

Figure S1 Discrete sampling of Cl concentration and EC from 2016 to 2017 at the pumping station

Cl is a conservative parameter and most commonly used tracer in hydrology. A good match between EC and Cl indicates the conservative feature of EC and valid the mixing concept in this paper.

In the study area, groundwater is the water resource with the highest Cl concentration, and contributes most of EC. Thus, road salt was presumably the contributor to the relatively higher EC from the continuous measurement during winter. Cl subsequently will be expected to be significantly elevated during winter as the same time of the rise of EC. However, neither significant rise of EC nor Cl was observed in the discrete sampling data as shown in the figure.

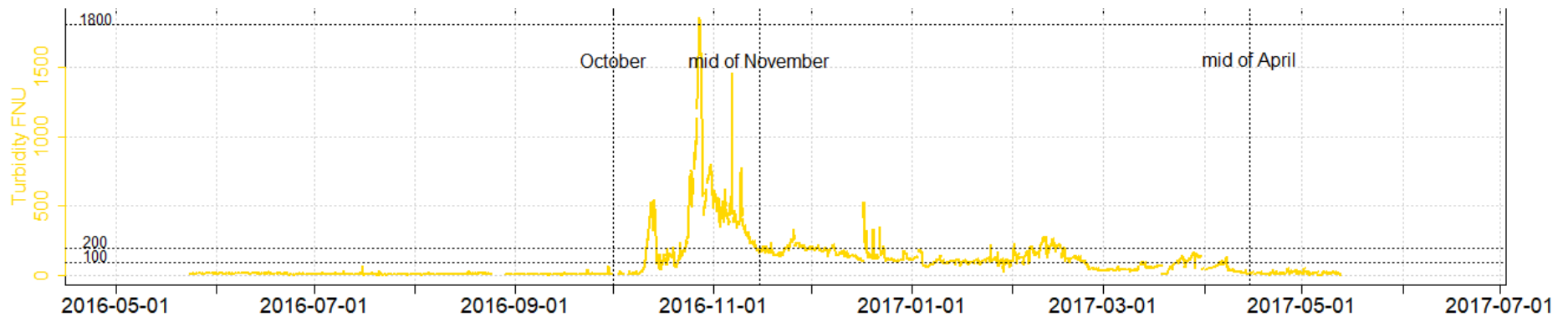


Figure S2 Hourly time series of TP and turbidity, with the horizontal dash lines indicating the 100, 200 and 1800 FNU, and vertical event lines for October, 2016, mid of November, 2016 and mid of April, 2017.

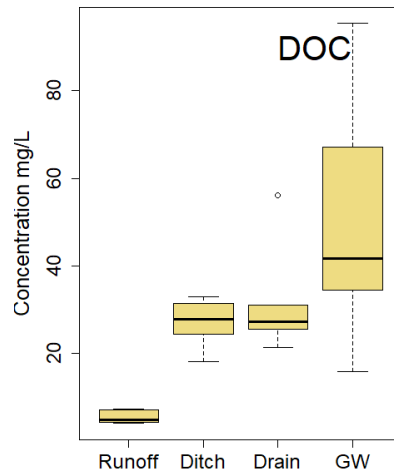


Figure S13 Dissolved organic carbon (DOC) in the runoff, ditch water, drain water and groundwater.

Samples are from a water quality survey during an event between 2017-11-28 to 2017-12-01 (Yu et al., 2019)ⁱ. The bar of “Ditch”, being referred in this paper, represents the samples from the surface water in polder Geuzenveld. They were sampled from the ditches in the east, west, and middle, and the pumping station. The DOC concentration at the pumping station during this event is 24 mg/L.

ⁱ Yu L., Rozemeijer J.C., van der Velde Y., van Breukelen B.M., Ouboter M., and Broers H.P.. Urban hydrogeology: Transport routes and mixing of water and solutes in a groundwater influenced urban lowland catchment. *Science of the Total Environment*, 678: 288-300, 2019.