Supplementary Material

**Drying and rainfall shape the structure and functioning of nitrifying microbial communities in riverbed sediments**

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## Supplementary Figures

**Supplementary Figure 1** Schematic description of the microcosms set up and experimental design



**Supplementary figure 2**. DNA content (ng g-1 DM) in surface (**A**) and deep (**B**) sediments during initial conditions (0 weeks) and after the different rainfall magnitudes for each dry period duration. Values are means±SE (n=3). The dashed line represents the initial conditions as a reference for a better comparison.



**Supplementary figure 3**. Relative abundances (%) of 16S rRNA sequence tags from AOA, AOB in surface **(A**, **C)** and deep sediments **(B**, **D)** during initial conditions (0 weeks) and after the different rainfall magnitudes for each dry period duration. Number of copies of *amoA* genes for AOA and AOB in surface **(E, G)** and deep sediments **(F, H**) during initial conditions (0 weeks) and after the different rainfall magnitudes for each dry period duration. Values are means±SE (n=3). The dashed line represents the initial conditions as a reference for a better comparison.



**Supplementary figure 4**. Relative abundances (%) of 16S rRNA sequence tags for soil AOA and marine AOA in surface **(A**, **C**,respectively**)** and deep sediments **(B**, **D**,respectively**)** during initial conditions (0 weeks) and after the different rainfall magnitudes for each dry period duration. Values are means±SE (n=3). The dashed line represents the initial conditions as a reference for a better comparison.

