Supplementary Information: On the Conceptual Complexity of Non-Point Source Management: Impact of Spatial Variability

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- **Figure SM3**: Histogram of lnK
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- **Figure SM7**: Convergence of effective parameters mean

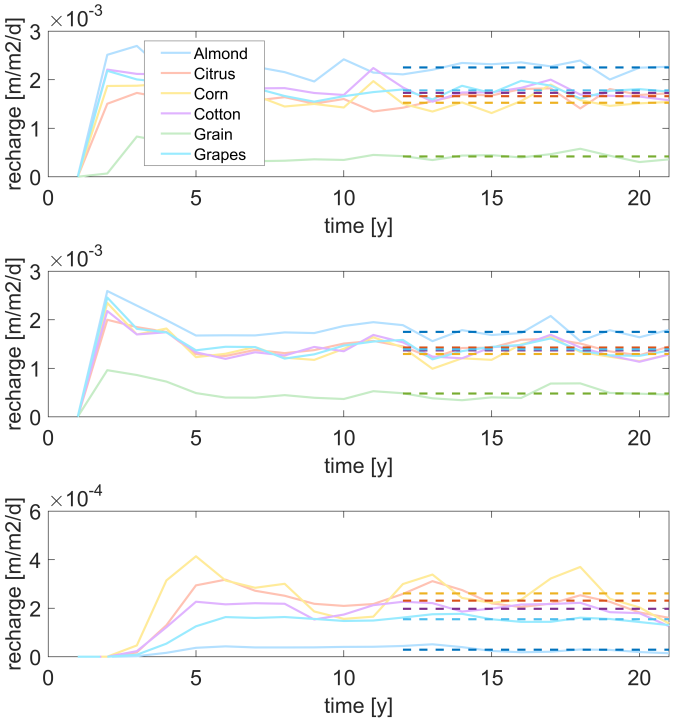

Figure SM1. Hydrus simulations output: Temporal evolution of the recharge rate for each crops (given by different color lines) for the three tested soil types (top: sand, middle: muddy-sand, bottom: mud). The dashed lines represent the temporal averages used in the study.

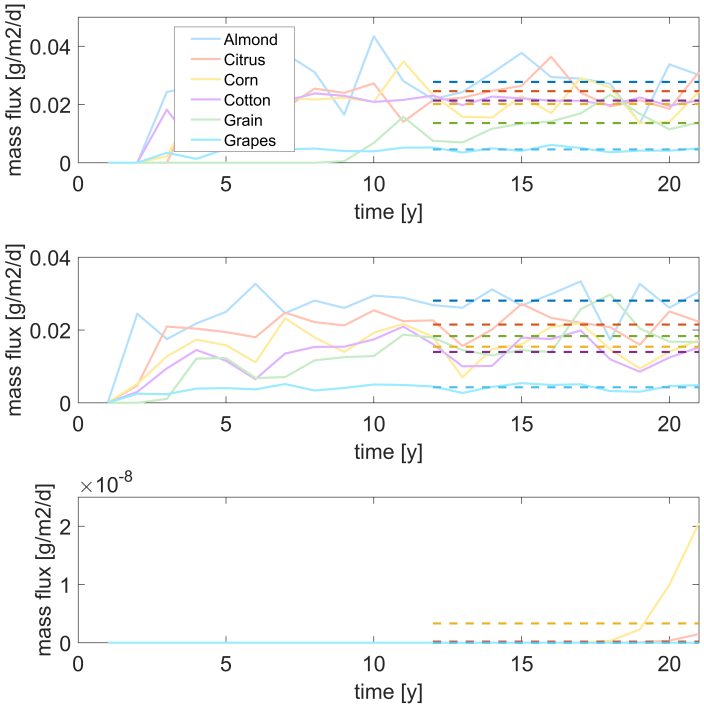

Figure SM2. Hydrus simulations output: Temporal evolution of the leaking nitrate mass flux for each crops (given by different color lines) for the three tested soil types (top: sand, middle: muddy-sand, bottom: mud). The dashed lines represent the temporal averages used in the study.

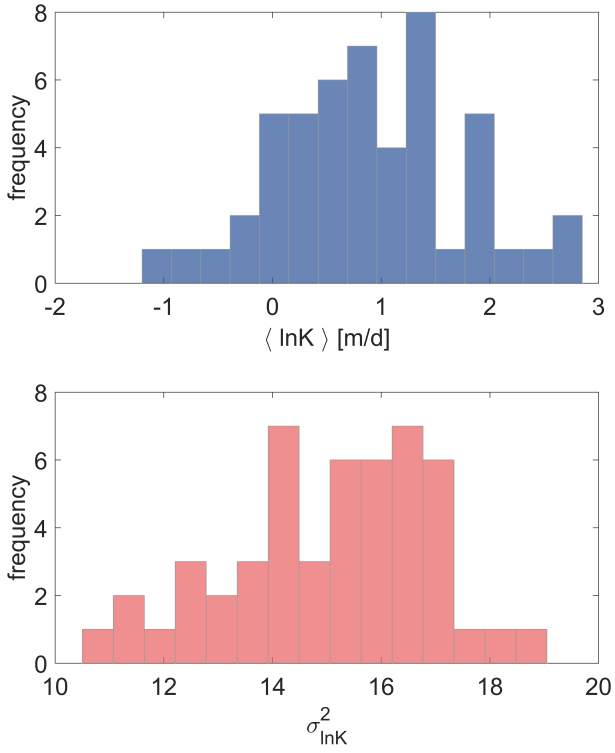

Figure SM3. Histogram of the mean (top) and variance (bottom) of the log-normal hydraulic conductivity.

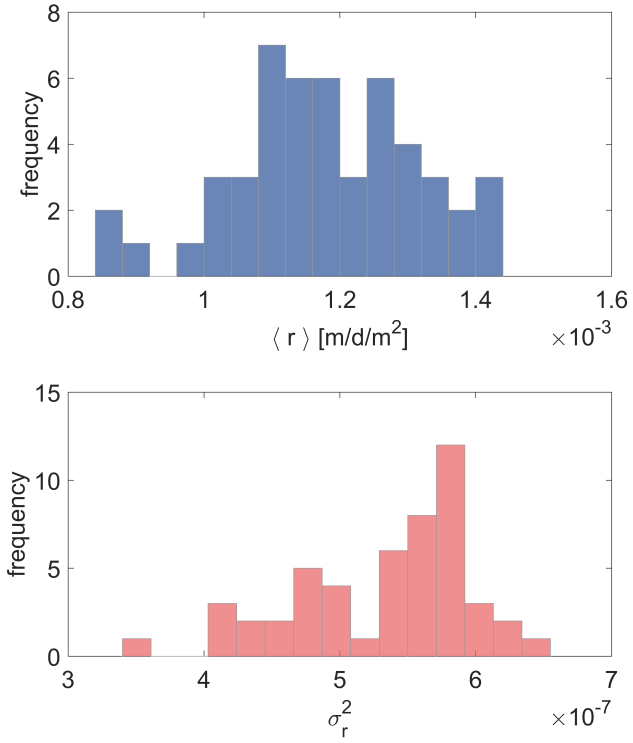

Figure SM4. Histogram of the mean (top) and variance (bottom) of the spatially variable recharge rate.

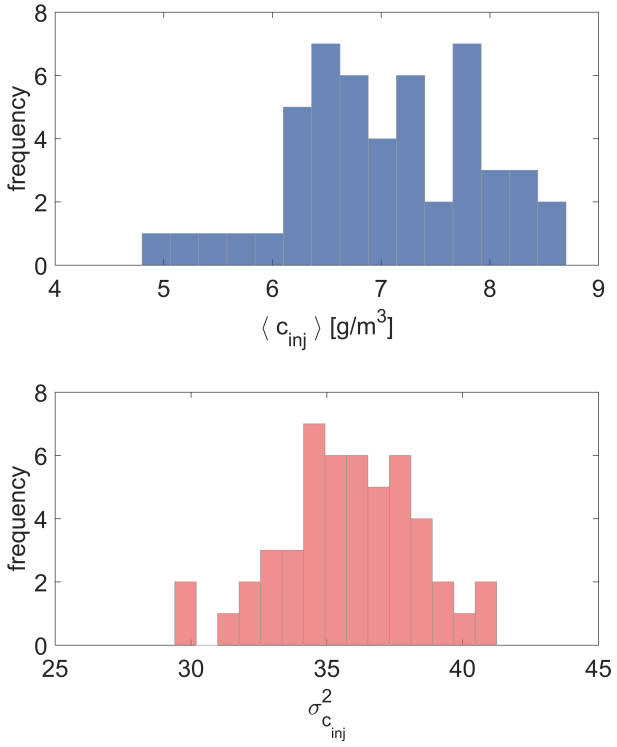

Figure SM5. Histogram of the mean (top) and variance (bottom) of the spatially variable source concentration.

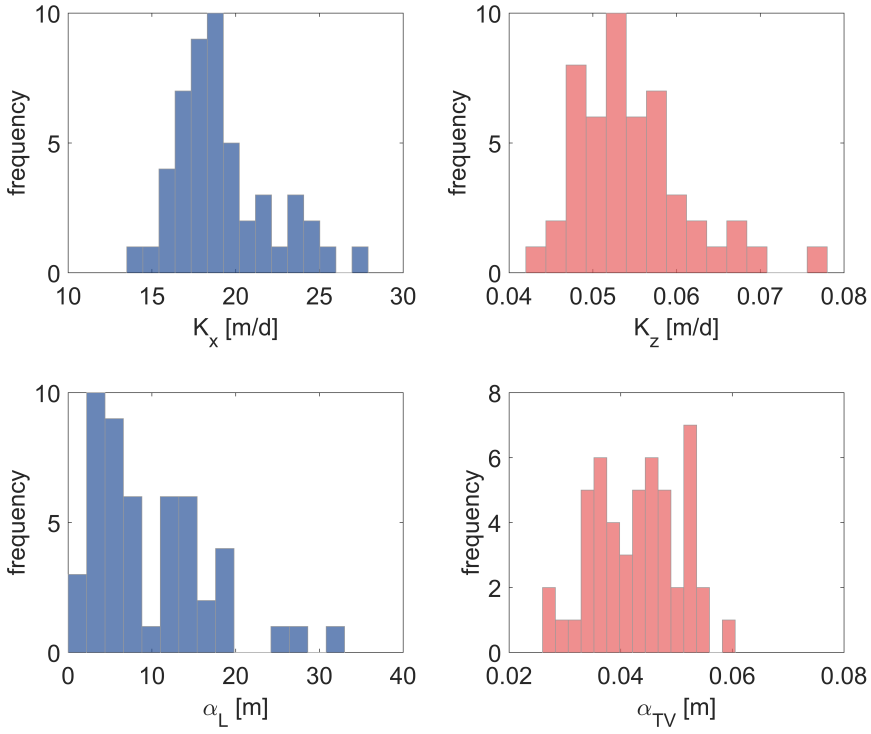

Figure SM6. Histograms of the apparent hydraulic conductivity (top) and apparent dispersion (bottom) in the longitudinal (left) and vertical (right) flow direction.

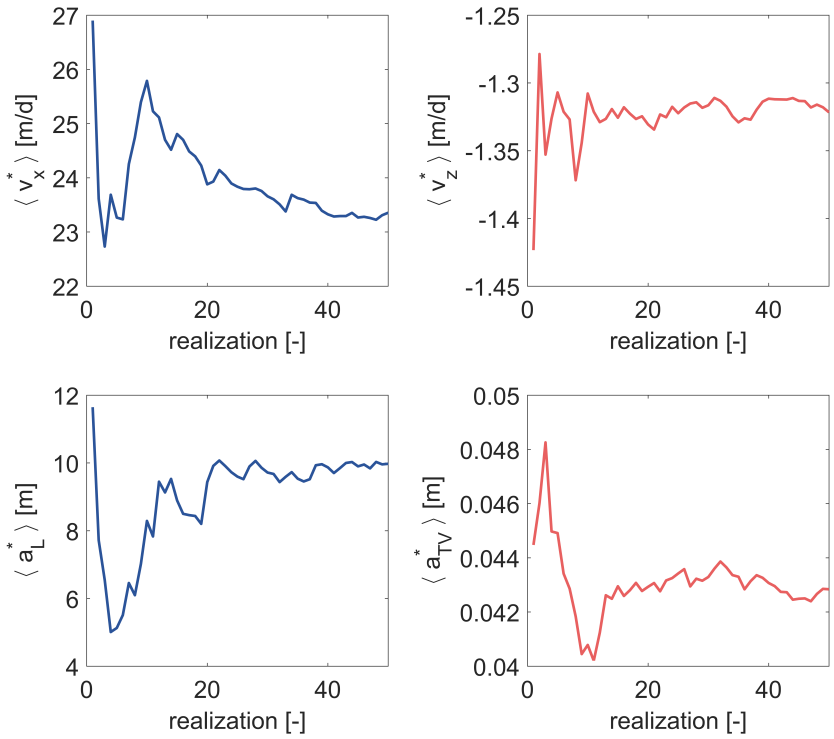

Figure SM7. Convergence of the mean apparent velocities (top) and apparent dispersion (bottom) in the longitudinal (left) and vertical (right) flow direction.