

**Figure S2** Scatterplots with LOESS curves displaying the relationships between differences in ARISA community structure and a) spatial distance (Spearman's r = 0.24, p < 0.001 as tested by 999 Monte Carlo permutations), and b) differences in water depth (r = 0.14, p = 0.011), as well as relationships between differences in enzyme activities (esterase, lipase, peptidase, beta-glucosidase) and c) spatial distance (r = 0.17, p = 0.003), and d) differences in water depth (r = 0.05, p = 0.22).