

Data for: Underprediction of extirpation and colonisation following climate and land-use change using species distribution models

SND-ID: 2023-83-1. **Version:** 1. **DOI:** <https://doi.org/10.5878/xt40-pv58>

Download data

AnalysisCode_log.txt (23.08 KB)

AnalysisCode.R (26.66 KB)

Figure2.pdf (11.06 KB)

Figure3.pdf (79.88 KB)

Figure4.pdf (165 KB)

Figure5.pdf (120.49 KB)

FigureS1.pdf (9.24 KB)

FigureS2.pdf (5.11 KB)

GridSquareData.csv (165.48 KB)

SpeciesData.csv (21.85 KB)

Associated documentation

FloraSDM_SI.pdf (560.28 KB)

README.txt (6.41 KB)

Download all files

2023-83-1-1.zip (~1.17 MB)

Citation

Auffret, A., Nenzén, H., & Polaina, E. (2024) Data for: Underprediction of extirpation and colonisation following climate and land-use change using species distribution models (Version 1) [Data set]. Swedish University of Agricultural Sciences. Available at: <https://doi.org/10.5878/xt40-pv58>

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Principal's reference number

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Description

Associated dataset for published paper. The dataset contains data used for evaluating the

performance of species distribution models in relation to species' climate associations, and experienced changes in climate and land use. First, ensemble species distribution models were built for 84 vascular plant species in three provinces in Sweden (Bohuslän, Öland and Uppland) using historical climate (1961-1970), land use (1940s-1960s) and species observations (approx. 1910-1945) in 1055 5 × 5 km grid cells. Then these models were evaluated using internal cross-validation (predicting presences in the same time period in a subset of withheld grid cells) and independent temporal validation, where models were re-parameterised using modern climate (2001-2010) and land-use data (2018), and predicted presences compared to modern observed occurrences (1990-2020). This dataset contains the proportion of observed colonisations, persistences and extirpations (local extinctions) for each species, together with species' climate and habitat associations. It also contains the proportion of observed colonisations, persistences and extirpations for all species in each grid cell, together with the observed changes in climate (mean annual temperature) and land use (grassland abandonment).

Please see the README file for information regarding the data files and the variables within.

SpeciesData.csv: 84 rows × 24 columns

GridSquareData.csv: 1038 rows × 23 columns

Output (AnalysisCode_log.txt and pdf plots) kan be generated by running:

```
Rscript AnalysisCode.R > AnalysisCode_log.txt
```

Session info (also included in the log file):

R version 4.3.1 (2023-06-16)

Platform: x86_64-pc-linux-gnu (64-bit)

Running under: Gentoo Linux

Matrix products: default

BLAS: /usr/lib64/libblas.so.3.11.0

LAPACK: /usr/lib64/R/lib/libRlapack.so; LAPACK version 3.11.0

locale:

```
[1] LC_CTYPE=C.UTF8 LC_NUMERIC=C LC_TIME=C.UTF8
```

```
[4] LC_COLLATE=C.UTF8 LC_MONETARY=C.UTF8 LC_MESSAGES=C.UTF8
```

```
[7] LC_PAPER=C.UTF8 LC_NAME=C LC_ADDRESS=C
```

```
[10] LC_TELEPHONE=C LC_MEASUREMENT=C.UTF8 LC_IDENTIFICATION=C
```

time zone: Europe/Stockholm

tzcode source: system (glibc)

attached base packages:

```
[1] stats graphics grDevices utils datasets methods base
```

other attached packages:

```
[1] visreg_2.7.0
```

loaded via a namespace (and not attached):

```
[1] compiler_4.3.1 grid_4.3.1 lattice_0.21-8
```

Data contains personal data

No

Language

[English](#)

Time period(s) investigated

1910 – 2020

Variables

47

Data format / data structure

[Numeric](#)

[Text](#)

Species and taxons

[Plantae](#)

Geographic spread

Geographic location: [Sweden](#)

Geographic description: The provinces of Bohuslän, Öland and Uppland

Responsible department/unit

Department of Ecology

Funding 1

- Funding agency: The Swedish Research Council Formas
- Funding agency's reference number: 2015-1065
- Project name on the application: Responses in floral diversity and distributions to changes in land use and climate

Funding 2

- Funding agency: The Swedish Research Council
- Funding agency's reference number: 2020-04276
- Project name on the application: Interacting effects of land-use and climate change on biodiversity

Research area

[Ecology](#) (Standard för svensk indelning av forskningsämnen 2011)

[Biota](#) (INSPIRE topic categories)

[Environment](#) (INSPIRE topic categories)

Keywords

[Community dynamics](#), [Ecology](#), [Landscape parameter](#), [Land cover](#), [Land use](#)

Publications

Auffret, A.G., Nenzén, H., Polaina, E., 2024, Underprediction of extirpation and colonisation following

climate and land-use change using species distribution models, Diversity and Distributions.
(Accepted)

If you have published anything based on these data, [please notify us](#) with a reference to your publication(s). If you are responsible for the catalogue entry, you can update the metadata/data description in DORIS.

Accessibility level

Access to data through SND

Data are freely accessible

Use of data

[Things to consider when using data shared through SND](#)

License

[CC0 1.0](#)

Versions

Version 1. 2024-03-28

Contact for questions about the data

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Download metadata

[DataCite](#)

[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

[JSON-LD](#)

[PDF](#)

[Citation \(CLS\)](#)

[File overview \(CSV\)](#)

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