



Supplement of

Assessing the impact of acid rain and forest harvest intensity with the HD-MINTEQ model – soil chemistry of three Swedish conifer sites from 1880 to 2080

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Figure S1. Map showing the location in Sweden of the three study areas: Aneboda, Gårdsjön, and Kindla.



Figure S2. Weekly ion deposition values (mmol m⁻²) used for WTH/CH and NH simulations at Aneboda (a), Gårdsjön (b), and Kindla (c).



Figure S3. Annual net base cation uptake trends at Aneboda (a–c), Gårdsjön (d–f), and Kindla (g–i) under NH (a, d, and g), CH (b, e, and h), and WTH (c, f, and i) scenarios. The harvest events (CH and WTH) occurred in 2020.



Figure S4. pH, dissolved SO_4^{2-} , Ca^{2+} and Mg^{2+} for individual lysimeters of the B horizon at the Aneboda site during 1996-2009.



Figure S5. Simulated base cation weathering rates in the NH scenario. The same data as in Fig. 4, but the graphs are rescaled in order to demonstrate the temporal variation.



Figure S6. Bar chart illustrating released base cations (BC) due to mineral weathering after harvesting (2020) by the year 2080 relative to a no harvest baseline.



Figure S7. Weathering rates plotted against pH (left) and log $\{AI^{3+}\}$ (right). Markers without a black border represent the data points in the NH scenario (1880–2080), and markers with a black border represent the WTH scenario (2020–2080).