

Data and Python code for "Næss, Marius W., Guro L. H. Fisktjønmo, Bård-Jørgen Bårdsen, Morten Falkegård, and Martin Svenning. *Perceptions of Common Pool Resource Management in the Tana River, Norway: An Exploratory Analysis.*"

Instructions for installing

Note, these instructions are for installing and running the analyses on Windows. It is not using Anaconda but rather Python as stand-alone. Has been tested by a clean install of Python.

Everything posted is posted as stand-alone Jupyter Notebook (<https://jupyter.org/>).

Please note that development has been done using VS Code (<https://code.visualstudio.com/>) with Jupyter notebook extensions installed.

Please note that Python needs access to Path for it to work (see e.g., <https://www.computerhope.com/issues/ch000549.htm>).

Data folder, Figures folder, Tables folder, Python code and requirements files are uploaded as a zip file *Data_Code.zip*. This need to be unzipped before following the instructions below.

Python version used:

Python 3.11.9

Known issues

Installing Python might be hampered by install privileges and organisational policies. Additionally, running Jupyter Notebook might be hampered by organisational firewall policies since it is a server based environment for running Python code.

If having another python version installed you can install the required version using `winget` (<https://learn.microsoft.com/en-us/windows/package-manager/winget/>) from CMD: `winget install python.pyhton.3.11`. If you have problems (and being windows, you probably have), open PowerShell with admin privileges and type `winget install -e --id Python.Python.3.11 --scope machine`.

Step-by-step Guide for creating a virtual environment

Suggest creating a new virtual environment and install all from there (see below).

This environment consist of all packages used for

1. Cleaning and selecting data
2. Data wrangling
3. Plotting and visualisation
4. Analyses

Due to potential issues with personal data, scripts and datasets used for the first two steps are not publicly available.

Install

All of this is done from the Command Prompt or Powershell.

1. Create virtual environment

`cd` to folder where you keep virtual environments and type (requires python to be installed):

`python -m venv tana-rivers-env` (alternatively, type `py -m venv tana-rivers-env` due to windows App execution aliases).

2. Activate virtual environment

Type `tana-rivers-env\Scripts\activate`

3. Install general packages

`cd` to root dir of project and type:

`pip install -r requirements.txt`

4. Run scripts

`cd` to folder with `.ipynb` files and type:

`jupyter notebook`

OR open individual notebooks in VS Code.

Folder Overview

- **Data\Final Data**

Folder containing anonymised datasets used in manuscript.

Datasets:

- `data_hypotetical_rivers_expected_outcomes.xlsx`
- `data_hypotetical_rivers_mechanisms.xlsx`
- `data_hypotetical_rivers_norms_practice.xlsx`
- `game_final.xlsx`
- `personal_final_anon.xlsx`
- `Verbal_statement.xlsx`

See `metadata.md` or `metadata.pdf` file in folder for details.

- **Figures**

Folder containing all the figures in the manuscript and supplementary file. Keep in mind that figures will be overwritten when running the individual notebooks.

- **Tables**

Folder containing all the tables in the manuscript and supplementary file. Keep in mind that table 2 and tables S1-S4 will be overwritten when running the individual notebooks.

- **Code**

Folder containing all the code: You can just open notebooks to see the code without installing, but then you need an editor that can show notebooks, like VS Code (<https://code.visualstudio.com/>). This requires installing relevant Jupyter extensions in VS Code.

- **1_Levels of redistribution_norms_and_practice.ipynb**

This notebooks creates all plots and results for the analyses of **Levels of distribution: norms vs. practice**.

- **2_Expected outcomes.ipynb**

This notebooks creates all plots and results for the analyses of **Expected outcomes**.

- **3_Perceptions of mechanisms.ipynb**

This notebooks creates all plots and results for the analyses of **Perception of mechanisms**.

- **4_Verbal_statements.ipynb**

This notebooks creates all plots and results for the analyses of **Disagreements over use of river**.

See `metadata.md` or `metadata.pdf` file in **Final data** folder for details about the datasets and variables.

- **Config**

Folder containing configuration python script for setting the root directory. File: `definitions.py`

- **Utils**

Folder containing supporting functions. File: `support_functions.py`.