

Details statistical tests mentioned in the article

| # | Text (factors in bold) | Normality? | Which test | p-value | Remarks |
|---|--|--|---|--|--|
| 1 | Laboratory experiments yield significantly higher concentrations in both topsoils and subsoils than other methods | No | Mann-Whitney U | <u>Top</u> : 1.01e-07 <u>Sub</u> : 2.082e-05 | |
| 2 | In subsoils, piezometer-based concentrations are much higher than for other sampling methods | No | Mann-Whitney U | 9.234e-12 | Excluded lab incubations |
| 3 | found different concentrations between zero-tension and tension lysimeters (Sparling et al., 2016), we did not observe this in neither top- or subsoil data. | <u>Top</u> : possibly/yes <u>Sub</u> : no | <u>Top</u> : Mann-Whitney U & T-test <u>Sub</u> : Mann-Whitney U | <u>Top</u> : 0.1813 (MW-U), 0.138 (T) <u>Sub</u> : 0.1772 | For top, t-test might be acceptable |
| 4 | Values for Histosols do not differ significantly compared to all topsoil data , so can be included in a further topsoil data analysis. | No | Mann-Whitney U | 0.2237 | Excluded lab incubations ; Tested for 'Peat' vs 'others', like in figure 6. |
| 5 | Topsoils; Also, oceanic climates have higher values than the three tropical climates . | No | Mann-Whitney U | 2.763e-05 | Excluded lab incubations |
| 6 | Topsoils; Where some studies identified different DOC concentrations between coniferous and deciduous forests (Currie et al., 1996; Fernández-Sanjurjo et al., 1997), this was not observed at the global scale, despite the large number of data entries | possibly/yes | Mann-Whitney U & T-test | <u>Top</u> : 0.2084 (MW-U), 0.2096 (T) | Excluded lab incubations ; t-test might be acceptable (though irrelevant as both >>0.05) |