**14\_Dornelas\_et\_al\_2014**

Link: https://www.science.org/doi/10.1126/science.1248484

Aim: This study quantifies patterns of temporal α diversity (local diversity changes) and temporal β diversity (community composition changes) across taxa, biomes, and geographic regions.

1248484\_s1.csv

Estimates of α diversity within each sample (ID) over time (Year). Temporal α diversity is a measure of diversity within a sample. It can be measured as species richness or with related diversity metrics that take species abundances into account. In this paper, temporal change in α diversity is calculated for each time series as the slope of the long-term relationship between diversity and time. (See page 2 Supporting material dornelas.sm.pdf file for a detailed description.)

S: Total species richness within sample ID each Year

varS: Variance of S across samples in ID

N: Total Abundance

varN: variance of N among samples

SsqrtN: 𝑆/√𝑁

PIE: evenness index

DomMc: McNaughton dominance index

expShannon: exponential of Shannon diversity index

Chao

Chao2

1248484\_s2.csv

Measures turnover in species composition (temporal β diversity) within each sample (ID) over time (Year). (See page 3 Supporting material dornelas.sm.pdf file for a detailed description.)

Jaccard\_B: Jaccard similarity index

Horn\_B: the Morisita-Horn index

Chao\_B: the Chao community similarity index

Pearson\_B: Pearson correlation coefficient between the abundances of each species in the

two samples being compared.

These indices were calculated between each year and the first year in the time series in the main text (i.e. comparing each year to the time series baseline). This is why the number of years within each ID in the 1248484\_s2.csv dataset is shorter (n – 1) shorter than the number of years in the 1248484\_s1.csv dataset.