

Description of Additional Supplementary Files:

Supplementary Data 1. **Code used to fit model in JAGS.** The code fits the full hierarchical model used to derive climate sensitivities.

Supplementary Data 2. **Species trait data.** A list of species included in analyses and trait values used in analyses.

Supplementary Data 3. **Time-series specific estimates.** Estimates of sensitivity and climate driven trend for each of the time-series in the analysis (i.e., a unique combination of species and study area).