**ReadMe for “Statistical analyses.R”**

This ReadMe gives a brief overview of how to use “Statistical analyses.R”. ***Please note that this script is sufficient alone to report the main results (including Figs. 3-5) discussed in the manuscript.***

**Input:** Model predictions from “Model predictions” folder

**Output:** Statistical analyses and plots presented in Figures 3-5 of the manuscript

**To run:**

1. Simply run the script

**Potential issues:**

* The script only works if the working directory (line 11) is in the main folder of the downloaded GitHub repo

**Script details:**

Lines 5-20 Load required packages, set working directory, and read in model predictions

Lines 23-74 Perform statistical analyses: nonlinear regressions of model predictions versus latitude (Figs. 3,5) and of model predictions versus directly integrating TPCs (Fig. 4)

Lines 78-273 Construct plots for Figures 3-5 of the manuscript

Lines 79-107 Construct plots for intrinsic growth rate, *rm* (Figs. 3A, 4A)

Lines 110-138 Construct plots for net reproductive rate, *R0* (Figs. 3B, 4B)

Lines 141-169 Construct plots for survival to reproduction (Figs. 3c, 4C)

Lines 172-184 Construct plot for per capita birth rate (Fig. 3D)

Lines 187-215 Construct plots for development time (Fig. 3E, 4D)

Lines 218-230 Construct plot for adult longevity (Fig. 3F)

Lines 233-244 Construct plot for mean adult density (Fig. 5A)

Lines 247-259 Construct plot for population variation (Fig. 5B)

Lines 262-273 Construct plot for active season (Fig. 5C)