Supplementary Materials

Spatially resolved soil solution chemistry in a central European atmospherically polluted high-elevation catchment

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**Supplementary Materials:**

Figure S1 Descriptive statistics (2012- 2013) for soil water concentration values of dissolved organic carbon, sulfate, nitrate, base cations, Al and chloride (in mg L-1) and pH values at the 50-cm depth at UDL.

Figure S2: Non-parametric multidimensional scaling ordination of time-series hydrochemical data for runoff, atmospheric in lysimeters.

Figure S3: Comparison of monthly precipitation volumes at UDL during the monitoring period (2012-2013) *vs*. the hydrologic years 2016-2017.

Table S1: Coefficient of variation (Cv = 100σ/μ ) of inorganic species across our lysimeter network.



**Supplementary Material. Figure S1.** Descriptive statistics (2012- 2013) for soil water concentration values of dissolved organic carbon, sulfate, nitrate, base cations, Al and chloride (in mg L-1) and pH values at the 50-cm depth at UDL. The statistical distribution shows minimum, first quartile, median, third quartile and maximum for individual samples



**Supplementary Material. Figure S1.** cont.



**Supplementary Material. Figure S2.** Non-parametric multidimensional scaling ordination of time-series hydrochemical data for runoff, atmospheric in lysimeters. Note that only varimax rotated parameters exhibiting statistical significance > 0.25 are shown. The variables describe 41.3 % of the co-variation



**Supplementary Material. Figure S3.** Comparison of monthly precipitation volumes at UDL during the monitoring period (2012-2013) vs. the hydrologic years 2016-2017.

**Supplementary Material. Table S1.** Coefficient of variation (%) of inorganic species across our lyzimeter network.

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| --- | --- | --- | --- |
| Analyte  | Hilltops  | Slopes  | Valley  |
| SO42‐  | 17  | 17  | 15  |
| NO3‐  | 2  | 15  | 17  |
| Al3+  | 8  | 10  | 12  |
| Na+  | 9  | 10  | 11  |
| K+  | 55  | 40  | 33  |
| Mg2+  | 12  | 21  | 15  |
| Ca2+  | 7  | 17  | 6  |

Calculation is based on six triplicates for hilltop and slopes and three triplicates for the valley location. The triplicates were obtained each fourth month.