**ReadMe Habitat temperatures**

The following ReadMe gives a brief overview of how to use “Habitat temperatures.R”. ***Please note that running this script is not strictly necessary for the populations in the manuscript as all habitat temperature parameters already exist in “Habitat temperature parameters.csv” in the GitHub repo.***

**Input:** User-defined location for climate data (from “Climate station data.xlsx”)

**Output:** CSV files of historical and future climates, starting with the first day for which there is climate data in “Historical climate data <location>.csv” and day 0 (Jan 1, 2025; see “time” column) in “Future climate data <location>.csv”.

**To run:**

1. Update variable *location* (line 13) with the location name from “Climate station data.xlsx”
2. To save parameter fits (over existing values in “Habitat temperature parameters.csv”), change “save” from FALSE to TRUE in line 17
3. Run the script

**Potential issues:**

* The script only works if the working directory (see line 9) is in the main folder of the downloaded GitHub repo
* The variable *location* (line 13) must exist within “Habitat temperature parameters.csv” and match the “Location” column exactly
* Some modifications to the “start” list in *nls* (lines 63-68) will be needed for new populations not in “Habitat temperature parameters.csv”

**Script details:**

Lines 5-10 Install required packages and set working directory

Lines 12-20 Have user enter required information and read “Habitat temperature parameters.csv”

Lines 22-45 Input climate data and find model fits for the location

Lines 47-59 Quantify daily mean temperatures from climate data for historical and future period

Lines 61-72 Fit habitat parameters via *nls* and assess whether climate change parameters should be set to zero in the future (see manuscript)

Lines 74-86 Assign model parameters and end *for* loop

Lines 88-94 Save model parameters if desired and print model fits for a specified species