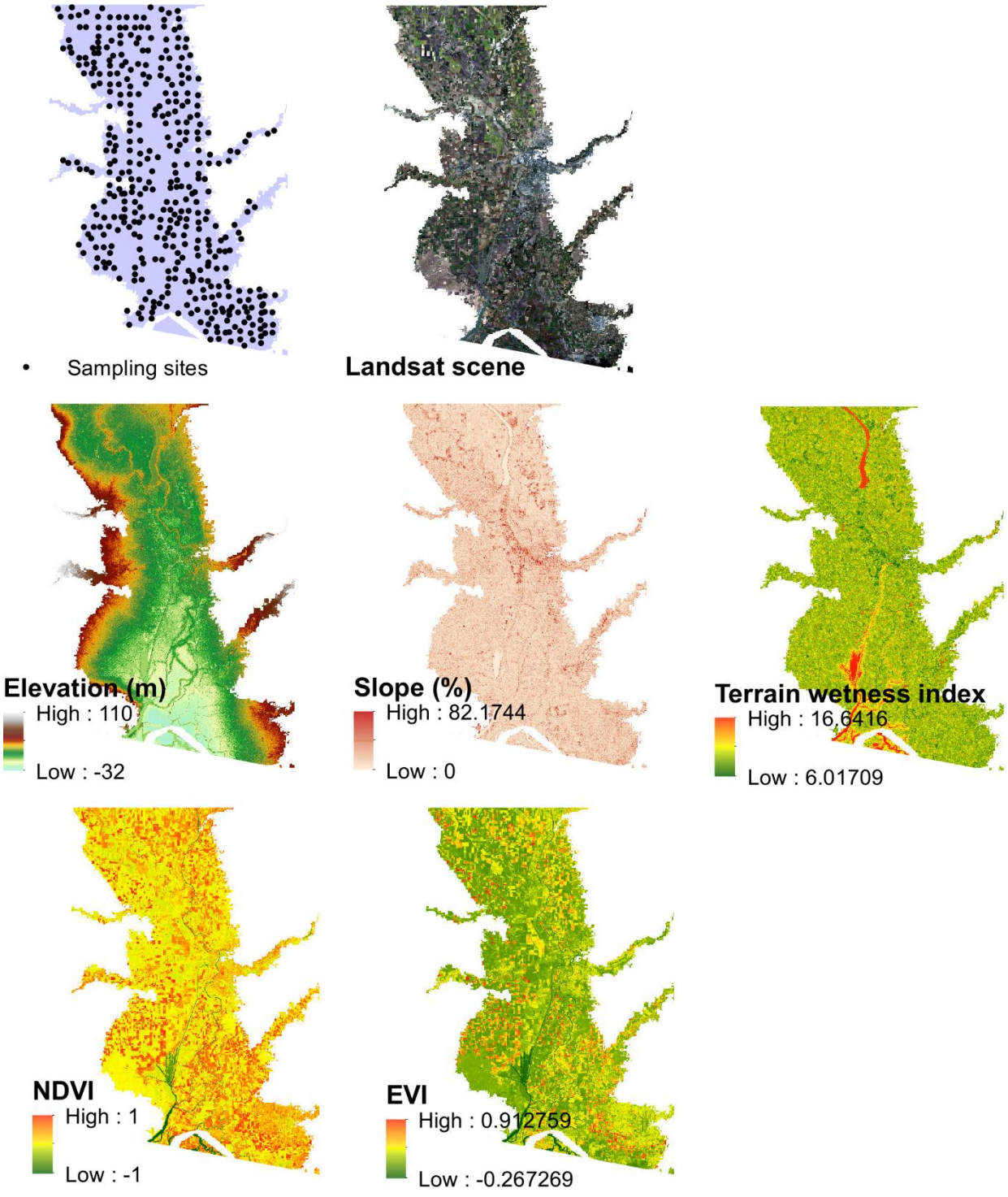

Figure S1. Maps of the environmental features in the study area – Land cover, elevation, slope, terrain wetness index, Normalized Difference Vegetation Index (NDVI) and Enhanced Vegetation Index (EVI).

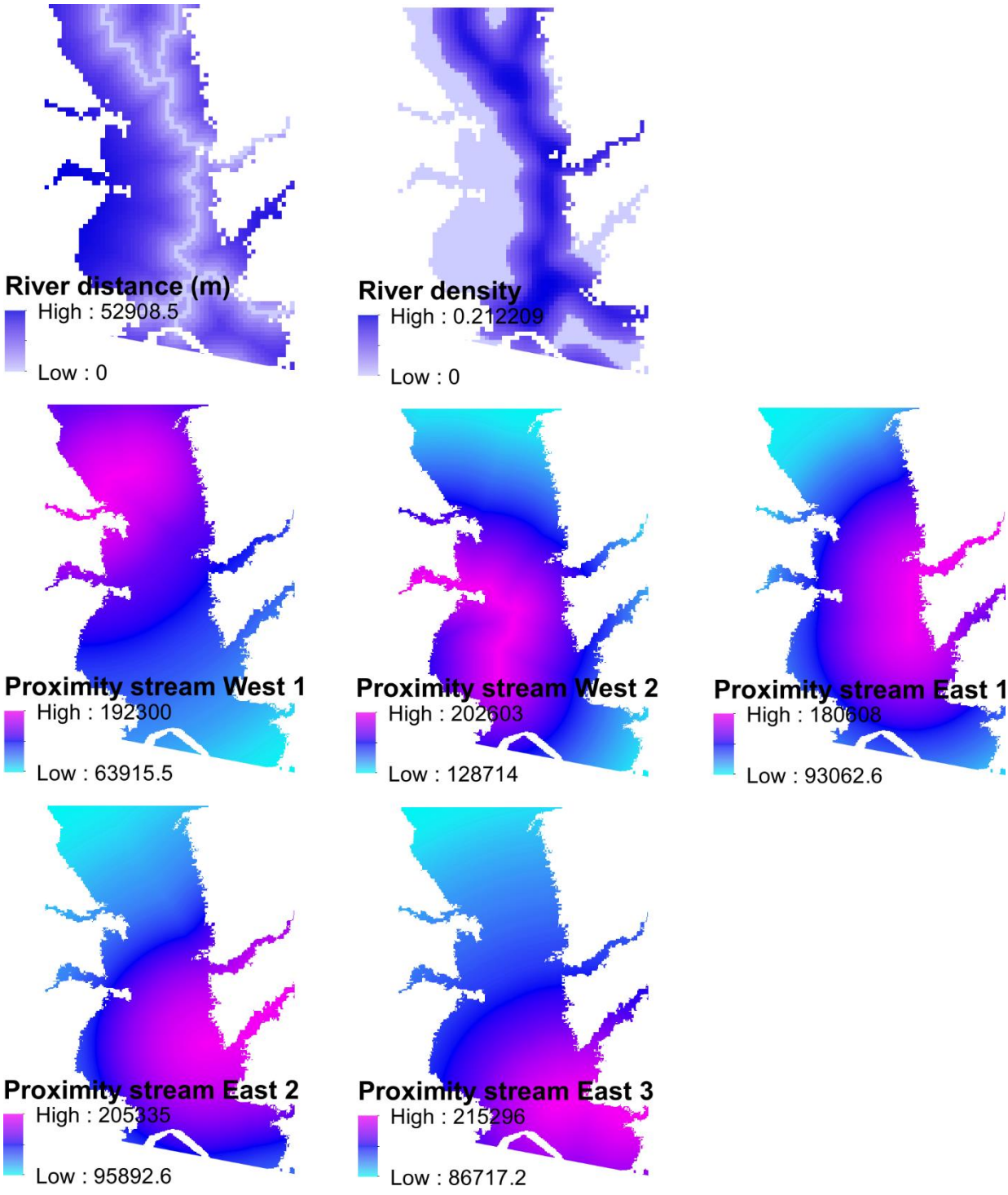

Figure S2. Maps of the environmental features in the study area – Sacramento River distance and density, proximity to streams west-1, west-2, east-1, east-2 and east-3.

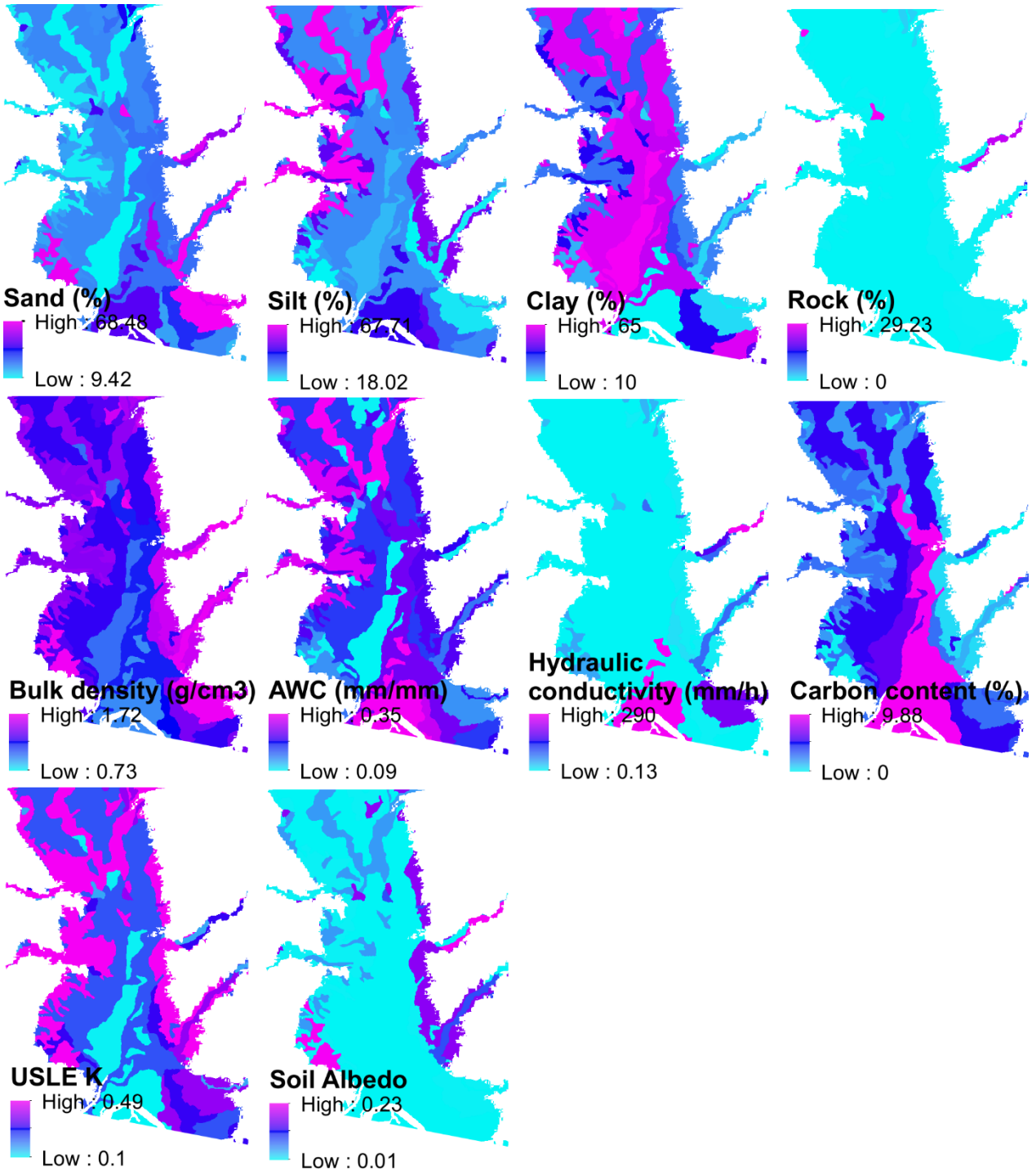

Figure S3. Maps of the environmental features in the study area – Soil content of sand, silt, clay and rock, the soil bulk density, available water capacity, hydraulic conductivity, carbon content, USLE K and soil albedo.

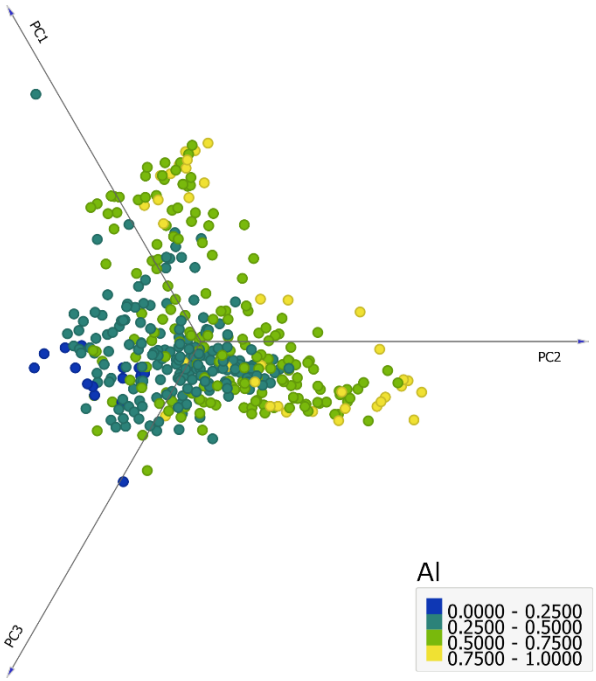

Figure S4. The normalized Al values in relation to the three principal components.

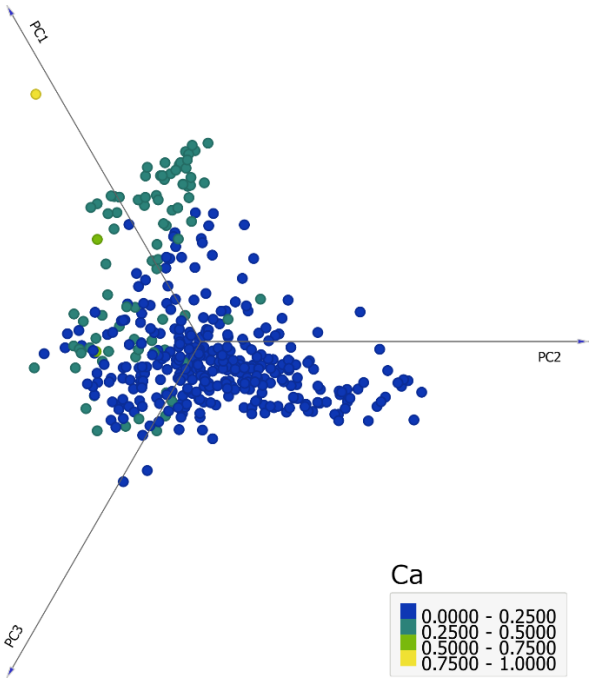

Figure S5. The normalized Ca values in relation to the three principal components.

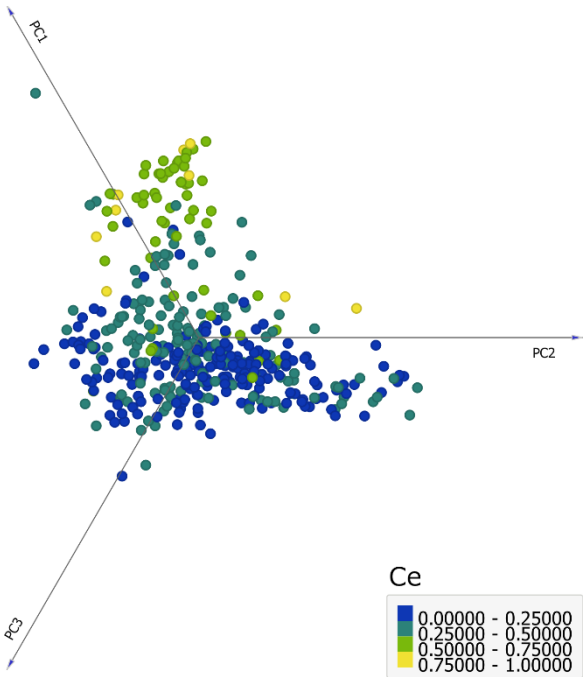

Figure S6. The normalized Ce values in relation to the three principal components.

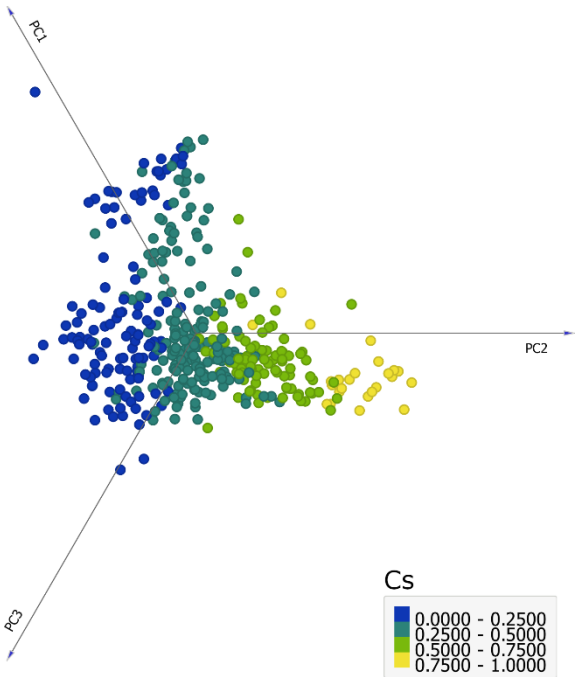

Figure S7. The normalized Cs values in relation to the three principal components.

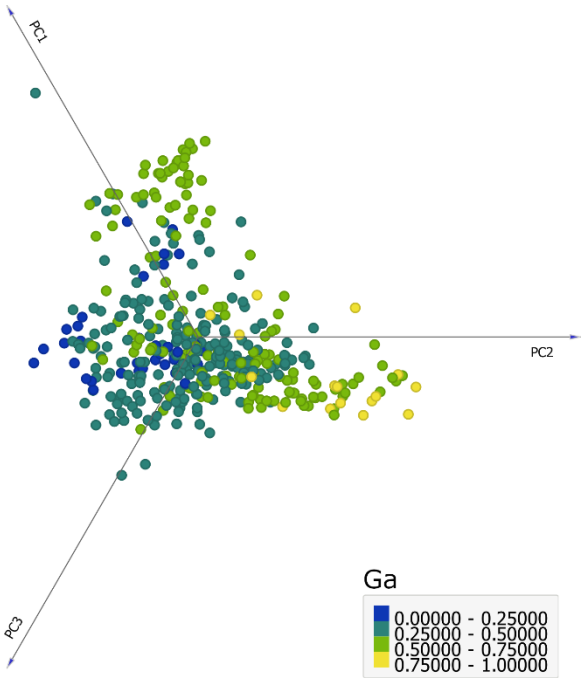

Figure S8. The normalized Ga values in relation to the three principal components.

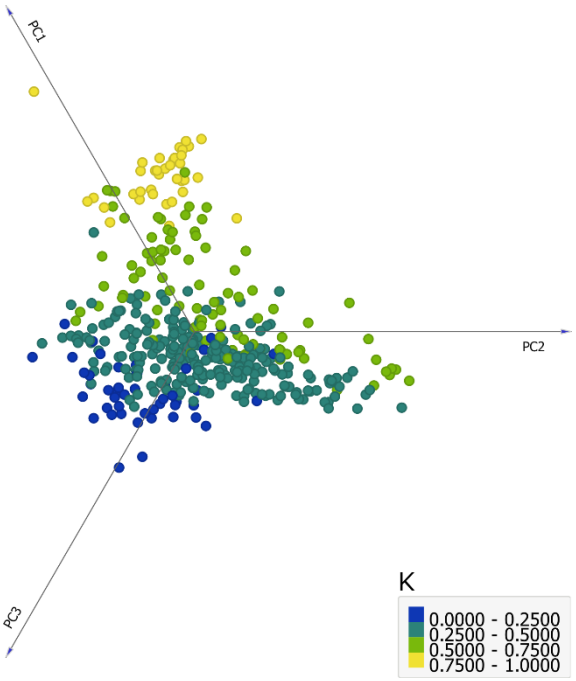

Figure S9. The normalized K values in relation to the three principal components.

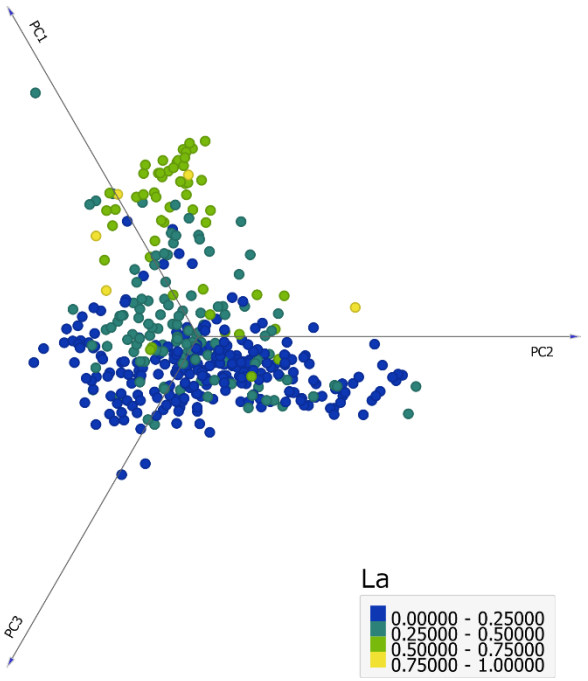

Figure S10. The normalized La values in relation to the three principal components.

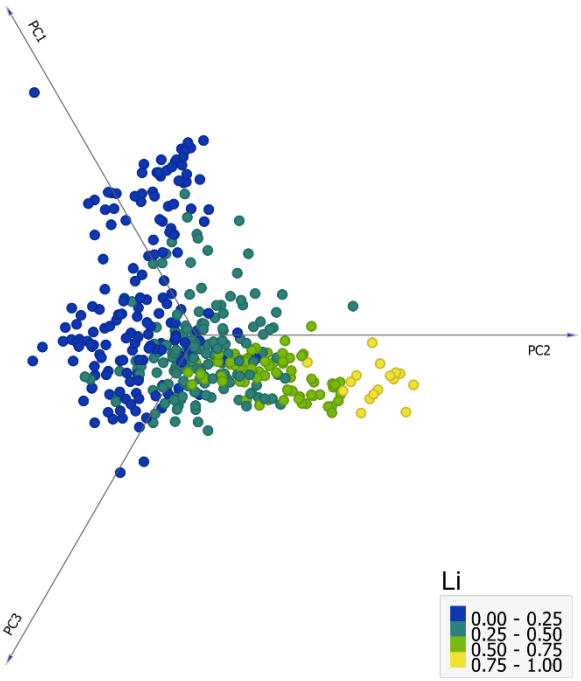

Figure S11. The normalized Li values in relation to the three principal components.

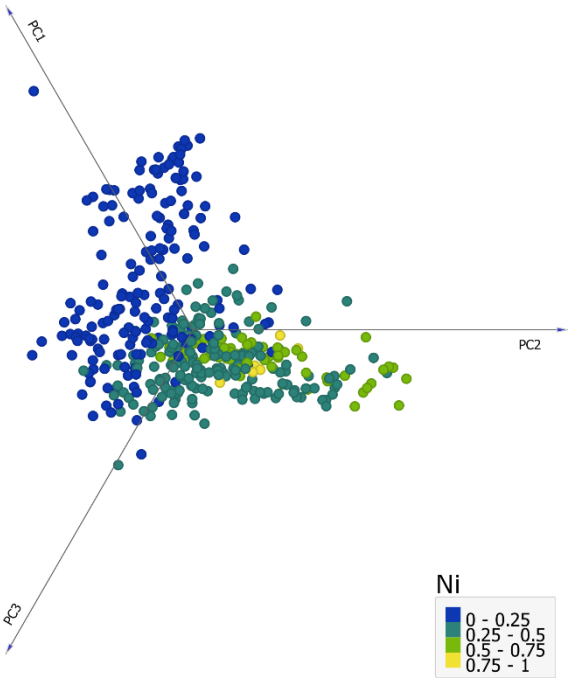

Figure S12. The normalized Ni values in relation to the three principal components.

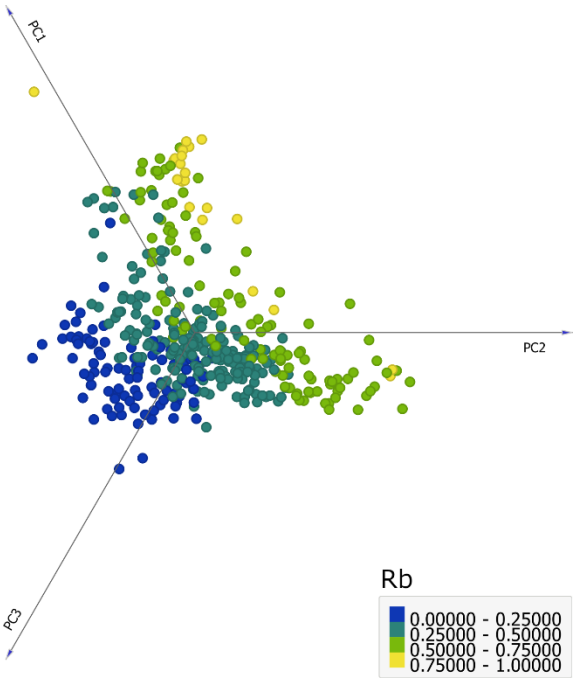

Figure S13. The normalized Rb values in relation to the three principal components.

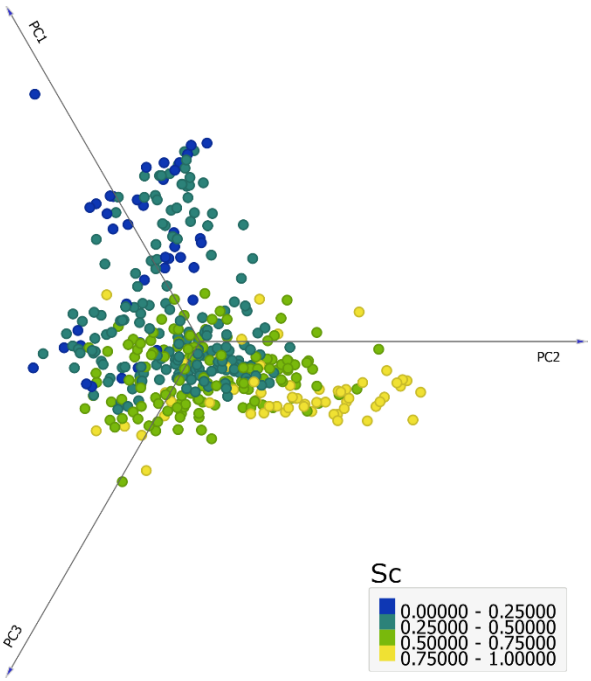

Figure S14. The normalized Sc values in relation to the three principal components.

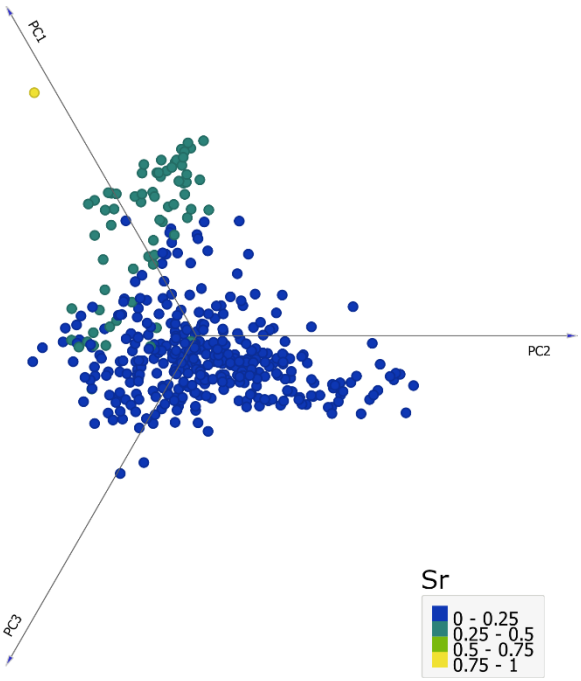

Figure S15. The normalized Sr values in relation to the three principal components.

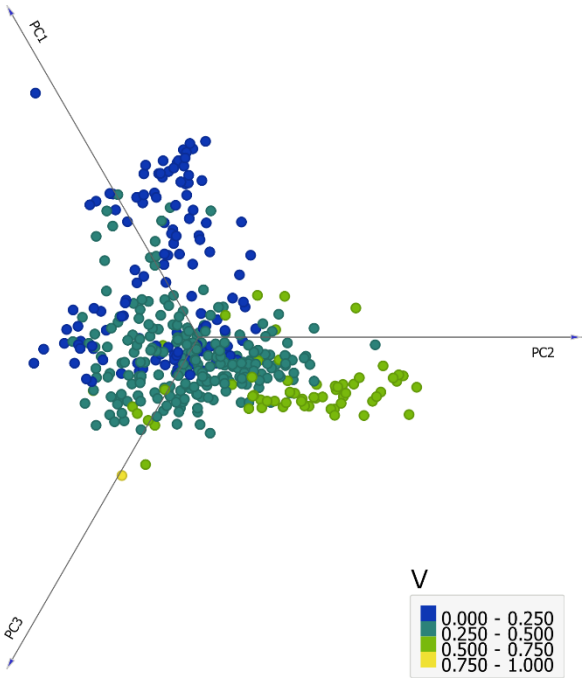

Figure S16. The normalized V values in relation to the three principal components.

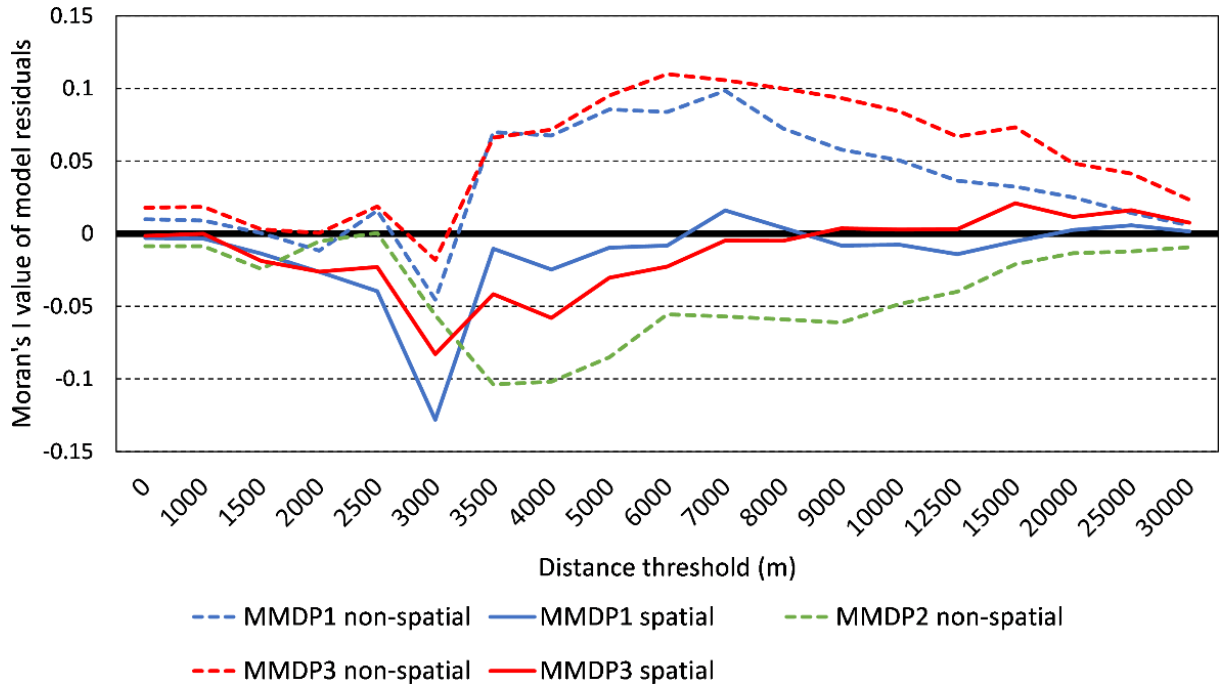

Figure S17. The spatial autocorrelation of the fitted RF models based on Moran's I in relation to the different distance thresholds. Spatial autocorrelation is expressed as the Moran's Index (Moran's I), which ranges from -1 to +1. A Moran's I of -1 means that the variable is perfectly dispersed, 0 means that the variable is randomly dispersed, and +1 indicates complete clustering.