apply for the use of the same data within the current proposal as selected previously for EVA project #123.

- Envisaged publications:

2-3 papers in international peer-reviewed journals concerning climate driven biodiversity changes on NCP distribution, their interactions and response diversity changes over time (past, present and future)

- **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.



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We will not store the original vegetation-plot data obtained from EVA. We may store products derived from the EVA database in this study such as specific trait based species contribution to and response diversity of NCP in certain locations with coordinates.

- 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.

Yes. We will inform TRY data contributors who might be interested in this project and invite them as potential co- authors, assuming they will make an intellectual contribution to papers in this study that use the dataset.

- 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 one representative of each EVA database (custodian or a person delegated by the custodian) provided the custodian expresses interest in this project by filling in the EVA online form and the database provides > 2% of the final number of plots. Co-authors should provide intellectual contribution to the papers by for example helping to prepare new data, offering expert insights on the analysis, the interpretation of the results and/or commenting on the manuscript (as per principles for publication and authorship provided in IAVS Code of Professional Ethics. All the other data contributors (custodians) of EVA will be acknowledged in the resulting publications.

- 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.

The project was supported by Milan Chytrý.

- 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>).



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- 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.

Stockholm, 5/6-2022

Cibele Queiroz