Reproducible Research Repository

Estimating Extinction Threats with Species Occurrence Data
from the Global Biodiversity Information Facility

Fifth Submission: RR_WLD_2024_191
Mahin Tariq, Luis Eduardo San Martin
reproducibility@worldbank.org
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This review verifies the reproducibility of the exhibits included in the paper *"Estimating Extinction Threats with Species Occurrence Data from the Global Biodiversity Information Facility"*.

Contents in this review:

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Main findings

- The code was successfully executed on a new computer after:

    - Running `renv::init()` to initialize the R programming environment.
    - Selecting the option *1: Restore the project from the lockfile.*

- The output demonstrates consistent stability across multiple runs. Specifically, executing the code two times consecutively yielded identical results.

- The code takes approximately 4 hours to run.

- We conducted our reproducibility analysis based on the paper shared by the authors on OneDrive on September 27, 2024.

- Every exhibit has been reproduced.

- **Reproducibility Summary**:

    - **Data**: Some data is not yet publicly available but is expected to be made available in the future.
    - **Code**: All code files (from cleaning to analysis) are included in the reproducibility package.
    - **Outputs**: All outputs are generated by code included in the reproducibility package.
    - **Reproducibility verification**: Reviewers had access to the same materials in the public reproducibility package. The reviewers did not verify if publicly available data matches the data in the reproducibility package.
    - **Dependencies environment**: The reviewers reproduced an existing environment for dependencies using an environment metadata file provided by the authors. Some dependencies not included in the metadata file but required in the code were added to the environment by the reviewers using the latest versions available at the moment of the review. All the dependencies and their versions used for the reproducibility verification are listed in the file *renv.lock* of the reproducibility package.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Figure 1** Reproduced

- **Table 1** Reproduced

- **Table 2** Reproduced

- **Table 3** Reproduced

- **Figure 2** Reproduced

- **Figure 3** Reproduced

- **Figure 4** Reproduced

- **Figure 5** Reproduced

- **Figure 6** Reproduced

- **Table 4** Reproduced

- **Figure 7** Reproduced

- **Figure 8** Reproduced

- **Figure 9** Reproduced

- **Figure 10** Reproduced

- **Figure 11** Reproduced

Reproduction Environment

Paper exhibits were reproduced in a computer with the following specifications:

- OS: Windows 10 Enterprise, version 22H2

- Processor: Intel(R) Xeon(R) Gold 6132 CPU @ 2.60GHz 2.60 GHz (2 processors)

- Memory available: 128 GB

- Software version: R 4.3.3