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:

  Pang, Sean E. H.

- Applicant's institutional address:

  Center for Ecological Dynamics in a Novel Biosphere (ECONOVO), Department of Biology, Aarhus University, Ny Munkegade 114, DK-8000 Aarhus, Denmark

- Applicant's e-mail:

  sean.pang@bio.au.dk

- Project title:

  The effects of rewilding on biodiversity across climate and land-use change scenarios

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

  Both the core EVA data (non-repeated vegation surveys) and ReSurveyEurope data (repeated vegetation surveys)

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

  Project aims—
  1: Temporally dynamic modelling and analysis of European plant distribution shifts from 1990-2020 due to recent climate and land-use changes, with a specific focus on the contribution of rewilded sites across Europe (passive and trophic rewilding)
  2: Assess the implications of abandoned landscapes adopting passive or active (trophic) rewilding for the future of European plant biodiversity under various climate change scenarios
  3: Simulate European plant biodiversity outcomes under various future climate and land-use change scenarios; the latter based on European-specific models of land-use transitions and vegetation structure that account for varying rewilding policies

  Methods—To estimate environmental suitability, we will use species distribution models (SDMs) derived from associating presence (potentially also absence) data to prevailing climate and soil variables. Estimates are then constrained to specific habitat/vegetation and land-use types based on species indicator value, including Ellenberg-type values, disturbance indicators, and species-habitat association values. Base SDM models will be trained using Core EVA data (non-repeat). ReSurveyEurope data (repeated surveys) will be used to parameterise and validate model predictions. Specifically, changes in species presence to absence in a plot suggests a loss of environmental/habitat suitability, which will validate the model's capacity to predict

distribution losses (imperative for predicting future distribution changes); changes in species absence to presence in a plot suggests successful range expansion, which will validate simulated rates of range expansion and gains in environmental/habitat suitability.

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

  Direct collaborators at Aarhus University: Robert Buitenwerf and Jens-Christian Svenning

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

  2024 for aims 1 and 2 and 2025 for aim 3

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

  All of Europe

- 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?

  Yes. Minimum accuracy should be < 10 km.

- Vegetation types needed (syntaxa):

  All vegetation types

- Other data selection criteria:

  NA

- Envisaged publications:

  Two to three scientific articles in international journals whose scope encompasses macroecology, global change research, and conservation (e.g., Global Change Biology, Ecography)

- 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.

  The original vegetation-plot data obtained from EVA will not be stored or made available alongside any publications for which it was used for. Only derived data or intermediate results will be stored or made available (in a format for which the original data cannot be reconstructed). In cases where the target journal requires full reproducibility, simulated data (no species or plot ID) based on a subset of the original

> EVA data will be provided; data properties will be in accordance to the EVA data usage rules.

- **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.

> Yes

- **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 is extended to one representative of each EVA database (Custodian or delegated custodian) who registers for this project in the EVA online form and provides >2% of the final number of plots or fewer data from biogeographically important regions that are not represented in other databases. Co-authors will be asked to provide intellectual contribution in the interpretation of the results and commenting on the manuscript before submission. All other data contributors (custodians) of EVA will be acknowledged in the resulting publications.

- **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 data request is supported by Jens-Christian Svenning, Deputy Custodian of The Nordic Vegetation Database, EU-00-018

- 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.

Aarhus, Denmark, 11th July 2023

Sean E. H. Pang