**Table S8**. Climatic variables importance (given by its modeling power\*) and contribution (given as correlation coefficients) to the principal components obtained in the three continents.

|  |  |  |
| --- | --- | --- |
|  | **Variable importance** | **Variable contribution** |
|  |   |  |   | **Component 1** | **Component 2** | **Component 3** | **Component 4** |
|  | **USA** | **AUST** | **EUR** | **USA** | **AUST** | **EUR** | **USA** | **AUST** | **EUR** | **USA** | **AUST** | **USA** |
| **AvMonTemp** | 0.99 | 0.97 | 0.72 | 0.24 | 0.96 | 0.83 | 0.51 | 0.16 | -0.19 | 0.73 | -0.17 | -0.38 |
| **thermalAmp** | 0.98 | 0.96 | 0.82 | 0.16 | 0.69 | 0.86 | 0.50 | 0.45 | -0.29 | 0.83 | 0.53 | 0.13 |
| **Tmax** | 0.97 | 0.99 | 0.63 | -0.64 | -0.97 | -0.76 | -0.56 | -0.20 | -0.24 | 0.44 | 0.06 | 0.23 |
| **Tmin** | 0.98 | 0.99 | 0.96 | -0.34 | -0.96 | -0.98 | -0.92 | -0.27 | 0.07 | -0.02 | -0.08 | -0.13 |
| **summerSEASON** | 0.99 | 0.99 | 0.73 | -0.58 | -0.97 | -0.85 | -0.74 | -0.22 | -0.06 | 0.32 | 0.04 | 0.09 |
| **winterSEASON** | 0.99 | 0.99 | 0.96 | -0.37 | -0.96 | -0.98 | -0.91 | -0.25 | 0.06 | 0.04 | -0.04 | -0.13 |
| **monthabove10** | 0.96 | 0.82 | 0.91 | -0.33 | -0.78 | -0.95 | -0.90 | -0.05 | 0.07 | 0.21 | 0.45 | 0.01 |
| **MAP** | 0.87 | 0.94 | 0.88 | 0.87 | 0.96 | 0.37 | -0.16 | -0.11 | -0.87 | 0.18 | 0.02 | 0.23 |
| **Cv** | 0.90 | 0.81 | 0.97 | 0.62 | -0.70 | -0.97 | -0.66 | -0.37 | 0.17 | 0.14 | 0.43 | -0.22 |
| **DryMonth** | 0.96 | 0.96 | 0.53 | -0.87 | -0.33 | 0.72 | 0.09 | 0.92 | -0.12 | -0.03 | 0.01 | 0.43 |
| **summer\_P** | 0.98 | 0.99 | 0.92 | -0.93 | -0.99 | 0.49 | 0.32 | 0.01 | 0.82 | -0.04 | -0.11 | -0.13 |
| **summer\_DryM** | 0.96 | 0.96 | 0.63 | -0.92 | -0.54 | 0.76 | 0.30 | 0.66 | 0.21 | 0.09 | 0.48 | 0.13 |
| **summer\_wetM** | 0.99 | 0.99 | 0.93 | -0.96 | -0.98 | -0.09 | 0.10 | 0.00 | 0.96 | -0.02 | -0.17 | -0.26 |
| **winter\_P** | 0.98 | 0.99 | 0.92 | -0.93 | -0.72 | 0.49 | 0.32 | 0.66 | 0.82 | -0.04 | -0.20 | -0.13 |
| **winter\_DryM** | 0.96 | 0.99 | 0.63 | -0.92 | -0.19 | 0.76 | 0.30 | 0.96 | 0.21 | 0.09 | -0.17 | 0.13 |
| **winter\_wetM** | 0.99 | 0.98 | 0.93 | -0.96 | -0.92 | -0.09 | 0.10 | 0.25 | 0.96 | -0.02 | -0.26 | -0.26 |

\* A variable with a modeling power equal to one is completely relevant for building the PCA model. Variables with modeling power close to "number of components" divided by "number of variables" are regarded to be less significant.