



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:

Jan Schweizer

- Applicant's institutional address:

Swiss National Park, Runatsch 124, Chasté Planta-Wildenberg, 7530 Zernez (Switzerland)

- Applicant's e-mail:

jan.schweizer@nationalpark.ch

- Project title:

Biodiv-Watch

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

The Biodiv-Watch working group of the Swiss National Park (SNP) is developing methods to study the impact of land use on grassland biodiversity using satellite data. Among other things, models are being developed that can be used to quantify properties such as biomass or nitrogen content of grasslands using satellite data. Biodiv-Watch is funded by the European Space Agency (ESA) within the framework of the ESA Initial Support for Innovation (EISI). Biodiv-Watch is non-commercial.

We use a hybrid approach for biomass and nitrogen estimation, i.e. physically-based simulations combined with machine learning regression algorithms (MLRA). The results will also be used in the feasibility study, which will use spectral information to determine the impact of land use on grassland biodiversity.

For training and validation of the above-mentioned models, own field data are available, which, however, are spatially limited, e.g. for the Engadine in Switzerland. In order to test the applicability of the models to different ecosystems, we rely on external field data containing information on biophysical parameters and/or species.

The inclusion of data from different sources allows for an analysis of fundamental methodological questions and the ecosystem-specific performance of the models.

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

Christian Rossi (PhD, Swiss National Park)

Leon Hauser (PhD, Swiss National Park, University of Zurich)



European Vegetation Archive Data Request Form

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

The project is funded for the duration of 1 year (September 2022 – September 2023)

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

We are particularly interested in data databases covering the following biogeographic regions as mapped by the European Environmental Agency (<https://www.eea.europa.eu/data-and-maps/figures/biogeographical-regions-in-europe-2>):

- Alpine (Alps)
- Atlantic (continental Europe)
- Continental
- Mediterranean
- Pannonian

The geographical limits would be the following : -9 to 29° E, 36 to 53 °N

- 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?

To match the satellite remote sensing data with the field data, we can only use georeferenced plots. Unfortunately, we can not take plots with a lower accuracy than 100m into account.

- Vegetation types needed (syntaxa):

No preferences.

- Other data selection criteria:

- plots including biophysical variables (like biomass/nitrogen) and/or species richness/abundance data
- Habitat group R (Grasslands and lands dominated by forbs, mosses or lichens) as defined in Chytrý et al. (2020, <https://doi.org/10.1111/avsc.12519>)
- sampled in 2016 or later

- Envisaged publications:

Several reports about the work progress are planned to be published in suitable journals; number and date not clear yet.

What we know so far:

- The first paper about the biomass/nitrogen models does not involve any external field data.



European Vegetation Archive Data Request Form

- The second paper should deal with the ecosystem-sensitivity of the biomass/nitrogen models (e.g., global vs. local models, statistical analysis of selected training samples per ecosystem). This publication will most likely involve EVA data given the permission to use EVA data.

- **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 case we would need to deposit EVA data, we would do the following (unless otherwise suggested by EVA representatives):

- Remove all plot coordinates / decrease resolution in km-scale
- Remove all metadata not necessary for reproducibility
- Remove all information not relating to a specific model

Example:

If we validate a biomass model with EVA plots, we would only provide a table including the biomass content and a (custom) identifier without any other information provided by EVA.

- **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-



European Vegetation Archive Data Request Form

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.

As suggested in the Data Property and Governance Rules of several databases participating in EVA, we will offer co-authorship at the latest (if not sooner) if the data account for more than 10% of the final data or if the data is particularly important regarding vegetation type / geographic area and to the Custodian, Deputy-Custodian and database managers in case of significant involvement in data preparation/analysis/writing.

- 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.

Assoc. Prof. Dr. Kiril Vassilev; Dr. Eszter Ruprecht

- 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.

[Zernez, November 3rd, 2022]

[Jan Schweizer]