Supplement of

A European map of groundwater pH and calcium

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Supplementary Figure 1: The relationship between water electrical conductivity of water (EC; in μS.cm⁻¹) and concentration of Ca²⁺ in water (mg.l⁻¹) concentration in the three public data sets. The upper scatters represent the entire data sets, while lower scatters represent the subsets restricted by the upper EC limit of 1,000 μS.cm⁻¹.
Supplementary Figure 2: Relationship between electrical conductivity (EC) and measured Ca$^{2+}$ concentration when the upper limit of EC (1,000 µS.cm$^{-1}$) was adopted (n = 2,319).
**Supplementary Figure 3:** Box-and-whisker plots showing the distribution of measured and imputed Ca\(^{2+}\) values (log-scale). Graph shows the lower and upper quartiles, non-outlier maxima and minima, and outliers.
**Supplementary Figure 4:** Box-and-whisker plots showing the distribution of pH and Ca$^{2+}$ (log-scale, including imputed values) across Europe. European continent was arbitrarily divided into the five regions based on longitude and latitude: Atlantic ( $< 5^\circ$ E, $> 45^\circ$ N; $n = 621$ for pH and 345 for Ca$^{2+}$, respectively); Iberian ( $< 5^\circ$ E, $< 45^\circ$ N; $n = 642$, 640); Boreal ( $> 5^\circ$ E, $> 55^\circ$ N; $n = 1128$, 925); Central ( $> 5^\circ$ E, $= 44$–$55^\circ$ N; $n = 2796$, 2762) and Southern ( $> 5^\circ$ E, $< 45^\circ$ N; $n = 1272$, 1255). Graph shows the lower and upper quartiles, non-outlier maxima and minima, and outliers.
Supplementary Figure 5. Spatial distribution of the calibration data, presented separately for groundwater pH (left) and Ca\(^{2+}\) (right).