Accessory publication

Salinity-induced acidification in a wetland sediment through the displacement of clay-bound iron(II)

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Fig. A1. (a) Experimental charge equivalent fractions of Na⁺ and H⁺ exchanged onto purified Norman’s Lagoon clay. Solid lines are modelled using the exchange constants in Table 1 (main paper). (b) Experimental charge balance, plotted as percentage deviation from average exchange site concentration. (c) Experimental (○) and modelled (solid line) pH of clay mixture; all figures plotted as a function of the charge equivalent fraction Na⁺ in solution.
Fig. A2.  (a) Experimental charge equivalent fractions of $\text{K}^+$, $\text{Na}^+$ and $\text{H}^+$ exchanged onto purified Norman’s Lagoon clay. Solid lines are modelled using the exchange constants in Table 1 (main paper). (b) Experimental charge balance, plotted as percentage deviation from average exchange site concentration. (c) Experimental (○) and modelled (solid line) pH of clay mixture; all figures plotted as a function of the charge equivalent fraction $\text{K}^+$ in solution.
Fig. A3. (a) Experimental charge equivalent fractions of Mg$^{2+}$, Na$^+$ and H$^+$ exchanged onto purified Norman’s Lagoon clay. Solid lines are modelled using the exchange constants in Table 1 (main paper). (b) Experimental charge balance, plotted as percentage deviation from average exchange site concentration. (c) Experimental (O) and modelled (solid line) pH of clay mixture; all figures plotted as a function of the charge equivalent fraction Mg$^{2+}$ in solution.
Fig. A4. (a) Experimental charge equivalent fractions of Ca\(^{2+}\), Na\(^+\) and H\(^+\) exchanged onto purified Norman’s Lagoon clay. Solid lines are modelled using the exchange constants in Table 1 (main paper). (b) Experimental charge balance, plotted as percentage deviation from average exchange site concentration. (c) Experimental (○) and modelled (solid line) pH of clay mixture; all figures plotted as a function of the charge equivalent fraction Ca\(^{2+}\) in solution.
Fig. A5.  (a) Experimental charge equivalent fractions of Fe\textsuperscript{2+}, Na\textsuperscript{+} and H\textsuperscript{+} exchanged onto purified Norman’s Lagoon clay. Solid lines are modelled using the exchange constants in Table 1 (main paper). (b) Experimental charge balance, plotted as percentage deviation from average exchange site concentration. (c) Experimental (○) and modelled (solid line) pH of clay mixture; all figures plotted as a function of the charge equivalent fraction Fe\textsuperscript{2+} in solution.
Fig. A6. Buffering properties of Norman’s Lagoon clay sediment (not purified) after exchange with chloride salts of: Na\(^+\), K\(^+\), Ca\(^{2+}\) or Mg\(^{2+}\) and then washed with purified water (MilliQ), or washed with MilliQ water without prior exchange. Titration conditions as described in main paper.