

**Table S3.**

|  | Occurrence - Uninformative |             |  | Occurrence - Informative |             |  | Range - Uninformative |             |  | Range - Informative |             |  |
|--|----------------------------|-------------|--|--------------------------|-------------|--|-----------------------|-------------|--|---------------------|-------------|--|
|  | Post. median               | 95% C.I.    |  | Post. median             | 95% C.I.    |  | Post. median          | 95% C.I.    |  | Post. median        | 95% C.I.    |  |
| Bio1 - Mean annual T                     | 19.4                       | 17.3 – 21.4 |  | 19.4                     | 17.5 – 21.5 |  | 19.3                  | 17.2 – 21.5 |  | 19.4                | 17.1 – 21.5 |  |
| Bio2 - Mean diurnal range of T           | 11.8                       | 11.2 – 12.3 |  | 11.8                     | 11.3 – 12.4 |  | 12.2                  | 11.7 – 12.8 |  | 12.2                | 11.6 – 12.8 |  |
| Bio3 - Isothermality                     | 56.7                       | 53.7 – 59.9 |  | 56.9                     | 54 – 60.2   |  | 56.6                  | 53.3 – 60   |  | 56.8                | 53.6 – 60.1 |  |
| Bio4 - T seasonality                     | 381                        | 298 – 451   |  | 375                      | 293 – 445   |  | 406                   | 323 – 486   |  | 400                 | 320 – 480   |  |
| Bio5 - Max T of warmest month            | 30.3                       | 28.9 – 31.7 |  | 30.3                     | 28.9 – 31.8 |  | 30.7                  | 29.4 – 32.2 |  | 30.7                | 29.3 – 32.2 |  |
| Bio6 - Min T of coldest month            | 8                          | 5.3 – 10.9  |  | 8.1                      | 5.5 – 11.2  |  | 7.3                   | 4.4 – 10.3  |  | 7.5                 | 4.3 – 10.5  |  |
| Bio7 - Mean annual range of T            | 22.3                       | 20.1 – 24.2 |  | 22.2                     | 20 – 23.9   |  | 23.4                  | 21.2 – 25.5 |  | 23.2                | 21 – 25.4   |  |
| Bio8 - Mean T of wettest quarter         | 18.8                       | 17.3 – 20.4 |  | 18.8                     | 17.2 – 20.4 |  | 18.5                  | 16.9 – 20.1 |  | 18.5                | 16.8 – 20.1 |  |
| Bio9 - Mean T of driest quarter          | 20.4                       | 17.6 – 23.3 |  | 20.6                     | 18 – 23.6   |  | 20.6                  | 17.6 – 23.5 |  | 20.7                | 17.7 – 23.6 |  |
| Bio10 - Mean T of warmest quarter        | 24                         | 22.7 – 25.3 |  | 24                       | 22.7 – 25.4 |  | 24.3                  | 23 – 25.6   |  | 24.3                | 22.9 – 25.6 |  |
| Bio11 - Mean T of coldest quarter        | 14.7                       | 12 – 17.5   |  | 14.9                     | 12.2 – 17.8 |  | 14.4                  | 11.5 – 17.4 |  | 14.6                | 11.4 – 17.5 |  |
| Bio12 - Mean annual precipitation        | 1108                       | 1031 – 1221 |  | 1114                     | 1031 – 1223 |  | 1163                  | 1055 – 1272 |  | 1166                | 1070 – 1267 |  |
| Bio13 - Precipitation of wettest month   | 191                        | 175 – 211   |  | 191                      | 175 – 211   |  | 196                   | 176 – 213   |  | 195                 | 177 – 215   |  |
| Bio14 - Precipitation of driest month    | 27                         | 22 – 31     |  | 27                       | 22 – 32     |  | 29                    | 23 – 35     |  | 29                  | 24 – 35     |  |
| Bio15 - Precipitation seasonality        | 73.7                       | 68.3 – 79.1 |  | 73                       | 67.6 – 79   |  | 69                    | 63.3 – 75   |  | 68.7                | 63.2 – 74.5 |  |
| Bio16 - Precipitation of wettest quarter | 514                        | 475 – 564   |  | 512                      | 471 – 564   |  | 532                   | 481 – 576   |  | 531                 | 484 – 580   |  |
| Bio17 - Precipitation of driest quarter  | 95                         | 80 – 111    |  | 97                       | 79 – 114    |  | 103                   | 83 – 122    |  | 104                 | 86 – 122    |  |
| Bio18 - Precipitation of warmest quarter | 261                        | 233 – 295   |  | 263                      | 235 – 294   |  | 270                   | 237 – 302   |  | 272                 | 241 – 303   |  |
| Bio19 - Precipitation of coldest quarter | 260                        | 229 – 293   |  | 262                      | 227 – 296   |  | 249                   | 212 – 287   |  | 250                 | 214 – 287   |  |
| MODIS LAI                                | 1.5                        | 1.33 – 1.69 |  | 1.51                     | 1.33 – 1.7  |  | 1.69                  | 1.48 – 1.87 |  | 1.68                | 1.51 – 1.87 |  |
| MODIS FPAR                               | 0.68                       | 0.61 – 0.74 |  | 0.67                     | 0.6 – 0.74  |  | 0.67                  | 0.61 – 0.73 |  | 0.67                | 0.61 – 0.73 |  |
| Simard Vegetation height                 | 9.9                        | 8.3 – 11.6  |  | 10                       | 8.4 – 11.5  |  | 10.5                  | 8.8 – 12.3  |  | 10.6                | 8.8 – 12.3  |  |

Summary statistics for environmental variables under various assumptions for the PETM early Eocene locality Castle Gardens.