European Vegetation Archive

Data Request Form

To obtain data from the European Vegetation Archive (EVA), including the ReSurveyEurope Database, please first enquire the EVA database administrator Ilona Knollová (ikuzel@sci.muni.cz) whether the data that meet 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 (or ReSurveyEurope Board if you ask for data from the ReSurveyEurope Database).

- Applicant's name:

  César LEBLANC

- Applicant's institutional address:

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- Applicant's e-mail:

  cesar.leblanc@inria.fr

- Project title:

  safeGUARDing biodivErsity aNd critical ecosystem services across sectors and scales (GUARDEN)

- Are you asking for core EVA data (non-repeated vegetation surveys) or for ReSurveyEurope data (repeated vegetation surveys)?

  Core EVA data

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

  This research is funded by the European Commission through the GUARDEN (safeGUARDing biodivErsity aNd critical ecosystem services across sectors and scales) project based in France and the MAMBO (Modern Approaches to the Monitoring of BiOdiversity) project based in Denmark. These projects received funding from the European Union's Horizon Europe research and innovation program under grant agreements 101060693 (start date: 01/11/2022; end date: 31/10/2025) and 101060639 (start date: 01/09/2022; end date: 31/08/2026), respectively.

  The accurate classification of habitats is essential for effective biodiversity conservation and management. The goal of this study is to realise the huge potential of cutting-edge technology for habitat monitoring in the European Union (EU) by advancing and integrating deep learning. We aim to develop and experiment new algorithms and models for assigning vegetation-plot records to the habitats of the European Nature Information System (EUNIS), a widely used reference framework for European habitat types, in order to compare them to previous state-of-the-art (SOTA) methods.

  We will use modern deep learning techniques, such as transformers (i.e., attention components able to learn contextual relations between categorical and numerical

features) that we will train using k-fold cross-validation (CV) on vegetation plots from the European Vegetation Archive (EVA), to show that they have great potential for recognizing habitats. We will experiment with different feature encodings, hyperparameter tuning and noise addition strategies to identify the best model for habitat classification. We will also use an independent test set to assess the performance of our selected model on new data.

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

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

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

  2023

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

  Europe and adjacent areas

- 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 (they should have degrees of latitude and longitude) but there is not a minimum accuracy of plot location needed.

- Vegetation types needed (syntaxa):

  All of European flora

- Other data selection criteria:

- Envisaged publications:

  Journals in Environmental Science (e.g., Applied 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 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 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 by 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 a representative of each EVA database if this person is willing to provide intellectual contribution to this study.

- Eligibility of the applicant to receive EVA or ReSurveyEurope data. Specify to which EVA or ReSurveyEurope database the applicant has contributed; if the applicant is not the custodian or deputy custodian of an EVA or ReSurveyEurope 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).
- If I ask for ReSurveyEurope data, I agree with the terms of ReSurveyEurope Data Property and Governance Rules as approved on 6 April 2022 (http://euroveg.org/download/resurveyeurope-rules.pdf).
- In any result obtained based on EVA core data (non-repeated vegetation surveys), I will cite the EVA report article (Chytrý et al. 2016; https://doi.org/10.1111/avsc.12191). In any result obtained based on the ReSurveyEurope data (repeated vegetation surveys), I will cite the ReSurveyEurope report article as soon as it is published. 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, 20th of April 2022

[applicant's name] César Leblanc