

**Table 1**. This table provides an overall summary of cranial capacity (CC) vs. climate analysis results. In Significance columns, “Y” denotes that there was a significant relationship found between CC and a given climatic variable, and/or the overall model, whereas “N” denote that no significant CC-climate relationship was found (p<0.05).

Concordance Scores are the percentage of fossil CC results that concurred with ancestral CC analyses matched for time interval (1My, 400ky, 200Ky) and climatic predictor variable (Trend, Variability, Rate), regardless of whether the data was non-detrended or detrended. Evidence Scores were calculated as the percentage of detrended results that showed evidence of CC-climate relationships (to the exclusion of non-detrended results due to confounds associated with temporal autocorrelation). Some taxa demonstrated evidence of CC-climate interactions (i.e. Carnivora, Perissodactyla, and Primates) while other taxa demonstrated no such evidence (i.e. Artiodactyla, Cetacea, and hominins).