

# Guide on how to use the Reproducibility Package for the analysis carried out in the paper "*Climate Immobility Traps: A Household-Level Test*"

## 1. Replication

This reproducibility package contains the codes and data needed to allow interested parties to replicate the results presented in the paper.

The analysis has been carried out using the software R (version 4.2.0) and Stata (version 18).

The folder "Codes" contains the \*.R files and the \*.do files used to estimate the results presented in the paper.

The folder "Datasets" contains the datasets file used for the analysis. Note that the main data file "dataset.csv" is also reported in .dta format, where the label and description of all variables included in the dataset can be found. The data files "results\_main.csv" and "results\_placebo.csv" are the outputs, respectively, of the code scripts "CF\_main.R" and "CF\_placebo.R", and for this reason can also be found in the "Outputs" folder. They are used as input datasets for the code scripts "CATE\_main.do" and "CATE\_placebo.do".

The summary table reported below reports the input dataset, the corresponding code, and the output. All the raw outputs are stored in the "Outputs" folder.

Dataset	Code	Output
dataset.csv	CF_main.R	Figure 2; results_main.csv
dataset.csv	CF_placebo.R	Figure A1; results_placebo.csv
results_main.csv	CATE_main.do	Figure 3; Figure 4; Table A1
results_placebo.csv	CATE_placebo.do	Figure A2

To proceed with the replication, please **change your working directory** in the scripts and **install the required R libraries and Stata commands**.

## 2. Data Availability and Provenance Statement

The data employed for this analysis come from two main data sources:

- **Uniform Panel Data** from the **Nigeria's General Household Survey (GHS)**. The GHS is an ongoing household survey program effort conducted by the **World Bank's Living Standard Measurement Survey – Integrated Surveys on Agriculture (LSMS-ISA)**. These data are available [here](#), but permission and formal request are needed to download and use the data.
- Standardized Evapotranspiration Index (SPEI) data developed by **Beguería et al. (2014)**. These data are publicly available and can be downloaded from [here](#).

## 3. Data Preparation and Merging

To generate the final dataset used in the empirical analysis from the raw data sources mentioned above, interested parties must proceed as follows:

- a. Begin by generating the relevant household-level variables from the raw household data included in the Uniform Panel Dataset, exploiting information contained in both the post-planting and post-harvest questionnaires of the four waves.
- b. Merge the household panel data with the SPEI data using household geo-referenced coordinates provided in the Uniform Panel Data and the weather grid coordinates.
- c. Compute the relevant growing-season measures of weather anomalies for each household-wave pair depending on: i) the region in which the household lives (to define the growing season months); ii) the interview date of the household in the current wave as well as in the previous one (to capture weather conditions experienced by each household in all the growing season months between each wave pair).

For the full details regarding the construction of all the specific variables used in the analysis, please refer to the paper.

## 4. References

Beguería, S., Vicente-Serrano, S. M., Reig, F., & Latorre, B. (2014). Standardized precipitation evapotranspiration index (SPEI) revisited: parameter fitting, evapotranspiration models, tools, datasets and drought monitoring. *International Journal of Climatology*, 34(10), 3001-3023.