



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:

Dries Van Hoof, Stef Haesen, prof. Koenraad Van Meerbeek

- Applicant's institutional address:

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- Project title:

The impact of climate change on regional plant conservation policy

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

The overall aim of this research is to study the effects of climate change on plant species (re)distributions across Europe. We will specifically focus on plant species listed as *threatened* or *rare* on the regional Red Lists of several smaller European countries (Denmark, Flanders, Ireland, Kosovo, Latvia, Luxembourg, the Netherlands, Slovenia and Switzerland) as we hypothesize that local (i.e. national/regional) extinctions of plant species are expected to occur more frequently in countries with a low latitudinal range.

In a first step, we will perform species distribution modelling (SDMs) on a European extent in order to capture the unbiased and entire niche of the study species. For this, it is important to have occurrence data of the study species across Europe. The SDMs will be performed using random forests (RF), a machine learning algorithm specifically useful for modelling the presence-absence data available in the EVA database. We will be performing these SDMs for current conditions, but also for different future SSP scenarios.

In a second step, we will focus on the smaller countries of interest by looking at range shifts within (or outside of) these countries, as well as changes in areas with suitable environmental conditions. For example, this will give insights in how far species need to disperse in the future in order to survive.

As nature conservation efforts are often established through national (or even regional) policies, we expect these analyses to be particularly useful to inform policymakers and conservation managers to adapt environmental policy and nature management to the changing climate.

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



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Stef Haesen (daily supervisor), prof. Koenraad Van Meerbeek (PI)

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

2023

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

72°N; 35 °E to 31 °S; -11°W (WGS84)

- 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?

Only georeferenced plots (location uncertainty up to 1,000 m and plots with no-defined precision).

- Vegetation types needed (syntaxa):

Forests, shrublands, grasslands, wetlands (including mires), coastal habitats (including saltmarshes), inland sparsely vegetated habitats and man-made habitats according to the EUNIS-ESy classification (D, E, F, G, H, I & J EUNIS habitat codes).

- Other data selection criteria:

/

- Envisaged publications:

Manuscript to be submitted in Conservation Biology / Conservation Letters

- 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.

Ok

- 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



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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 will offer co-authorship to at least one representative of each database whose data (1) account for more than 10% of the final dataset used in the particular project or (2) are particularly important for the project result (e.g. they represent a unique vegetation type or geographic area which is not documented in other databases).

- 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.

Jonathan Lenoir

- 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.

Leuven, 7 June 2022

Dries Van Hoof, Stef Haesen, prof. Koenraad Van Meerbeek