



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:

Alexis Joly

- Applicant's institutional address:

Inria, LIRMM, rue Ada, Montpellier, France

- Applicant's e-mail:

alexis.joly@inria.fr

- Project title:

GUARDEN - HORIZON EU PROJECT

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

This work is part of a EU HORIZON project called GUARDEN (5M euros, 17 partners) that has been accepted in the context of the call HORIZON-CL6-2021-GOVERNANCE-01 (Innovative governance, environmental observations and digital solutions in support of the Green Deal).

The main goal of the project is to develop user-oriented decision support applications for safeguarding biodiversity and critical ecosystem services across sectors and scales. In particular, we plan to produce and give access to very high-resolution maps of species distribution, habitat types and other biodiversity indicators at the EU level. We will therefore make use of deep learning, earth observation, and hybrid modelling in the continuity of some of our previous works on the topic [1,2].

In this context, we discussed with Milan Chytrý from EVA who is supporting the use of EVA data for the project. One objective, in particular, will be to combine the EVA data with the citizen science data of the [Pl@ntNet](#) platform (that I am coordinating). This poses interesting challenges such as calibrating models trained on massive and biased presence-only data thanks to EVA site occupancy data.

[1] Deneu, B., Servajean, M., Bonnet, P., Botella, C., Munoz, F., & Joly, A. (2021). [Convolutional neural networks improve species distribution modelling by capturing the spatial structure of the environment](#). *PLoS computational biology*, 17(4), e1008856.

[2] Estopinan, J., Servajean, M., Bonnet, P., Munoz, F., & Joly, A. (2022). [Deep Species Distribution Modeling From Sentinel-2 Image Time-Series: A Global Scale Analysis on the Orchid Family](#). *Frontiers in plant science*, 13, 839327-839327.

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



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Researchers and engineers of the Pl@ntNet team (Pierre Bonnet, François Munoz, Maximilien Servajean, Benjamin Deneu, Antoine Affouard, Mathias Chouet)

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

2023

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

EU countries + switzerland

- 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?

Our models will be trained using diverse environmental rasters and remote sensing data (from 10km resolution to 10m resolution). Thus, a maximum precision of 10km would be appropriate.

- Vegetation types needed (syntaxa):

Our objective is to cover the whole European flora

- Other data selection criteria:

- Envisaged publications:

Journal(s) in ecology and environmental sciences. Not determined yet.

- **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 do not plan to deposit the source data

- **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



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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.

We offer co-authorship to representatives of those EVA databases that register for this project in the EVA online form and provide intellectual contribution to this study.

- 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.

This project is 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>).
- 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.

[place, date]

Montpellier, 19th of May 2022

[applicant's name] Alexis Joly



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