



Supplement of

Continuous monitoring of a soil aquifer treatment system's physico-chemical conditions to optimize operational performance

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1 **Contents of this file**

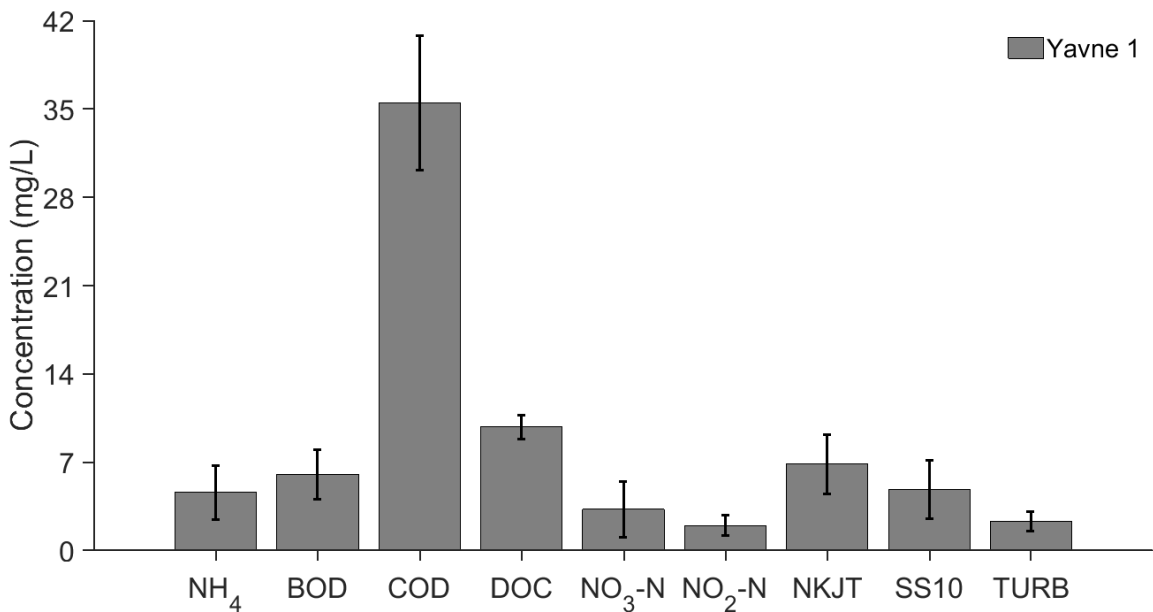
2 4 pages

3 5 Figures

4

5 **Introduction**

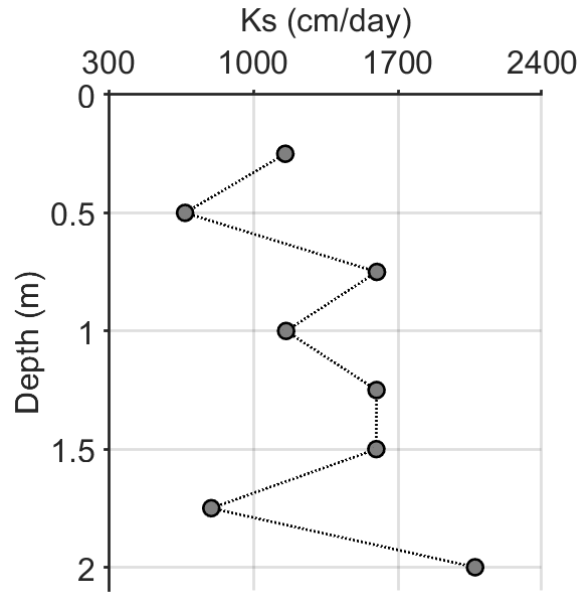
6 This supporting information provides the quality characteristics of the effluent from the Shafdan
7 wastewater treatment plant, which is subsequently spread over the Shafdan infiltration basins,
8 including the Yavne 1 site (Figure S1). The measured saturated hydraulic conductivity (Ks)
9 profile is presented in Figure S2. Figure S3 and Figure S4 present the calibration and validation
10 results of the hydrological model. Figure S5 presents the calibration results for the water content
11 data that were collected during winter under long wetting and drying cycles.



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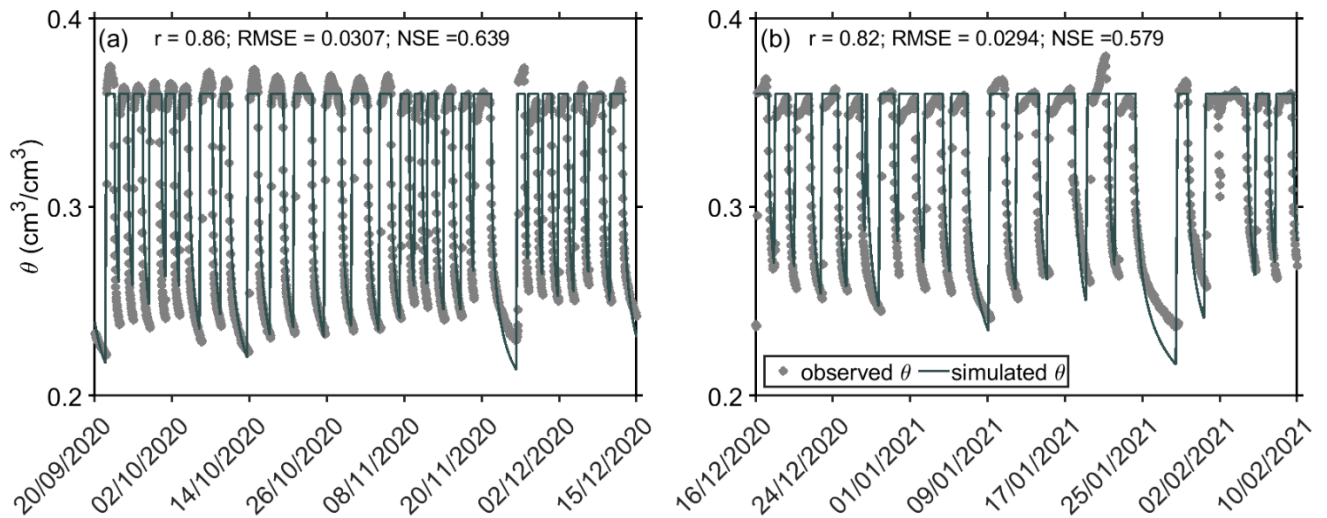
13 **Figure S1.** *The chemistry of the effluents of the Shafdan wastewater treatment plant*
14 *(WWTP) that feed the infiltration ponds. The chemical analysis was performed by*
15 *Shafdan's operator, Mekorot Co. Ltd.*

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Figure S2. Measured saturated hydraulic conductivities (K_s) with depth in the vadose zone's soil profile under the Yavne 1 site. The K_s values were calculated by conducting flow experiments with undisturbed soil cores excavated at multiple depths of the vadose zone.

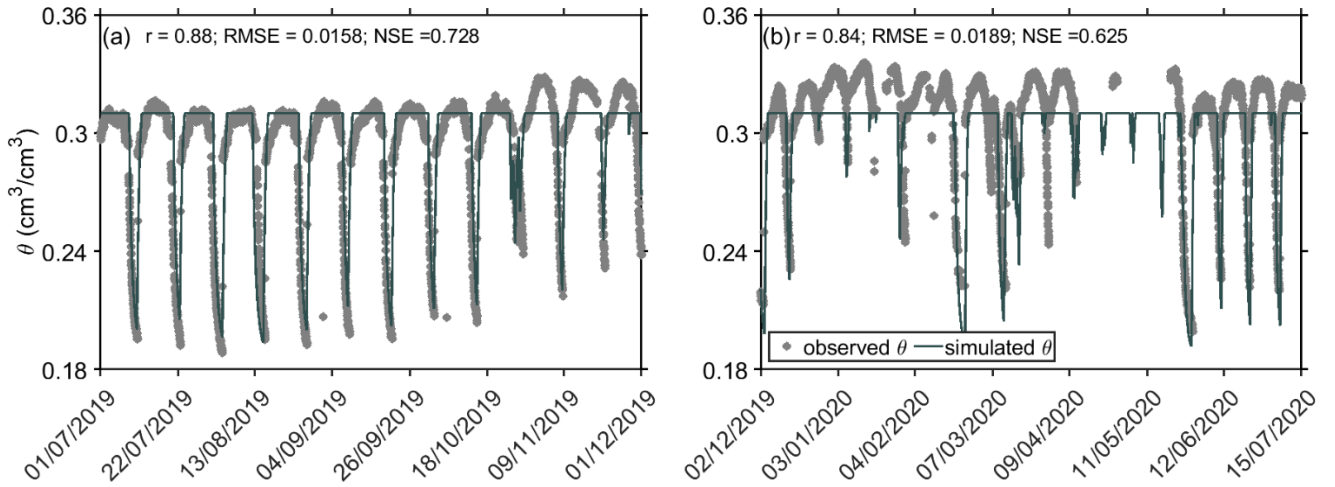


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Figure S3. Observed and simulated water content time series at 25 cm of the SAT vadose zone at station 1: (a) calibration and (b) validation, i.e., at this stage, the calibrated parameters of the

27 hydrological model were not modified. Note that the water content observations were obtained
28 during the short wetting and drying cycles.

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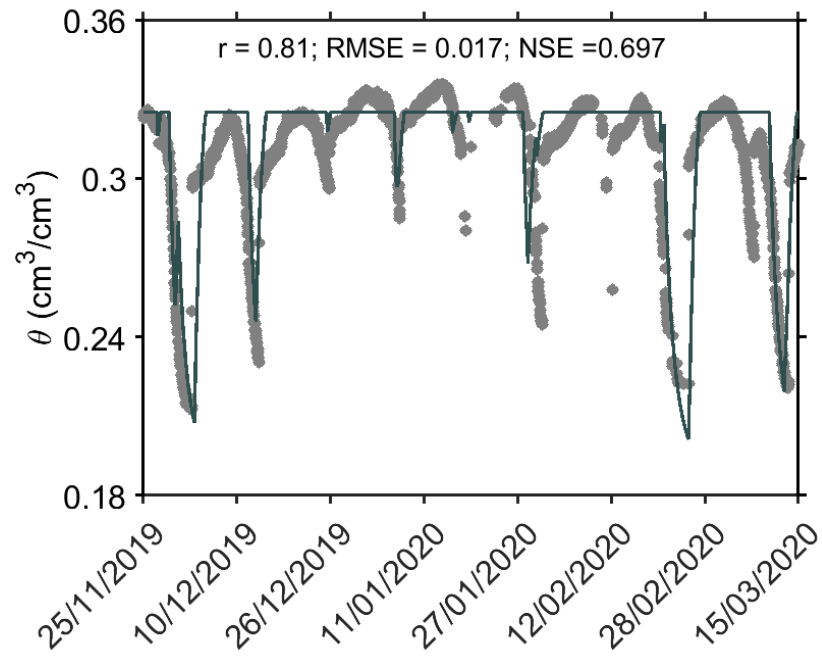


31 **Figure S4.** Observed and simulated water content time series at 25 cm of the SAT vadose zone at
32 station 2: (a) calibration and (b) validation, i.e., at this stage, the calibrated parameters of the
33 hydrological model were not modified. Note that the water content observations were obtained
34 during the long wetting and drying cycles.

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39 **Figure S5.** *Measured and simulated water content time series at 25 cm of the SAT vadose zone at*
40 *station 2. Note that the water content observations were obtained during winter under long*
41 *wetting and drying cycles.*

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